

1.1.3: Average percentage of courses having focus on employability/ entrepreneurship/ skill development offered by the University

Supporting Documents for Criteria – 1.1.3

Relevant Documents pertaining to courses having focus on employability/ entrepreneurship/ skill development offered by the institution**

****Disclaimer:** We are providing samples since all of the supporting documents for this criteria exceed the 6MB upload limit. If necessary, we shall provide all/any supporting documents.

mjadleya
Registrar
Marwadi University



1.1.3: Average percentage of courses having focus on employability/ entrepreneurship/ skill development offered by the institution during the last five years.

Contents

1] Programme/ Curriculum/ Syllabus of the courses



Marwadi
University

Syllabus for Bachelor of Technology
Department of Automobile Engineering



Marwadi
University

Faculty of Technology

Course having focus on

Employability

Entrepreneurship

Skill development

during last five years

(2017-2022)

B.Tech. in Automobile Engineering



Subject Code: 01MA1101

Subject Name: Differential and Integral Calculus

B. Tech. Year – I (Semester I)

Objective: This paper aims to provide an essential background of differential and integral calculus to students of science and engineering courses at graduate level. A good science or engineering graduate is expected to have a sound knowledge of these two areas of mathematics as Differential and integral calculus are essential tools for learning Technology, Engineering and Sciences.

Credits Earned: 05 Credits

Course Outcomes:

After completion of this course, student will be able to:

1. Appreciate and apply the concepts of convergence and divergence of infinite series in problem of science, technology and engineering.
2. Evaluate Maclaurin's and Taylor's expansion for variety of functions and use them to solve further advanced problems.
3. Solve first order differential equations and will be able apply them to solve real life problems.
4. Explain the Euler's theorem and Modified Euler's theorem and will be able to verify it for given function of several variables.
5. Apply the notion of partial differentiation to evaluate equations of tangent plane and normal line for given surface.
6. Apply the method of Lagrange's multiplier to solve the problems of constrained optimization.
7. Understand the role of multiple integral in finding volume of three-dimensional objects, finding area between to two curves, finding moment of inertia etc

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial / Practical Marks		Total Marks
Theory	Tutorial	Practical		E	I		V	T	
				ESE	IA	CSE	Viva	Term Work	
4	2	0	5	50	30	20	25	25	150

Unit	Topics	Contact Hours
1	Infinite Series Concept of sequence, nature of infinite series, Properties for convergence, geometric series, Tests for convergence of positive term series.	10
2	Expansion of functions Concept of Expansion of functions, Taylor's series expansion, Maclaurin's series expansion	7
3	Ordinary Differential Equations Reorientation, order and degree, Variable separable method, Linear differential	10





	equations, Bernoulli's and Exact differential equations.	
4	Partial differentiation: Partial derivatives, Euler's theorem, Modified Euler's theorem and their applications, Implicit functions, Chain rule, Total differentials.	7
5	Applications of Partial differentiation: Errors and approximations, Tangent plane and normal line to a surface, Constrained optimization using Lagrange's multiplier, Jacobian.	7
6	Multiple Integrals: Calculation of double and triple integrals, reverse the order of integration, Change into polar, spherical and cylindrical coordinates.	10
Total Hours		51

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process.

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
20%	20%	30%	15%	10%	5%

Suggested Text books / Reference books:

1. M. D. Weir *et al*: Thomas' Calculus, 11th Ed., Pearson Education, 2008.
2. Stewart James: Calculus Early Transcendental, 5th Ed., Thomson India, 2007
3. Wylie & Barrett: Advanced Engineering Mathematics, Mc graw Hill pub.
4. Greenberg M D: Advanced Engineering Mathematics, 2nd ed., Pearson
5. B.S.Grewal: Higher Engineering Mathematics, 43rd ed., Khanna publishers
6. Erwin Kreyszig , Advanced Engineering Mathematics, 9/e, JOHN WILEY & SONS, INC
7. H. K. Dass, Advanced Engineering Mathematics, S Chand Publishing

Instructional Method:

1. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
2. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
3. Practical examination will be directed toward the completion of semester for assessment of performance of understudies in laboratory.
4. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. <http://mathworld.wolfram.com>
2. <http://en.wikipedia.org/wiki/Math>





Subject Code: 01CI0101

Subject Name: Elements of Civil Engineering

B.Tech. Ist Year Semester: I

Type of course: Under Graduate

Prerequisite: NA

Rationale: Students will gain Basic Civil Engineering knowledge

Course Outcome:

After completion of this course, student will be able to

1. Recognize importance of Civil engineering and its day to day applications.
2. Interpret the plan/maps, locate the objects on ground from map and from site to on paper plan/map.
3. Describe qualitative comparison between different materials and its selection.
4. Understand the water cycle its importance, water resources its consumptive use.
5. Able to create & interpret building planning and will be able to draw plan, section and elevation.
6. Acquaint with the various modes of transportation.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
3	0	2	4	50	30	20	25	25	150

Sr. No.	Content	Total Hrs
1	Introduction to civil Engineering: Scope of civil Engineering & Role of civil Engineer, Unit conversion, common units used in practice of civil engineering	3





2	<p>Elements of Surveying: Introduction: applications, fundamental principles and classification of surveying, classification of plans & maps Linear measurement: methods, Instruments used in chain surveying, Selection of stations, Chaining, Ranging, Offsetting. Angular Measurement: Instruments used, Types of compass, Types of meridians and bearings, Measurement of bearings, computation of angles. Compass traversing and correction of bearings for local attraction. Levelling: Aims and applications, Definition of various terms, Instruments for levelling, Methods of levelling, recording observations in level-book, computing reduced levels by HI and rise & fall method, Definition of contour, Characteristics of contours of different terrains and application of contour maps. Modern Surveying: Measurement by Electronic devices, Introduction to GIS, GPS & RS</p>	17
3	<p>Building Materials: Introduction, properties & classifications of materials: Bricks/blocks, cement, lime, sand, aggregates, stone, ceramic, glass, concrete, Ferrous metals & Non-ferrous metals, glass, timber and modern materials</p>	5
4	<p>Building planning and its components: Classification of buildings, Principles of planning, Conceptual planning of Residential & Public building, Building components & their functions, types of load on building</p>	6
5	<p>Transportation Engineering: Role of transportation in national development, Modes of transportation, types of roadways, intro to traffic engg, intro to Urban Transportation system</p>	5
6	<p>Water resources & Management: Hydrological cycle, types of water resources, water demand & water scarcity, Water use and its conservation techniques, Storage structures, water conveyance</p>	4
7	<p>Next Generation Civil Engineering: Building automation, Green building, advanced materials, sky scrapers, civil engineering wonders in the world</p>	2

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
30%	30%	10%	10%	10%	10%

List of Experiments:

1. Chain and Compass Survey Project.
2. Profile Leveling Survey Project.





3. Basics sign & conventional symbol drawing sheet
4. Building planning drawing sheet

List of Open Base Software/learning website:

1. <http://www.nptel.iitm.ac.in/courses.php?branch=Civil>
2. <http://www.nptel.iitm.ac.in/courses/Webcourse-contents/IIT-RORKEE/SURVEYING/home.htm>
3. <http://www.nptel.iitm.ac.in/video.php?courseId=1040>
4. <http://www.nptel.iitm.ac.in/video.php?courseId=1059>
5. <https://greenbuildingsolutions.org/Main-Menu/...Materials.../New-Materials-Application...>
6. <http://www.constructionworld.in/>





Subject Code: 01CR0101

Subject Name: Career Readiness Programme

B.Tech. Ist Year Semester: II

Type of course:

Prerequisite:

Rationale:

Course Outcomes:

After successful completion of this course, student will be able to

1. Understand importance of role of Values in developing self
2. Inculcate right values, ethics, attitudes, manners and behaviours for life
3. Respond and relate with expectations, competitions and power of networking

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
0	2	0	1	0	0	20	50	30	100

Sr. No.	Content	Total Hrs
1	Experiencing worth of important personality attributes i.e Taking Initiatives, Thinking on the feet etc through Games	2
2	Values of Honesty and Integrity as corner stone in one's career and Life. Experiencing incidence and case studies related to Honesty, Integrity and Human Values in work set up.	2
3	Value of Creativity in one's career and Life Building an attitude of creativity, thinking out of the box and inculcate virtue of exploration and innovation in various aspects of life.	2
4	Values to self-sustenance in difficult times and failures To Understand failure as stepping stone towards success, its inevitability and earning life lessons which makes an individual well equipped to deal with uncertainties of life.	2
5	Role of emotions in one's professional life Importance of building sound EQ with IQ, Understanding the causes and effects of emotions in life.	2
6	Workplace values 1 – Manners Understanding workplace as a second home and source of livelihood, inculcate spirit of belongingness towards work and exhibit sound manners that projects work place with dignity	2





7	Workplace values 2 – People, Policy and organization Understanding the importance of policies and people, ideal code of conduct at Workplace, building rapport with colleagues, sound behaviours with various stakeholders within the organization	2
8	Value for students’ life 1 - Power of Positivity Importance of optimism in life, developing right kind of attitude towards self career and others. Power of generating right kind of thoughts that translates in right actions and behaviours.	2
9	Value for students’ life 2 - Healthy Lifestyle Importance of fitness in life and career. Importance of regular exercising and taking up a sport. Focusing upon eating and sleeping habits that result in physical performance as body is considered to be the temple of soul.	2
10	Value for students’ life 3 – Create First Impression Understanding the importance of making right impressions while in public, how to speak/introduce self, basic understanding of dress code, voice tone and body language	2
11	Understanding hazards of Social Networking sites Developing sound habits, breaking bad habits, understanding hazards of bad habits and excess of social media in life.	2
12	Creating Value through Social Networking sites (Linked-In and Quora) To ensure that technology is used to build bridges and not the barriers, focusing upon the career and importance of associating with right content in the virtual world. (LinkedIn, Quora, GD communities, India Bix, Bodhi Booster)	2
13	Performance Values 1- How to avoid Procrastination Value and Importance of Time, Cause and effect of procrastination, how to maximize the day, Importance of setting up to –do lists and task lists	2
14	Performance Values 2- How to manage Pressure Situations (Exams and Evaluations) Handling anxiety, Value of planning and smart work, ensuring right state of mind and tips for a successful show.	2
	Total Hours	28

Suggested Theory Distribution

The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
19%	33%	63%	25%	10%	0%





Subject Code: 01ME0101

Subject Name: Elements of Mechanical Engineering

B. Tech. Ist Year Semester: I

Type of course: Engineering Science

Prerequisite: Zeal to learn the subject.

Rationale: Understanding of basic principles of Mechanical Engineering is required in various field of engineering.

Course Outcome:

After learning the course, the students will be competent

1. To understand basic terminologies and fundamentals of mechanical system by correlating science concept.
2. To apply the governing laws of mechanical engineering to find solution of different systems.
3. To identify the broad context of Mechanical engineering problems and identifying possible contributing factors.
4. To identify functional characteristics of various mechanisms.
5. To Analyse the various energy conversion cycles and systems.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
3	0	2	4	50	30	20	25	25	150

Sr. No.	Content	Total Hrs
1	Introduction: Prime movers and its types, Concept of Force, Pressure, Energy, Work, Power, System, Heat, Temperature, Specific heat capacity, Change of state, Path, Process, Cycle, Internal energy, Enthalpy, Statements of Zeroth Law and First law.	04
2	Properties of gases: Gas laws, Boyle's law, Charle's law, Combined gas law, Gas constant, Relation between Cp and Cv, Various non-flow processes like constant volume process, constant pressure process, Isothermal process, Adiabatic process, polytropic process	06
3	Properties of steam: Steam formation, Types of Steam, Enthalpy, Specific volume, Internal energy and dryness fraction of steam, use of Steam tables, steam calorimeters	06





4	Heat Engines: Heat Engine cycle and Heat Engine, working substances, Classification of heat engines, Description and thermal efficiency of Carnot; Rankine; Otto and Diesel cycles.	06
5	Steam Boilers: Introduction, Classification, Cochran, Lancashire and Babcock and Wilcox boiler, Functioning of different mountings and accessories	04
6	Internal Combustion Engines: Introduction, Classification, Engine details, four-stroke/ two-stroke cycle Petrol/Diesel engines, Indicated power, Brake Power, Efficiencies	04
7	Turbo machines: Types and operation of Reciprocating, Rotary and Centrifugal pumps, Priming and air compressors	04
8	Refrigeration & Air Conditioning: Refrigerant, Vapor compression refrigeration system, vapor absorption refrigeration system, Domestic Refrigerator, Window and split air conditioner	04
9	Couplings, Clutches and Brakes: Construction and applications of Couplings (Box; Flange; Pin type flexible; Universal and Oldham), Clutches (Disc and Centrifugal), and Brakes (Block; Shoe; Band and Disc)	04
10	Transmission of Motion and Power: Shaft and axle, Belt drive, Chain drive, Friction drive, Gear drive	04

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
35%	35%	20%	10%	0%	0%

Reference books:

1. Basic Mechanical Engineering by Pravin Kumar, Pearson.
2. Thermal Science and Engineering by Dr. D.S. Kumar, S.K. Kataria & sons, Publication New Delhi.
3. Fundamental of Mechanical Engineering by G.S. Sawhney, PHI Publication New Delhi.
4. Elements of Mechanical Engineering by Sadhu Singh S. Chand Publication.

List of Experiments:

1. To understand and appreciate significance of mechanical engineering in different fields of engineering.
2. To understand construction and working of different boilers, Boiler mountings and accessories.





3. To understand construction and working of Petrol engines & Diesel Engine (Two Stroke & Four Stroke both).
4. To understand construction and working of different types of Turbo Machines (Pump & Compressors).
5. To demonstrate vapour compression refrigeration cycle of domestic refrigerator OR window air conditioner OR split air conditioner.
6. To understand construction, working and application of clutches, coupling and brakes.
7. To determine brake thermal efficiency of an I. C. Engine.
8. To solve numerical of Properties of gases and properties of steam.
9. To understand different arrangement and application of various power transmission drives.
10. To solve numerical of heat engines.

List of Assignment:

1. Theory and Example on Properties of gases.
2. Theory and Example on Properties of steam.
3. Theory and Example on Heat engine.
4. Theory on pump.

List of Open Base Software/learning website:

1. <http://nptel.iitm.ac.in>
2. <http://vlab.co.in/>



Subject Code: 01EN0101
Subject Name: Basics of Environmental Studies
B.Tech. Ist Year Semester: II

Type of course: Engineering Science

Prerequisite: Interest in natural systems sustaining the life on the earth.

Rationale: To inculcate the environmental values translating into pro-conservation actions. Honourable Supreme Court of India has made it 'mandatory' to introduce a basic course on environment at the undergraduate level.

Course Outcome:

After completion of this course, student will be able to

1. Understand and realize the multidisciplinary nature of Environment & its components.
2. Know the importance of natural resources for the sustainable development of life.
3. Understand the effect of growing population on the Environment.
4. Classify the different types of pollution and measure to control pollution.
5. Learn about the Environmental issues faced globally and various steps taken globally to solve such Environmental issues.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
2	0	0	2	50	30	20	0	0	100

Sr. No.	Content	Total Hrs
1	Introduction and Ecology: Introduction to Environment, Ecology, Ecosystem	4
2	Population and Environment: Factors Affecting Human Settlement, Define Over Population & Explain the Cause, Effect on Environment & Control of it, Methods of Population Forecasting.	5
3	Environmental Resources: Forest Resources, Energy Resources, Water Resources and Land Resources.	8
4	Environmental Pollution: Water Pollution, Air & Noise Pollution, Environmental Sinks, Solid and Hazardous Waste, E-Waste & Biomedical Waste, Introduction to Green Chemistry.	8



5	Global Environmental Issues: Green House Effect, Global Warming, Ozone Layer Depletion, Climate Change, Acid Rain, Global Efforts to Control Issues.	3
6	Governmental Bodies for Environmental Protection	2

Suggested Theory Distribution

The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
35%	25%	25%	5%	5%	10%

List of Open Base Software/learning website:

1. <http://www.nptel.iitm.ac.in/courses.php?branch=Civil>
2. <http://www.nptel.iitm.ac.in/courses/Webcourse-contents/IIT-ROORKEE/SURVEYING/home.htm>
3. <http://www.nptel.iitm.ac.in/video.php?courseId=1040>
4. <http://www.nptel.iitm.ac.in/video.php?courseId=1059>
5. <https://greenbuildingsolutions.org/Main-Menu/...Materials.../New-Materials-Application...>
6. <http://www.constructionworld.in/>





Subject Code: 01GS0101
Subject Name: Physics
B.Tech. Ist Year Semester: I

Type of course: Basic Science

Prerequisite: Basic understanding of Math's, Physics and chemistry

Rationale: The basic science physics program is to prepare students for careers in engineering where physics principles can be applied to the advancement of technology. This education at the intersection of engineering and physics will enable students to seek employment in engineering upon graduation while, at the same time, provide a firm foundation for the pursuit of graduate studies in engineering.

Course Outcome:

After completion of this course, student will be able to

1. Recognize importance of physical concepts and its day to day applications.
2. Interpret the role of dielectric, magnetic and advanced engineering materials and their behaviors under various system conditions.
3. Describe qualitative comparison between various diodes.
4. Explain the need of NDT and its methodologies.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Sr no	Topics	Contact Hours
1	Acoustics: Introduction of musical sound and noise, Audible sound, Characteristics of audible sound, Loudness and Weber-Fechner law, Introduction of sound absorption coefficient, Sabine's formula for reverberation (Without Derivations), Factors affecting the acoustics of building and their remedies, Sound absorbing materials, Sound Insulation, Noise Pollution, Noise Control in machineries.	5
2	Ultrasonic: Ultrasonic sound, Piezo-electric effect and Piezo-electric generator, Magneto-stiction effect and Magneto-stiction generator, Measurement of ultrasonic sound by Debye-Sear method, Applications of ultrasound in various disciplines.	4
4	Optical Fiber: Introduction of Optical Fiber, Structure and advantages of Optical Fiber, Total Internal Reflection, Derivation of Numerical Aperture and Acceptance angle, Modes	4





	of Propagation, Classification of Optical Fiber, Fiber loss, Fiber optic communication system, Applications of optical fiber.	
5	LASER: Properties of LASER, Spontaneous and stimulated emission, LASER with basic idea about Population Inversion, Pumping mechanism, Optical Resonators, Nd:YAG LASER, principle, construction and working, Applications of LASER in various disciplines, Principle of holography and its applications.	4
6	Superconductivity: General Properties of superconductors, Types of Superconductors, High Temperature superconductors, Applications: Magnets, Josephson effect, SQUID, Maglev, other	4
7	Magnetic Materials: Definitions : Magnetic induction, Auxiliary Magnetic field, Magnetic dipole, Dipole moment, Magnetization, Magnetic parameters, Bohr magneton, Classification of Magnetic Materials based on magnetic moment, Soft and Hard Magnetic Materials, Anti-ferromagnetic materials, Ferrites, Magnetic recording and readout, Magnetic storage devices.	5
8	Nano-Physics: Introduction of Nano scale, Surface to volume ratio, Synthesis of Nanomaterials: Top-down; Ball milling, lithography, erosion, Bottom-up; PVD, CVD, PECVD, and sol-gel methods, Structure and types of Carbon Nanotube, Synthesis of CNT; Electrical arc method, CVD, Laser ablation, Properties and applications of CNT, Properties and applications of Nanomaterials.	5
9	Advanced Engineering Materials: Metallic glass: Introduction, Synthesis; splat cooling and Melt spinning methods, Properties and Applications, Shape Memory Alloy: Introduction, Properties and Applications, Energy materials: Hydrogen fuel cell	4

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
20%	20%	30%	15%	10%	5%

List of Experiments:

1. To verify I-V characteristics of PN diode
2. To verify I-V characteristics of Zener diode
3. To verify I-V characteristics of Light Emitting diode
4. To determine efficiency of solar cell
5. Study of solar cell in series and parallel combinations
6. To determine Numerical Aperture of Optical Fiber
7. To determine propagation and bending losses of Optical Fiber
8. To determine velocity of ultrasonic sound in water by ultrasonic interferometer
9. To determine energy band gap of semiconductor by four probe method





10. To determine energy band gap of semiconductor by resistivity-temperature method
11. To determine carrier concentration of a given semiconductor by Hall effect
12. To determine divergence of LASER beam

List of Open Base Software/learning website:

1. <http://nptel.ac.in/courses>
2. <http://nptel.ac.in/downloads>
3. <http://vlab.amrita.edu/index.php>





Subject Code: 01CR0102
Subject Name: value-education
B.Tech.Ist Year Semester: I

Type of course: Career oriented course

Prerequisite: NA

Rationale: To develop an individual and help him/her lifelong in many ways: It gives a positive direction to the students to shape **their** future.

Course Outcomes:

After successful completion of this course, student will be able to

1. Understand importance of role of Values in developing self
2. Inculcate right values, ethics, attitudes, manners and behaviors for life
3. Respond and relate with expectations, competitions and power of networking

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
0	2	0	2	0	0	20	50	30	100

Sr. No.	Content	Total Hrs
1	Experiencing worth of important personality attributes i.e Taking Initiatives, Thinking on the feet etc through Games	2
2	Values of Honesty and Integrity as corner stone in one's career and Life. Experiencing incidence and case studies related to Honesty, Integrity and Human Values in work set up.	2
3	Value of Creativity in one's career and Life Building an attitude of creativity, thinking out of the box and inculcate virtue of exploration and innovation in various aspects of life.	2
4	Values to self-sustenance in difficult times and failures To Understand failure as stepping stone towards success, its inevitability and earning life lessons which makes an individual well equipped to deal with uncertainties of life.	2
5	Role of emotions in one's professional life Importance of building sound EQ with IQ, Understanding the causes and effects of emotions in life.	2





6	Workplace values 1 – Manners Understanding workplace as a second home and source of livelihood, inculcate spirit of belongingness towards work and exhibit sound manners that projects work place with dignity	2
7	Workplace values 2 – People, Policy and organization Understanding the importance of policies and people, ideal code of conduct at Workplace, building rapport with colleagues, sound behaviours with various stakeholders within the organization	2
8	Value for students’ life 1 - Power of Positivity Importance of optimism in life, developing right kind of attitude towards self-career and others. Power of generating right kind of thoughts that translates in right actions and behaviours.	2
9	Value for students’ life 2 - Healthy Lifestyle Importance of fitness in life and career. Importance of regular exercising and taking up a sport. Focusing upon eating and sleeping habits that result in physical performance as body is considered to be the temple of soul.	2
10	Value for students’ life 3 – Create First Impression Understanding the importance of making right impressions while in public, how to speak/introduce self, basic understanding of dress code, voice tone and body language	2
11	Understanding hazards of Social Networking sites Developing sound habits, breaking bad habits, understanding hazards of bad habits and excess of social media in life.	2
12	Creating Value through Social Networking sites (Linked-In and Quora) To ensure that technology is used to build bridges and not the barriers, focusing upon the career and importance of associating with right content in the virtual world. (Linkedin, Quora, GD communities, India Bix, Bodhi Booster)	2
13	Performance Values 1- How to avoid Procrastination Value and Importance of Time, Cause and effect of procrastination, How to maximize the day, Importance of setting up to –do lists and task lists	2
14	Performance Values 2- How to manage Pressure Situations (Exams and Evaluations) Handling anxiety, Value of planning and smart work, ensuring right state of mind and tips for a successful show.	2
	Total Hours	28

Suggested Theory Distribution

The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
20%	20%	30%	15%	10%	5%





Subject Code: 01SL0102

Subject Name: Reading and Writing for Technology

B. Tech. Year - I

Objectives:

1. To introduce students to fundamentals of reading and writing skills
2. To enable them to comprehend texts of technical and analytical nature
3. To enable them to carryout different writing tasks in the context of technology

Credits Earned: 2 Credits

Course Outcomes:

After completion of this course, student will be able to

1. comprehend diverse texts related to technology;
2. organise ideas and arguments in the written form;
3. write assignments, reports, letters etc. in the technical contexts.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
0	0	2	1	0	0	0	0	50	50

SR No	Content	Teaching Hours
1	1. History/ Story of Technical Writing 2. English in Technical Communication	4
2	1. Know your textbook: Exploring the textbook, its parts and purposes 2. Approaching reading: Reading Strategies 3. Reading for Various Purposes: reference books, stories, articles, technical surveys, reports, blog posts, & reviews	9
3	1. Understanding the writing process : Thinking about writing processes, key Attributes of academic and technical texts 2. Writing process - Visualizing your text 3. Approaching Writing: Writing Strategies 4. Understanding various forms of writing: essay, case study, research paper, term paper, maths/physics problems, lab report, book report/review, surveys, blog posts, & dissertation 5. Writing for various purposes : essays, writing answers in exam, lab reports, process and instructions, reviews, blog post, & assignments	17
Total Hours		30





References:

1. For Unit -1
 - a. Tavia, Yasmin. "Story of Technical Writing." *YouTube*, 28 March 2016, <https://www.youtube.com/watch?v=QomPdtNza4k>. Accessed 30 June 2017.
 - b. AbodeTCS. "Future of TechComm." *YouTube*, 16 July 2012, <https://www.youtube.com/watch?v=dSdhnyDF0YY>. Accessed 30 June 2017.
 - c. Lowe, Janet. *Google Speaks: Secrets of World's Greatest Billionaire Entrepreneurs, Sergey Brin and Larry Page*. John Wiley & Sons, 2009.
 - d. Howard, Nicole. *The Life Story of a Technology*. Greenwood Press, 2005.
2. For Unite – 2
 - a. "Engineering Stories." *Engineering Stories*, 2017, <https://engineerstories.com/>. Accessed 30 June 2017.
 - b. "10 Breakthrough Technologies 2017." *MIT Technology Review*, 2017, <https://www.technologyreview.com/lists/technologies/2017/>. Accessed 30 June 2017.
 - c. High, Peter. "Top 10 Technology Stories of 2016." *Forbes*, 4 Jan. 2017, <https://www.forbes.com/sites/peterhigh/2017/01/04/top-tentechology-stories-of-2016/2/#2d72b2be9de7>. Accessed 30 June 2017.
3. For Unit – 3
 - a. Teaching and Learning Resources for Me. "Understanding the Purpose of Different Types of Texts." *YouTube*, 12 Sept. 2015, <https://www.youtube.com/watch?v=IZtxWtk7tpk>. Accessed 30 June 2017.

Suggested Theory distribution:

NA

Suggested List of Experiments:

NA

Instructional Method:

1. Discussions
2. Group Work
3. Individual Presentations
4. Brainstorming
5. Role Play

*** Teaching and Examination Scheme**

1. **IA will consist of the following components: (30 Marks)**
Assignments (20 Marks): Students will write three assignments.
(Two assignments of 5 marks each and one assignment of 10 marks)
In-Class Participation (10 Marks)
2. **CSE: (20 Marks)**
(Term Paper-20 Marks): An article on the topics given.





3. Viva (25 Marks):

Viva will be conducted at the end of the semester. It will be based on the CSE, Term Work, Assignments and topics covered in the syllabus.

4. Term Work (25 Marks)

(Term-End Presentation): Students will make a presentation based on their term paper at the end of the semester.

Supplementary Resources:

1. Anderson, P. *Technical Communication*. Harcourt Brace, 1998.
2. Cox, Kathy, and David Hill. *Eap Now!: English for Academic Purposes*. Pearson Australia, 2011.





Subject Code: 01MA1151

Subject Name: Matrix Algebra and Vector Calculus
B.Tech. Year - I

Objective: This subject aims to provide fundamentals of matrix algebra and vector calculus. The topics delivered in the paper are essential for almost all science and engineering disciplines.

Credits Earned: 5 Credits

Course Outcomes:

After completion of this course, understudy will have the capacity to

1. Explain the linear dependence of vectors of different vector space.
2. Apply Gauss elimination to solve linear system of equations.
3. Apply the concept of Eigen values and vectors in various field of engineering like control theory, vibration analysis, quantum mechanics etc.
4. Understand role of mathematical modeling in taking care of different issues related to heat transfer, mechanics, momentum, etc.
5. Understand the key role of vector integral calculus in finding flux in vector field, finding potential function, etc.
6. Determine convergence of improper integrals and explain special functions like Beta, Gama and error functions.
7. Gain the fundamental knowledge about special function like Beta and Gamma and its applications.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	2	0	5	50	30	20	25	25	150

Unit	Topics	Contact Hours
1	Vector space: Vector space, Linear independence of vectors, Basis and dimension of vector space, Inner product spaces and their properties.	8
2	Matrix Algebra - I: Rank and nullity of a matrix, Determination of rank by row operation, Triangularization of matrices by Gauss -elimination process, Computing inverse of a matrix by Row operations, Consistency of system of linear equations.	8





3	Matrix Algebra -II: Determinant and their properties, Cofactors of $n \times n$ determinant, Eigen values and eigen vector of matrix, Cayley - Hamilton theorem, Quadratic and Canonical forms, special matrices and their properties.	8
4	Vector differential calculus: Recall the concept of vector algebra, Scalar and vector functions, gradient of a scalar point functions, Divergence and Curl of a vector point function, Physical meaning of gradient, divergence and curl, directional derivatives, Conservative vector fields, Irrotational and Solenoidal function.	10
5	Vector Integral calculus: Line integrals, Path Independence of Line Integrals, Concept of surface integrals, Green's theorem, Stoke's theorem and Divergence theorem.	10
6	Improper integrals Improper integrals of type I and type – II, Convergence of Improper integrals, Beta, Gamma and error functions with properties.	10
Total Hours		54

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
20%	20%	30%	15%	10%	5%

Recommended Textbooks:

1. M. D. Weir *et al*: Thomas' Calculus, 11th Ed., Pearson Education, 2008.
2. Stewart James: Calculus Early Transcendental, 5th Ed., Thomson India, 2007
3. Wylie & Barrett: Advanced Engineering Mathematics, McGraw-Hill pub.
4. Greenberg M D: Advanced Engineering Mathematics, 2nd ed., Pearson
5. Erwin Kreyszig, Advanced Engineering Mathematics, 9th e, John Wiley, INC
6. H. K. Dass, Advanced Engineering Mathematics, S Chand Publishing.

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc .
- b. The internal evaluation will be done based on continuous evaluation of students in the laboratory and class -room.
- c. Practical examination will be directed toward the completion of semester for assessment of performance of understudies in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory
- e. videos, e-courses, Virtual Laboratory





Supplementary Resources:

1. <http://mathworld.wolfram.com/>
2. <http://en.wikipedia.org/wiki/Math>





Subject Code: 01CE0101
Subject Name: Computer Programming
B.Tech.Ist Year Semester: I

Type of course: Engineering Science

Prerequisite: Zeal to learn the subject

Rationale: Understanding of basic principles of Computer programming and coding for Engineering is required in various field to solve real life problem in digitalization era.

Course Outcome:

After completion of this course, student will be able to

1. Recognize importance of C language and its day to day applications.
2. Analyse the various control structures that requires to use in real time applications
3. How to convert real time applications into algorithms and device the programusing C language notations
4. Identify various basic programming principles using C language.
5. Illustrate various programming syntax.
6. Express and distinguish various loops in C language.
7. Express programming problems logically through flow charts and algorithms.
8. Prepare effective team-oriented problem solver as well as communicator with non-technical stakeholders in computer and software systems development.
9. Apply fundamental principles of problem solving in software engineering.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
3	2	0	4	50	30	20	25	25	150

Sr. No.	Content	Total Hrs
1	Introduction: Basic organization of a Computer, Languages Low level – high level, Number System – Binary – Decimal conversion problems, Flowchart, Algorithm, problem solving using flowchart and algorithm	6
2	C Programming Basics: Introduction to C Programming, Structure of ‘C’ program, compilation and linking processes, Constants, Variables, Data Types, C Tokens, Expression using operators in ‘C’, Type Conversion and Type Casting	7





3	Control Structure and Looping: Decision Making statements, Switch statement, Conditional operator, Looping – Entry and Exit control loops, concept of jump, break and continue.	6
4	Array and String: Declaration and initialization of array, Types of array, sorting and matrix operation using array, String – string operations, string array, string function	5
5	Functions and Pointers: Functions – Definition of function, Declaration of function, Call by value, Call by references, Recursion. Pointers – Definition, Initialization, pointer arithmetic, pointer and array, Chain of	8
6	Structure and Union: Need of structure data type, structure definition, structure declaration, structure within structure, difference between structure and union.	2
7	Dynamic Memory Allocation: DMA concepts, DMA functions – Malloc(), Calloc(), Realloc(), Free().	2
8	File Management: Introduction to file management and its functions.	3
9	Introduction to Data Structure using C: Introduction, Types - Linear and Non-Linear Data structure Linear – Basics of Stack, Queue and Linked List	3
Total Hours		42

Suggested Theory Distribution

The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
20%	20%	30%	15%	10%	5%

List of Experiments:

1. Write a program to print student detail.
2. Write a program to calculate simple interest.
3. Write a program that accepts centigrade and convert it into Fahrenheit.
4. Write a program that accepts two numbers in A and B interchange value of A and B variable.
5. Write a program to demonstrate the use of the basic data types int, char and float.
6. Write a program to demonstrate the use of Arithmetic operators by getting two numbers from the user
7. Write a program that accepts a number from keyboard and find weather the number is ODD or EVEN using Conditional operators.
8. Write a program to demonstrate the use of increment and decrement operator.
9. Write a program to demonstrate the use of shorthand operators.





10. Write a program to demonstrate the use of sizeof() of operator.
11. Write a program to demonstrate the use of bitwise operators.
12. Write a program that accepts three numbers from the user and print maximum of them.
13. Demonstrate the use of GOTO statement.
14. Write a program to input the Name and the Salary of an Employee. Calculate and print the Name, Salary and Bonus of the Employee, where bonus= 5.3% if salary is at least Rs. 10,000 and 6.5% otherwise.
15. Admission to professional course is subject to the following conditions.
Marks in Mathematics ≥ 60
Marks in Physics ≥ 50
Marks in Chemistry ≥ 40
Total in all three subjects ≥ 200 or total in mathematics and physics ≥ 150
Given the marks in the three subjects, write a program to process the application to list the eligible candidates.
16. Write a program that accepts two numbers and one code (1,2,3,4) from the user. According to the code, the operations to be performed, using switch case statements as follows: (Code: 1 \rightarrow Addition, 2 \rightarrow Subtraction, 3 \rightarrow Multiplication, 4 \rightarrow Division).
17. Write a program that reads the marks for five subjects of a student. Calculate and print the grade for the student [i.e. Grade A, B, C, D and F] using Else-If ladder.
18. Write a program that do sum=1+3+5+..... N terms Print value of Sum.
19. Write a program to print the Fibonacci Series [i.e 1,1,2,3,5,8,13...N terms].
20. Write a program to accept one number from the user. i) Display reverse of that number. ii) Find if it is Armstrong or not.
21. Write a program that accepts a number from the user and print prime numbers from 0 to that number.
22. Write a C program to display following different Patterns.

1	1
1 2	1 0
1 2 3	1 0 1
1 2 3 4	1 0 1 0
1 2 3 4 5	1 0 1 0 1
1	a
2 1	b c
1 2 3 2 1	d e f
2 3 4 3 2 1	g h i j
1 2 3 4 5 4 3	k l m n o
2 1	
1	1
A B	A B
1 2 3	2 3 4
A B C D	C D E F
1 2 3 4 5	5 6 7 8 9
23. Write a program to accept 5 numbers in an array and display it.
24. Write a program to accept 9 numbers in form of matrix and display in matrix form.





25. Write a program to accept 5 numbers in array and find maximum and minimum value of it.
26. Write a program to accept 5 numbers in array and find maximum and minimum value of it.
27. Write a program to sort all elements of 1-D array in ascending and descending order.
28. Write a program to calculate and display addition of two matrix.
29. Write a program to count number of vowels in a given string.
30. Write a program to check whether entered string is palindrome or not.
31. Write a program for string concatenation without using library function.
32. Write a program to demonstrate the Library function for string.
33. Write a function which receives number as argument and return sum of digit.
34. Write a program for calculating Fibonacci series using UDF and call by value
35. Write a program to calculate Factorial using recursion in UDF.
36. Write a program to find Average, maximum and minimum of Array elements using UDF.
37. Write a program to calculate total number of positive, negative and zero value in array using UDF.
38. Write a program to swap two numbers using UDF and pointer.
39. Write a program using pointer to read in an array of integers and print its elements in reverse order.
40. Write a C program to create a structure of employees with Full Name, Last Name, City and Salary. Display it for n employees.
41. Write a program to demonstrate nested structure.(make structures for circle and rectangle)
42. Write a program to create array of structure. Make a structure for student having student no, student name, student marks.
43. Write a program to create union cricketer having player name, batting avg, player_age. P for swapping of two values with help of UDF and call byreference.
44. Write a program to Display contents of a file on screen. Use functions(fopen, fclose, getc, putch are of)
45. Write a program to count number of characters in a file.





Subject Code: 01ME0102
Subject Name: Engineering Graphics
B.Tech. Sem -II

Type of course: Under Graduate

Pre-requisite of course: Zeal to learn the subject.

Objective: Engineering Graphics is the language of engineering. It is the fundamental core skill enhances problem solving ability which improves the engineering knowledge. Moreover, it is creating link between imagination and realization.

Course Outcomes:

After completion of this course, student will be able to

1. Know, understand and able to define the methods of engineering drawing.
2. Learn basic sketching methods.
3. Understand engineering drawings using fundamental mathematics.
4. Construct Engineered Drawing.
5. Develop visualization skills so that they can create new product design.
6. Understand the theory of projection, Learn technical communication skill.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	4	6	50	30	20	25	25	150

Unit	Topics	Teaching Hours
1	Introduction: Module 1: Drawing instruments and accessories, Standards of Engineering Drawings. Module 2: Plain scales, Diagonal Scales.	6
2	Engineering Curves: Module 1: Introduction to engineering curves with classification and application. Module 2: Construction of Ellipse, Parabola and Hyperbola with normal and tangent to the curve. Module 3: Construction of Involute, Spirals and Cycloidal curve with normal and tangent to the curve.	10
3	Projection of Points and straight Lines: Module 1: Introduction to principal planes Module 2: Point projection located in same and different quadrants.	10





	Module 3: Line projection with inclination to one RP and two RP, True length of Line.	
4	Projections of Plane Surfaces: Module 1: Projection of Polygons, circle and ellipse with inclination to one RP and two RP. Module 2: Auxiliary Plane method. Module 3: Method for projection of plane surfaces.	10
5	Projections of Solids and Section of Solids: Module 1: Projection of Cylinder, Cone, Pyramid and Prism along with frustum with its inclination to one RP and with two RP. Module 2: Section of solids and the true shape.	12
6	Orthographic Projections: (To be cover in Laboratory) Module 1: Introduction to Orthographic Projection, Plane of Projection. Module 2: Projection of the object on the principal planes. Module 3: Front view, Top view and Sides view using First and Third angle Projection methods. Module 4: Sectional Orthographic.	-
7	Isometric Projections: (To be cover in Laboratory) Module 1: Isometric View, Conversion of Orthographic view to isometric view. Module 2: Isometric Scale, Difference between Isometric View and Projection.	-
	Total Hours	48

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
14%	22%	22%	14%	14%	14%

Suggested List of Drawing Sheet:

1. Practice sheet (Dimensioning methods, types of line, Methods to draw different polygons, Equal division of line and angle)
2. Scale (Plane and Diagonal Scale)
3. Curves
4. Projection of Straight line and Projection of plane surfaces.
5. Projection of solid and section of solid
6. Orthographic projection and Sectional Orthographic projection
7. Isometric projection and Isometric View.

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may





also use any of tools such as demonstration, role play, Quiz, brainstorming

- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses





Subject Code: 01EE0103

Subject Name: Basic Electrical and Electronics

B.Tech.Ist Year Semester: II

Type of course: Engineering Science

Prerequisite: None

Rationale: Electronics is playing a key role in all engineering applications. All engineers should have basic knowledge of electronics. Purpose of this subject is making students familiar with basic electronics concepts. Students will be able to operate electronic test and measurement equipment like multi-meter, CRO, DC power supply and function generator.

Course Outcomes:

After completion of this course, student will be able to

1. Recognize importance of electrical energy and its day to day applications.
2. Interpret the role of resistor, capacitor and inductor and their behavior under various system conditions.
3. Describe qualitative comparison between AC and DC system.
4. Analyze and solve DC Circuits and AC Single phase
5. Analyze and solve magnetic circuits.
6. Explain the need of batteries, its characteristics and charging methods.
7. Perceive the detail understanding of construction, operation and applications of various components like Diode, BJT and Op-Amp.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
3	0	2	4	50	30	20	25	25	150

Sr. No.	Content	Total Hrs
1	Fundamental of DC circuits: Definition of Current, Voltage, e.m.f., Power Energy, Resistance, Ohm's Law, Effect of variation in temperature on resistance, Series, Parallel and series-parallel connection of resistances, Comparison between series and parallel circuits, Open circuit and Short circuit, Kirchoff's Laws, Nodal Analysis, Mesh Analysis of Electrical Networks	5





2	Magnetic Circuits and Electromagnetics: Definition of magnetic quantities, Magnetic circuits, Comparison of electric and magnetic circuits, Calculation of Ampere turns, Leakage flux, Magnetization Curve Electromagnetic induction, Faraday's Laws, induced emf and direction of induced emf, self-inductance, mutual inductance, energy stored in magnetic field, Charging and discharging of inductor, magnetic hysteresis, eddy current losses.	5
3	Fundamental of AC Circuit: Generation of Alternating voltage and current, sinusoidal function- Terminology, Form Factor and Peak Factor, Phase and Phase Difference, Phasor representation of alternating quantities, Phasor addition and subtraction Behaviour of purely resistive, inductive and capacitive circuits, Phase relation between voltage and current Active, Reactive and Apparent Power, Power Factor and its significance in series RL circuit, series RC circuits, series RLC circuit Parallel and series-parallel AC circuits, phasor method, admittance method Resonance n series and parallel circuit.	8
4	Batteries: Electric cell, types of cells, Equivalent circuits, grouping of cells, batteries, capacity of battery, efficiency of battery, charging method, Life of battery, Application of battery, Battery maintenance procedure.	2
5	Safety and Protection Electric Shock, First aid for electric shock, importance of grounding, Fuse, MCB, ELCB.	2
6	Fundamentals of Semiconductor Material: Energy Band Diagram of conductor, semiconductor and insulator; Bohr Atomic Model for Atom, Crystal Structure of Semiconductor Materials, Intrinsic and Extrinsic Semiconductor Materials.	3
7	Semiconductor Diodes: Symbol and Construction, Operating Characteristics in Forward and Reverse Bias, Applications of Diode as Switch, Clipper, Clamper and Rectifier; Special Purpose Diodes: Zener Diode; Optical Diodes like LED, Photo Diode, Laser Diode, Seven Segment Display; Other Diodes like Varactor Diode, Schottky Diode, PIN Diode, Tunnel Diode, Step Recovery Diode.	5
8	Bipolar Junction Transistor (BJT): History of BJT invention; Types, Symbol and Construction of BJT; Basic Operation of BJT; BJT Configurations: Common Base, Common Emitter, Common Collector with Operation, Input / Output Characteristics; Applications of Transistors as Switch and Amplifier.	5
9	Operational Amplifiers: Introduction to OpAmp, Differential and Common Mode Operation, OpAmp Basics, Practical OpAmp Circuits, OpAmp Applications as Summer, Integrator and Differentiator	5
	Total Hours	45

Suggested Theory Distribution





The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
20%	30%	25%	15%	10%	0%

List of Experiments :(suggested)

1. To verify ohm's law in an electric circuit
2. To observe the variation of temperature on resistance
3. Determination of B-H curve of magnetic material
4. To determine power in a single-phase circuit using wattmeter
5. Determination of parameters in series RLC circuit
6. Study series resonance in RLC circuit
7. To study and perform the V-I characteristic of Silicon Diode and Zener Diode.
8. To use silicon Diode as a Clipper and Clamper.
9. To analyze the Half Wave, Full Wave and Bridge Rectifiers.
10. To use Transistor as a Switch.
11. To study and perform the Input and Output characteristic of BJT.
12. To use OpAmp as summer, Integrator and Differentiator.





Subject Code: 01ME0104
Subject Name: Mechanical Workshop
B.Tech. Ist Year Semester: II

Type of course: Under Graduate

Prerequisite: Zeal to learn subject

Rationale: Mechanical Workshop is the very important subject which is very useful for students to prepare for industrial needs and also help to get various technical skill. Practice of engineering workshop makes students to compete practical work in industrial environment as well as day-to-day life work.

Course Outcome:

After learning the course, the students will be competent to

1. Learn about Application of hand tools and power tools.
2. Learn about various operations of machine tools.
3. Selection of process and steps for specific operation.
4. Knowledge and awareness about various safety related operation.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
0	0	2	1	0	0	0	0	50	50

Sr. No.	Content	Total Hrs.
1	Introduction: Introduction to mechanical workshop its plan and layout. Learn about various safety related rules and regulation. Demonstration of various tools which are used in workshop like hand tools, power tools, various measurement equipment, study of different types of materials, various processes like Finishing, Marking, Cutting, Smoothing, Bending etc.	04
2	Fitting Shop Demonstration of fitting job and make job physically	06
3	Carpentry Shop Demonstration of carpentry job and make job physically	06
4	Tin Smithy Shop Demonstration of tin smithy job and make job physically	04





5	Welding Shop Demonstration of welding job and make job physically	04
6	Plumbing & Black smithy Shop Demonstration of Plumbing and black smithy job	04

Suggested Theory Distribution

The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
19%	23%	23%	25%	10%	0%

Reference books:

1. Mechanical Workshop By S K.C.John, PHI Learning
2. Workshop Technology by Raghuvanshi B.S. Dhanat Rai
3. Workshop Practices, H S Bawa, Tata McGraw Hill, 2009
4. Workshop Technology by Arnold E, Chapman W.A. J,1998
5. Workshop Practices and Materials, B J Black, CRC Press

List of Experiments:

1. Fitting Job
2. Carpentry Job
3. Tin Smithy Job
4. Welding Job
5. Plumbing Job
6. Black Smithy Job

Major Equipment:

1. Workshop Hand Tools
2. Arc Welding Machine

Open Ended Project:

1. Design and manufacturing of small mechanical component in workshop

List of Open Base Software/learning website:

1. nptel.ac.in





Subject Code: 01PE0101

Subject Name: PHYSICAL EDUCATION/SPORTS/YOGA

B.Tech. Ist Year Semester: II

Type of course:

Prerequisite:

Rationale:

Course Outcomes:

After successful completion of this course, student will be able to

1. To evoke social consciousness among students through various activities.
2. To develop youth leadership in the students
3. To create awareness of the students in Attention, saluting, March shooting etc.
4. To create the awareness of all kinds of discipline to the students
5. To develop skill of the students regarding Hockey, Khokho, track events, field events and various asanas as well as physical Fitness and Health Education.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
0	0	2	1	0	0	0	25	25	50

Content:

1. **Teaching of skills of Hockey** – demonstration practice of the skills and correction.
2. Teaching of skills of Hockey – demonstration practice of the skills and correction. And involvement of skills in games situation
3. Teaching of advance skills of Hockey – demonstration practice of the skills and correction. Involvement of all the skills in games situation with teaching of rules of the game
4. **Teaching of skills of Kho-Kho** – demonstration practice of the skills and correction.
5. Teaching of skills of Kho-Kho – demonstration practice of the skills and correction. Involvement of the skills in games situation
6. Teaching of advance skills of Kho-Kho – demonstration practice of the skills and correction. Involvement of all the skills in games situation with teaching of rules of the game
7. Teaching of different track events – demonstration practice of the skills and correction.
8. Teaching of different track events – demonstration practice of the skills and correction.
9. Teaching of different track events – demonstration practice of the skills and correction with competition among them.





10. **Teaching of different field events** – demonstration practice of the skills and correction.
11. Teaching of different field events – demonstration practice of the skills and correction.
12. Teaching of different field events – demonstration practice of the skills and correction.
13. Teaching of different field events – demonstration practice of the skills and correction with competition among them.
14. Teaching of different asanas – demonstration practice and correction.
15. Teaching of different asanas – demonstration practice and correction.
16. Teaching of different asanas – demonstration practice and correction.
17. Teaching of different asanas – demonstration practice and correction.
18. Teaching of weight training – demonstration practice and correction.
19. Teaching of circuit training – demonstration practice and correction.
20. Teaching of calisthenics – demonstration practice and correction.





Subject Code: 01SL0101

Subject Name: Communication Skills

B.Tech.Ist Year Semester: II

Type of course: Communication skills

Prerequisite: Zeal to learn the subject

Rationale: The rationale of Technical Communication Skills in English is to help students understand the process of communication in link with Non –verbal Communication. The curriculum also targets the understanding of different barriers that creep into communication process. Moreover Units covered on LSRW skills development will help students acquire competence over linguistic skills. This would be developed through balanced and integrated tasks.

Course Outcomes:

After completion of this course, student will be able to

1. Comprehend texts based on science and technology
2. Develop the ability to interpret informative and analytical texts
3. Evolve an understanding of components of academic writing
4. Explain technical concepts in written form
5. Compose written texts for the purposes of academic writing

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
0	0	2	3	60	30	10	25	25	150

Sr. No.	Content	Total Hrs
1	Introduction to Academic Reading <ul style="list-style-type: none"> • Reading Skills: An Overview • Meaning and Interpretation • Informative and Analytical Texts • Viewpoint and Main Ideas 	8
2	Academic Reading: Practice <ul style="list-style-type: none"> • Section I, II & III of Exercises for Reading Comprehension* <p>*From <i>Technical Communication (Page 55-66)</i></p>	12





3	Introduction to Academic Writing <ul style="list-style-type: none">• Organization of Ideas• Coherence• Grammar, Punctuation and Usage• Citing References	16
4	Academic Writing: Practice <ul style="list-style-type: none">• Paragraph Development• Explanation of Concepts• Assignments• Project Reports	12
Total Hours		48

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
20%	20%	30%	15%	10%	5%



Subject Code: 01CI0301

Subject Name: Mechanics of Solids

B.Tech. II Year Semester: III

Type of course: Core

Prerequisite: NA

Rationale:

1. To study about identification of different types of forces, systematic evaluation of effect of these forces, behaviour of rigid bodies subjected to various types of forces, at the state of rest or motion of the particles, as Universe exist due to force only.
2. To understand the fundamental principles, concepts and techniques, both theoretical and experimental, with emphasis on the application of these to the solution of mechanics based suitable problems in all engineering.
3. To provide a firm foundation and formwork for more advanced study at every higher semester as the subject of Mechanics of Rigid bodies cuts broadly across all branches of engineering profession.

Course Outcome:

After studying this subject:

1. Students will be able to understand the laws of mechanics and their application to engineering problem.
2. Student will be able to understand the fundamentals of stress/strain analysis and be able to apply them with confidence to simple structure.
3. Fundamental related to subject will facilitate students to design structures, predict failure and understand the physical properties of materials in higher semester.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
3	1	2	5	60	30	10	25	25	150

Sr. No.	Topic Name	Teaching Hours
1	Introduction	2
	1.1 Terminologies: space, time, particle, rigid body, deformable body. Force: Definition, categorization of forces, Characteristics of a force, System of forces and resolution of forces.	





	1.2 Principles of mechanics: Principles of Transmissibility, superposition, Gravitational Law and Parallelogram Law of Forces.	
2	Fundamentals of Statics	8
	2.1 Force and Force system: System of Forces its definition and application in Engineering.	
	2.2 Coplanar concurrent force system: Derivation of resultant force and equilibrant force using analytical and graphical methods. Triangle law of forces and Polygon law of forces.	
	2.3 Equilibrium of rigid bodies: Conditions of equilibrium, Lami's theorem and its derivation. Concept of Free body diagram in engineering. Application of Lami's theorem in various problems.	
	2.4 Coplanar non-concurrent forces: Definition of moment, couple and its effect on rigid bodies. Properties of couple, equivalent force couple system with examples, Varignon's theorem and its derivation.	
	2.5 Resultant of Coplanar non-concurrent Force system: Calculation of resultant force in coplanar non-concurrent force system by analytical and graphical methods.	
3	Analysis of Determinate Beams	8
	3.1 Classification of loads, supports and beams	
	3.2 Support Reactions: Calculation of support reactions for determinate beams subjected different loads viz. (i) Concentrated loads and moment, (ii) Uniformly distributed load, and (iii) Uniformly Varying loads.	
	3.3 Internal forces in beams: Definition of shear force and bending moment. Correlation between loading, shear force & bending moment in beams.	
	3.4 Shear Force and Bending Moment Diagrams: Bending moment and shear force diagrams for beams subjected to; i) Concentrated loads and moment, (ii) Uniformly distributed load, and (iii) Uniformly Varying loads. Point of Contra flexure and maximum bending moment in a beam.	
4	Concepts and Application of Static Friction	6
	4.1 Introduction: Theory, Classification and laws of Static and Dynamic friction.	
	4.2 Glossary of Terms: Angle of friction, Coefficient of friction, Angle of repose and Cone of friction.	
	4.3 Application of Static Friction -	
	(a) Block friction: Solutions of problems involving block friction in horizontal and inclined planes.	
	(b) Ladder Friction: Solution of various problems	
	(c) Wedge, Belt and Rope Friction: Solution of various problems.	
5	Centroid and Moment of Inertia	9
	5.1 Centroid: Definition, concept, and evaluation of centroid for one-dimensional standard geometry viz. horizontal, vertical, inclined and circular curved lines.	
	5.2 Centroid of Standard Geometrical shapes: Determination of centroid for standard two-dimensional and three-dimensional shapes viz.	





	<p>rectangular, triangular, circular, semi-circular, quarter circular, circular segments, cylindrical, conical, spherical and cubical shapes.</p> <p>5.3 Calculation of Centroid: Calculation of centroid for composite lines, areas and volumes.</p> <p>5.4 Pappus-Guldinas Theorem: Pappus Guldinus theorem and its application in calculating surface area and volume.</p> <p>5.5 Introduction to Moment of Inertia: Definition and concept of Moment of Inertia. Perpendicular axis, Parallel axis theorem, Polar Moment of inertia, and radius of gyration.</p> <p>5.6 Moment of Inertia for Planar cross-sections: Determination of Moment of Inertia for planar sections using parallel axis theorem for standard lamina.</p> <p>5.7 Moment of Inertia for composite planar elements: Determination of moment of Inertia for composite lamina.</p>	
6	<p>Simple Stresses & Strains</p> <p>6.1 Introduction: Definition and types of simple stresses (direct and indirect) and strains (linear and lateral) in an element and its importance in engineering.</p> <p>6.2 Relation between stress and strain: Hooke's law, Poisson's ratio, Modulus of Elasticity, Rigidity, and Bulk modulus.</p> <p>6.3 Stresses and strains Members: Evaluation of stresses and strains in members subjected to axial and shear loading for homogenous, composite, prismatic and tapered sections.</p> <p>6.4 Thermal Stresses: Evaluation of stresses in elements subjected to temperature effects in homogeneous and composite members</p> <p>6.5 Inter-relationship between various Moduli: Relationship between modulus of elasticity, rigidity, bulk modulus and Poisson's ratio with problems.</p> <p>6.6 Multidirectional Stresses: Volumetric strains, effect of multi-directional stresses on homogeneous members.</p>	10
7	<p>Stresses in Beams</p> <p>7.1 Theory of Pure Bending – Assumption, theory and derivation of equation for pure bending. Determination of bending stresses at various sections.</p> <p>7.2 Flexural stresses – Section modulus and determination of flexural stress distribution in beams of various cross sections.</p> <p>7.3 Equation of Shearing stress – Derivation of equation for shear stress across the cross section in a beam.</p> <p>7.4 Shear stresses – Qualitative and Quantitative determination of shear stress distribution in beams having various cross sections.</p>	10
8	<p>Torsion</p> <p>8.1 Equation of Pure Torsion: Definition of Torsion, Assumption and derivation of equation for pure torsion in circular shafts, Torsional rigidity and its application.</p>	3





	8.2 Stresses due to Torsion: Torque generated due to Power transmitted in shaft. Stresses generated in members subjected to circulatory motion in circular and hollow circular shafts.	
9	Principle Stresses	4
	9.1 Introduction: Two-dimensional stress system. Evaluation of stresses in an inclined plane for members subjected to orthogonal stresses. Definition of principal plane, principal stresses, angle of obliquity, and resultant stress.	
	9.2 Principal Stress and Strain: Evaluation of Principal plane and principal stresses using analytical method.	
	9.3 Analysis of Principal stresses and principal planes for two-dimensional stress system.	
	9.4 Application of Mohr's circle and ellipse of stress.	

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	30%	40%	15%	10%	0%

Reference books:

1. Applied Mechanics S. B. Junarkar & H. J. Shah-Charotar Publication
2. Engineering Mechanics by G. S. Sawhney; PHI New Delhi
3. Mechanics of Materials: Beer and Johnston, TMH
4. Mechanics of Materials: Gere & Timoshenko; CBS Publishers & Distributors, Delhi
5. Mechanics of Materials: Hibbler R C; Pearson Education
6. Strength of materials; Ramamutthram
7. Engineering Mechanics of Solids: Popov E.P; Prentice Hall of India, New Delhi

List of Experiments:

1. Find out resultant of concurrent forces.
2. Find out resultant of non-concurrent forces.
3. Demonstrate and prove lami's theorem.
4. Find out beam reactions.
5. Find out mechanical properties of material.
6. Design a stable object.
7. Using Popsicle sticks or straw prepare model of tower to carryout highest load for given dimensions.

Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.





3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.
5. The laboratory experiments are planned in such a way that it covers the practical aspects of the course contents. The performance of these experiments shall bring the clarity of the theoretical concepts which the students have studied during the academic sessions.

List of Open Base Software/learning website:

1. <http://nptel.ac.in/course.php>





Subject Code: 01SL0102

Subject Name: Reading and Writing for Technology

B.Tech.1st Year Semester: I

Objectives:

1. To introduce students to the basics of reading and writing skills
2. To enable them to comprehend texts of technical and analytical nature
3. To enable them to carryout different writing tasks in the context of Technology

Credits Earned: 2 Credits

Course Outcomes: After completion of this course, student will be able to

1. comprehend diverse texts related to technology;
2. organise ideas and arguments in the written form;
3. write assignments, reports, letters etc. in the technical contexts.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
2	0	0	2	00	30	20	25	25	100

Sr. No.	Content	Total Hrs
1	1. History/ Story of Technical Writing 2. English in Technical Communication 7. Group discussions	4
2	1. Know your textbook: Exploring the textbook, its parts and purposes 2. Approaching reading: Reading Strategies 3. Reading for Various Purposes: reference books, stories, articles, technical surveys, reports, blog posts, & reviews	9
3	1. Understanding the writing process: Thinking about writing processes, key Attributes of academic and technical texts 2. Writing process - Visualizing your text 3. Approaching Writing: Writing Strategies 4. Understanding various forms of writing: essay, case study, research paper, term paper, maths/physics problems, lab report, book report/review, surveys, blog posts, & dissertation 5. Writing for various purposes: essays, writing answers in exam, lab reports, process and instructions, reviews, blog post, & assignments	17





	Total Hours	30
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References:

For Unit -1

- a. Tavia, Yasmin. "Story of Technical Writing." *YouTube*, 28 March 2016, <https://www.youtube.com/watch?v=QomPdtZa4k>. Accessed 30 June 2017.
- b. AbodeTCS. "Future of TechComm." *YouTube*, 16 July 2012, <https://www.youtube.com/watch?v=dSdhnyDF0YY>. Accessed 30 June 2017.
- c. Lowe, Janet. *Google Speaks: Secrets of World's Greatest Billionaire Entrepreneurs, Sergey Brin and Larry Page*. John Wiley & Sons, 2009.
- d. Howard, Nicole. *The Life Story of a Technology*. Greenwood Press, 2005.

For Unit - 2

- a. "Engineering Stories." *Engineering Stories*, 2017, <https://engineerstories.com/>. Accessed 30 June 2017.
- b. "Breakthrough Technologies 2017." *MIT Technology Review*, 2017, <https://www.technologyreview.com/lists/technologies/2017/>. Accessed June 2017.
- c. High, Peter. "Top 10 Technology Stories of 2016." *Forbes*, 4 Jan. 2017, <https://www.forbes.com/sites/peterhigh/2017/01/04/top-tenttechnology-stories-of-2016/2/#2d72b2be9de7>. Accessed 30 June 2017.

For Unit - 3

- a. Teaching and Learning Resources for Me. "Understanding the Purpose of Different Types of Texts." *YouTube*, 12 Sept. 2015, <https://www.youtube.com/watch?v=lZtxWtk7tpk>. Accessed 30 June 2017.
- b. Galloway, Bek. "Purposes and Text Types." *YouTube*, 30 Sept. 2016, <https://www.youtube.com/watch?v=-LULx42tOA4&t=34s>. Accessed 4 July 2017.
- c. Kane, Thomas S. *The Oxford Essential Guide to Writing*. Berkeley, 2000.

Suggested Theory distribution:

NA

Suggested List of Experiments:

NA

Instructional Method:

1. Discussions
2. Group Work
3. Individual Presentations
4. Brainstorming
5. Role Play

Teaching and Examination Scheme

1. IA will consist of the following components: (30 Marks)
Assignments (20 Marks): Students will write three assignments. (Two assignments of 5 marks each and one assignment of 10 marks)





- In-Class Participation (10 Marks)
2. CSE: (20 Marks)
(Term Paper-20 Marks): An article on the topics given.
 3. Viva (25 Marks):
Viva will be conducted at the end of the semester. It will be based on the CSE, Term Work, Assignments and topics covered in the syllabus.
 4. Term Work (25 Marks)
(Term-End Presentation): Students will make a presentation based on their term paper at the end of the semester.

Supplementary Resources:

1. Anderson, P. *Technical Communication*. Harcourt Brace, 1998.
2. Cox, Kathy, and David Hill. *Eap Now!: English for Academic Purposes*. Pearson Australia, 2011.
3. Doren, Charles Van, and Mortimer J. Adler. *How to Read a Book*. Washington Square Press, 1974.
4. Emden, Joan Van. *Writing for Engineers*. Palgrave Macmillan, 2005.
5. Glendinning, Eric H., and Beverly Holmström. *Study Reading: A Course in Reading Skills for Academic Purposes*. Cambridge University Press, 2012.
6. Hamp-Lyons, Liz, and Ben Heasley. *Study Writing: A Course in Writing Skills for Academic Purposes*. Cambridge University Press, 2013.
7. Langan, John, and Judith Nadell. *Doing Well in College: A Concise Guide to Reading, Writing, and Study skills*. McGraw-Hill Book Col., 1980.
8. Vise, David A., and Mark Malseed. *The Google Story*. Bantam Dell, 2008.





Subject Code: 01SL0103

Subject Name: Speaking & Presentation Skills

B.Tech.1st Year Semester: I

Objectives:

1. To introduce students to the basics of speaking and presentation skills
2. To impart training regarding the form and manner of speaking for academic purposes
3. To impart training regarding preparing for and making an effective presentation

Credits Earned: 2 Credits

Course Outcomes: After completion of this course, student will be able to

1. carry out diverse speaking tasks for various academic purposes;
2. handle the form, vocabulary and characteristic expression of English
3. Language in different context; deliver an effective presentation on a given topic.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
2	0	0	2	00	30	20	25	25	100

Sr. No.	Content	Total Hrs
1	1. Greetings 2. Introducing self and peers 3. Asking and sharing information 4. Expressing points of view 5. Discussions 6. Facing viva voce	17
2	1. Introduction to effective presentation skills 2. Preparing the presentation (Collection of Data/Information, exploring the topic etc.) 3. Using ICT for the presentation 4. Getting ready for the presentation 5. Effective body language 6. Effective pronunciation 7. Interacting with the audience (Q & A) 8. Practice (with video recording) 9. Feedback and Suggestions	13
	Total Hours	30





References:

1. Select TED Talks
2. Select INK Talks
3. Select Toastmasters Videos
4. Select Courtroom Dramas
5. Select Videos of speakers like Steve Jobs, Sundar Pichai etc.

Suggested Theory distribution:

NA

Suggested List of Experiments:

NA

Instructional Method:

6. Discussions
7. Group Work
8. Individual Presentations
9. Brainstorming
10. Role Play

Teaching and Examination Scheme

5. IA will consist of the following components: (30 Marks)
Assignments (20 Marks): Students will write three assignments. (Two assignments of 5 marks each and one assignment of 10 marks)
In-Class Participation (10 Marks)
6. CSE: (20 Marks)
(Term Paper-20 Marks): An article on the topics given.
7. Viva (25 Marks):
Viva will be conducted at the end of the semester. It will be based on the CSE, Term Work, Assignments and topics covered in the syllabus.
8. Term Work (25 Marks)
(Term-End Presentation): Students will make a presentation based on their term paper at the end of the semester.

Supplementary Resources:

1. "Communication." themuse. 2017. <https://www.themuse.com/tags/communication>. Accessed 4 July 2017.
2. Presentation Magazine. 2017. <https://www.presentationmagazine.com/>. Accessed 4 July 2017.
3. "Presentation Skills." SKILLS YOU NEED. 2017. <https://www.skillsyouneed.com/presentation-skills.html>. Accessed 4 July 2017.
4. Siddons Suzy. The Complete Presentation Skills Handbook. Kogan Page, 2008.
5. Sprague Jo, and Douglas Stuart. The Speaker's Handbook. 8th ed., Thomson Wadsworth, 2000





GROOMING TOMORROW'S LEADERS

OFFERING NCC A GENERAL GENERIC ELECTIVE CREDIT COURSE IN UNIVERSITIES UNDER CHOICE BASED CREDIT SYSTEM TO ALIGN WITH NEW EDUCATION POLICY 2020

SECTION I: NCC CREDIT COURSE DESIGN DOCUMENT UNDER CHOICE BASED CREDIT SYSTEM AS GENERAL ELECTIVE FOR SENIOR DIVISION / SENIOR WING

1. Preamble. The National Cadet Corps (NCC) is governed by NCC Act 1948 and attendant NCC Rules. It functions under the Ministry of Defence and is headed by DGNCC. It is organised into 17 State Directorates each headed by an Additional/Deputy Director General.

The aims of NCC are:-

- a) To develop character, camaraderie, discipline, secular outlook, the spirit of adventure, sportsman spirit and ideals of selfless service amongst cadets by working in teams, honing qualities such as self-discipline, self-confidence, self-reliance and dignity of labour in the cadets.
- b) To create a pool of organized, trained and motivated youth with leadership qualities in all walks of life, who will serve the Nation regard less of which career they choose.
- c) To provide a conducive environment to motivate young Indians to choose the Armed Forces as a career.





2. Purpose. Currently NCC training is imparted as extra-curricular activity to volunteer students from recognized schools and colleges who enrol as cadets. NCC as a Credit Course is designed with an intent to transform NCC training into a curricular activity from an extra-curricular thereby providing academic credits to students undergoing NCC training along with other attended advantages to the cadets in the college/ university.
3. Introduction to NCC Credit Course Design. Institutional Training is the mainstay of NCC training and it is conducted at colleges and universities by Associate NCC Officers and Armed Forces personnel. The application of knowledge gained through institutional training is further honed or developed to a higher degree in NCC Camps. The Institutional Training syllabus comprises Common Subjects and Specialised Subjects (military component). NCC Credit Course is designed to offer Institutional Training of Senior Wing /Division is over six semesters (three years), comprising 330 periods (excluding Camp), of which 150 periods are meant for theory with 10 credits and 180 periods for practical with 6 credits. Each period is counted as hour. The ratio between theory and practical in terms of number of hours of training is 5:6, but in terms of credits is 5:3, since as per CBCS two hours of practical is counted towards one period of training as against one hour for theory. In addition two separate courses have been designed for two Camps normally referred to as Annual Training Camps (ATC).

SEMESTER I COURSE MODULE : NATIONAL CADET CORPS I

National Cadet Corps : Course Details			
Course Title: National Cadet Corps I			
Course Code	BNCC01GE03	Credits	1(Thr)+ 1(Pr) = 03
L /T + P	15+30	Course Duration	1 Semester
Semester	I (Odd)	Contact Hours	15(Thr)+30(Pr)=45Hours
Methods of Content Interaction	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion		
Assessment and Evaluation	As per the University norms i.e, 25% internal assessment and 75% end term exams , or 30% internal assessment and 70% end of term exams etc.		





Course Content Part (I) Theory

2. **Course Objectives:** Cadets will be able to: -
 - a) Know about the history of NCC, its organization, and incentives of NCC for their career prospects.
 - b) Acquire knowledge of duties and conduct of ncc cadets.
 - c) Understand about different NCC camps and their conducts.
 - d) Understand the concept of national integration and its importance.
 - e) Understand the concept of self-awareness and emotional intelligence.
 - f) Understand the concept of critical & creative thinking.
 - g) Understand the process of decision making & problem solving.
 - h) Understand the concept of team and its functioning.
 - i) Understand the concept and importance of Social service.

3. **Expected Learning Outcomes.** After completing this course, the cadets will be able to: -
 - a) Imbibe the conduct of NCC cadets.
 - b) Respect the diversity of different Indian culture.
 - c) Practice togetherness and empathy in all walks of their life.
 - d) Do their own self analysis and will workout to overcome their weakness for better performance in all aspects of life.
 - e) Understand creative thinking & its components.
 - f) Think divergently and will try to break functional fixedness.
 - g) Make a team and will work together for achieving the common goals.
 - h) Do the social services on different occasions.

4. **Course Content Part (I) Theory**
 - a) **Unit 1- NCC General (N) (Contact Hrs. 06).** Introduction of NCC, History, Aims, Objective of NCC & NCC as Organization, Incentives of NCC, Duties of NCC Cadet. NCC Camps: Types & Conduct.
 - b) **Unit 2- National Integration & Awareness (NI) (Contact Hrs. 04)** . National Integration: Importance & Necessity, Factors Affecting National Integration, Unity in Diversity & Role of NCC in Nation Building, Threats to National Security.
 - c) **Unit 3- Personality Development (Contact Hrs. 3).** Intra & Interpersonal skills - Self-Awareness- &Analysis, Empathy, Critical & creative thinking, Decision making and problem solving.
 - d) **Unit 4- Social Service and Community Development(Contact Hrs. 02).** Basics of social service and its need, Types of social service activities, Objectives of rural development programs and its importance, NGO's and their contribution in social welfare, contribution of youth and NCC in Social welfare.

Course Content Part (II) Practical

5. **Course Objectives:** Cadets will be able to: -
 - a) Understand that drill as the foundation for discipline and to command a group for common goal.
 - b) Appreciate grace and dignity in the performance of foot drill.





- c) Understand the importance of a weapon its detailed safety precautions necessary for prevention of accidents.
 - d) Develop awareness about different types of terrain and how it is used in battle craft.
 - e) Develop the concept of various markings on the map and how they are co-related to the ground features.
 - f) Understand the various social issues and their impact on social life.
 - g) Develop the sense of self-less social service for better social & community life.
6. **Expected Learning Outcomes:** After completing this course, the cadets will be able to: -
- a) Perform foot drill and follow the different word of command.
 - b) Fire a weapon effectively with fair degree of marksmanship.
 - c) Undertake point to point navigation and take part in route marches by day and night.
 - d) Perform the social services on various occasions for better community & social life.
7. **Course Content Part (II) Practical**
- a) **Unit 1. Drill (Contact Hrs. 12).** Foot Drill- Drill ki Aam Hidayaten, Word ki Command, Savdhan, Vishram, Aram Se, Murdna, Kadvar Sizing, Teen Line Banana, Khuli Line, Nikat Line, Khade Khade Salute Karna Parade Par, Visarjan, Line Tod, Tej Chal, Tham aur Dhire Chal, Tham.
 - b) **Unit 2. Weapon Training (WT) (Contact Hrs. 05).** Introduction & Characteristics of .22 rifle, Handling of .22 rifle.
 - c) **Unit 3. Map Reading (MR) (Contact Hrs. 03).** Definition of Map, Conventional signs, Scale and Grid System, Topographical forms and technical terms, Relief, Contours and gradients, Cardinal points and types of North, Magnetic Variation and Grid Convergence.
 - d) **Unit 4. Field Craft & Battle Craft (FC & BC) (Contact Hrs. 03).** Introduction of Field Craft & Battle craft, Judging Distance, Method of Judging Distance.
 - e) **Unit 5. Social Service and Community Development (SSCD)(Contact Hrs.07).** Cadets will participate in various activities throughout the semester e.g., Blood donation Camp, Swachhata Abhiyan, Constitution Day, Jan Jeevan Hariyali Abhiyan, Beti Bachao Beti Padhao etc.





Subject Code: 01ME0305

Subject Name: Fundamental of Machine Design

B. Tech. IInd Year Semester: III

Type of course: Under Graduate

Prerequisite: Engineering Graphics and Physics

Rationale: Understanding the fundamental principles, concepts and techniques, both theoretical and experimental, with emphasis on the application of these to the solution of mechanics based suitable problems in all engineering.

Course Outcome:

After learning the course, the students will be competent

1. To understand the laws of mechanics and their application to engineering problem.
2. Apply resultant force to move or equilibrant force to keep body in equilibrium.
3. To apply the fundamentals of stress/strain analysis with confidence to simple structure.
4. Apply shear force and bending moment diagrams to analyze the resistance offered by the beam and evaluate the stresses induced in beam.
5. To Analyze the Deflection of Beams, Torsion of Circular Shafts.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Sr. No.	Topic Name	Hours
1	<p>Introduction Terminologies: space, time, particle, rigid body, deformable body. Force: Definition, categorization of forces, Characteristics of a force, System of forces and resolution of forces. Principles of mechanics: Principles of Transmissibility, superposition, Gravitational Law and Parallelogram Law of Forces.</p>	2
2	<p>Fundamentals of Statics Force and Force system: System of Forces its definition and application in Engineering. Coplanar concurrent force system: Derivation of resultant force and equilibrant force using analytical and graphical methods. Triangle law of forces and Polygon law of forces.</p>	8





	<p>Equilibrium of rigid bodies: Conditions of equilibrium, Lami's theorem and its derivation. Concept of Free body diagram in engineering. Application of Lami's theorem in various problems.</p> <p>Coplanar non-concurrent forces: Definition of moment, couple and its effect on rigid bodies. Properties of couple, equivalent force couple system with examples, Varignon's theorem and its derivation.</p> <p>Resultant of Coplanar non-concurrent Force system: Calculation of resultant force in coplanar non-concurrent force system by analytical and graphical methods.</p>	
3	<p>Shear force and Bending moment in beams</p> <p>Classification of loads and supports</p> <p>Support Reactions: Calculation of support reactions for determinate beams subjected different loads viz. (i) Concentrated loads and moment, (ii) Uniformly distributed load, and (iii) Uniformly Varying loads.</p> <p>Internal forces in beams: Definition of shear force and bending moment. Correlation between loading, shear force & bending moment in beams.</p> <p>Shear Force and Bending Moment Diagrams: Bending moment and shear force diagrams for beams subjected to; i) Concentrated loads and moment, (ii) Uniformly distributed load, and (iii) Uniformly Varying loads. Point of Contra flexure and maximum bending moment in a beam.</p> <p>Deflection of Beams</p>	8
4	<p>Concepts and Application of Static Friction</p> <p>Introduction: Theory, Classification and laws of Static and Dynamic friction.</p> <p>Glossary of Terms: Angle of friction, Coefficient of friction, Angle of repose and Cone of friction.</p> <p>Application of Static Friction -</p> <p>(a) Block friction: Solutions of problems involving block friction in horizontal and inclined planes.</p> <p>(b) Ladder Friction: Solution of various problems.</p> <p>(c) Wedge, Belt and Rope Friction: Solution of various problems.</p>	6
5	<p>Centroid and Moment of Inertia</p> <p>Centroid: Definition, concept, and evaluation of centroid for one-dimensional standard geometry viz. horizontal, vertical, inclined and circular curved lines.</p> <p>Centroid of Standard Geometrical shapes: Determination of centroid for standard two-dimensional and three-dimensional shapes viz. rectangular, triangular, circular, semi-circular, quarter circular, circular segments, and cylindrical, conical, spherical and cubical shapes.</p> <p>Calculation of Centroid: Calculation of centroid for composite lines, areas and volumes.</p> <p>Pappus - Guldinas Theorem: Pappus Guldinus theorem and its application in calculating surface area and volume.</p> <p>Introduction to Moment of Inertia: Definition and concept of Moment of Inertia. Perpendicular axis, Parallel axis theorem, Polar Moment of inertia, and radius of gyration.</p> <p>Moment of Inertia for Planar cross-sections: Determination of Moment of Inertia for planar sections using parallel axis theorem for standard lamina.</p>	9





	Moment of Inertia for composite planar elements: Determination of moment of Inertia for composite lamina.	
6	<p>Simple Stresses & Strains Introduction: Definition and types of simple stresses (direct and indirect) and strains (linear and lateral) in an element and its importance in engineering. Relation between stress and strain: Hooke's law, Poisson's ratio, Modulus of Elasticity, Rigidity, and Bulk modulus. Stresses and strains Members: Evaluation of stresses and strains in members subjected to axial and shear loading for homogenous, composite, prismatic and tapered sections. Thermal Stresses: Evaluation of stresses in elements subjected to temperature effects in homogeneous and composite members Inter-relationship between various Moduli: Relationship between modulus of elasticity, rigidity, bulk modulus and Poisson's ratio with problems. Multidirectional Stresses: Volumetric strains, effect of multi-directional stresses on homogeneous members.</p>	10
7	<p>Stresses in Beams Theory of Pure Bending – Assumption, theory and derivation of equation for pure bending. Determination of bending stresses at various sections. Flexural stresses – Section modulus and determination of flexural stress distribution in beams of various cross sections. Equation of Shearing stress – Derivation of equation for shear stress across the cross section in a beam. Shear stresses – Qualitative and Quantitative determination of shear stress distribution in beams having various cross sections.</p>	6
8	<p>Torsion: Equation of Pure Torsion: Definition of Torsion, Assumption and derivation of equation for pure torsion in circular shafts, Torsional rigidity and its application. Stresses due to Torsion: Torque generated due to Power transmitted in shaft. Stresses generated in members subjected to circulatory motion in circular and hollow circular shafts</p>	7

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
10%	30%	40%	10%	10%	0%

List of Experiments:

1. Law of Parallelogram of Forces





2. Coplanar Non-Concurrent Forces
3. Co-efficient of Static Friction
4. Compressive Strength
5. Tensile Strength
6. Hardness Number
7. Izod Impact Test
8. Shear forces and bending moment Diagrams.

List of Assignment:

Assignment should be designed to include chapter no 2, 3, 4 & 6

1. Theory and Examples on Coplanar Concurrent & Non-concurrent Forces
2. Theory and Examples on Support reaction and Shear Force and Bending moment diagram
3. Theory and Examples on Centre of Gravity & Moment of Inertia
4. Theory and Examples on Simple Stresses and Strain

Major Equipment:

1. Universal Testing Machine
2. Impact Tester machine
3. Hardness Tester Machine

Design based Examples (DE)/Open Ended Example:

1. Design a stable object
2. Centroid, centre of gravity and moment of inertia

Text Books:

1. Applied Mechanics S. B. Junarkar & H. J. Shah-Charotar Publication

Reference Books:

1. Engineering Mechanics by G. S. Sawhney; PHI New Delhi
2. Mechanics of Materials: Beer and Johnston, TMH
3. Mechanics of Materials: Gere & Timoshenko; CBS Publishers & Distributors, Delhi
4. Mechanics of Materials: Hibbler R C; Pearson Education
5. Strength of materials; Ramamutthram
6. Engineering Mechanics of Solids: Popov E.P; Prentice Hall of India, New Delhi

List of Open Base Software/learning website:

1. <https://nptel.ac.in/courses/112/102/112102284/>
2. <https://web.mit.edu/emech/dontindex-build/>





Subject Code: 01MA0301

Subject Name: Applied Differential Equation

B.Tech. IInd Year Semester: III

Type of course: Under Graduate

Prerequisite: Engineering Mathematics I, Engineering Mathematics II

Rationale: After learning this subject student will be able to apply Fourier series, Laplace transform and differential equation methods for solution of engineering problems

Course Outcome:

After completion of this course, student will be able to

1. Expand various functions in terms of sine and cosine functions.
2. Classify and apply the standard methods to solve ordinary and partial differential equations.
3. Apply Laplace transform and Fourier series to solve differential equations.
4. Apply the knowledge of differential equations and its solutions to evaluate engineering problems.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks					Total Marks
L	T	P		Theory Marks			Practical Marks		
				ESE(E)	IA	CSE	Viva (V)	Term Work	
4	2	-	5	50	30	20	25	25	150

Content:

Sr.	Content	Total
1	Fourier series: Periodic functions, Fourier series of functions of any period, Fourier series of Even and odd functions, Half range Expansions, Fourier integrals.	14
2	Laplace Transforms: Laplace transforms definition, Laplace transforms of some elementary functions, Inverse transforms, Linearity and shifting properties, Laplace transforms of derivatives and integrals, Differentiation and integrations of Transforms, Convolution theorem and its application to obtain inverse Laplace transform, Laplace transform of periodic functions, Unit step function, Unit impulse function (Dirac delta function), second shifting property, Applications of Laplace transforms to solve ODE and system of ODE.	16





3	Linear Differential Equations: Solution of homogeneous linear differential equations with constant coefficients, Non-homogeneous linear differential equations, particular integrals by Inverse Operators and Variation of Parameters, Euler-Cauchy's differential equations with variable coefficients, Power Series solution of ODE.	10
4	Partial Differential Equations: Formation of PDE, Methods of solutions, Lagrange's linear partial differential equation, Special types of Nonlinear PDE of the first order, method of separation of variables.	10
5	Applications of differential equations: Application of ODE: Mechanical vibration system, Electrical circuit system, Application of PDE: Heat, wave, Laplace equations and their solution by method of separation of variables and Fourier series.	10

Distribution of Theory Marks

R Level	U Level	A Level	N Level	E Level	C Level
20	20	30	15	10	5

Legends: R: Remembrance; **U:** Understanding; **A:** Application, **N:** Analyze, **E:** Evaluate **and C:** Create

List of Assignment:

Assignment should be designed to include chapter no 1, 2 & 3. Machine Design Portion.

1. Theory and Example on Fourier series.
2. Theory and Example on Laplace transe form
3. Theory and Example on linear differential Equations.
4. Theory and Example on partial differential Equations.
5. Theory and Example on application of differential equations.

Reference books:

1. M. D. Weir et al: Thomas' Calculus, 11th Ed., Pearson Education, 2008.
2. Stewart James: Calculus Early Transcendental, 5th Ed., Thomson India, 2007
3. Wylie & Barrett: Advanced Engineering Mathematics, Mc Graw Hill pub.
4. Greenberg M D: Advanced Engineering Mathematics, 2nd ed., Pearson.

List of Open Base Software/learning website:

1. Web site: <http://mathworld.wolfram.com/>
2. <http://en.wikipedia.org/wiki/Math>





Subject Code: 01ME2301
Subject Name: Fluid Mechanics
B.Tech. IInd Year Semester: III

Type of course: Science

Prerequisite: NIL

Rationale: Understanding the fluid flow phenomena and different types of flow.

Course Outcome:

After learning the course, the students will be competent

1. Identify and understand the fundamentals of Fluid mechanics.
2. Compute force of buoyancy on a partially or fully submerged body and analyze the stability of a floating body.
3. Understand the basic concept of fluid kinematics and dynamics.
4. Distinguish between types of the fluid flow.
5. Understand velocity distribution and pressure drop in pipe flow for viscous and turbulent flow.
6. Understand the basics of compressible flow.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
3	0	2	4	50	30	20	25	25	150

Sr. No.	Content	Total Hrs
1	Properties Of Fluid And Pressure And Head: Introduction of fluid, fluid classifications, Shear stress in a moving fluid, density, viscosity, surface tension, capillary effect, vapor pressure, cavitation, compressibility and the bulk modulus. Pascal's Law and Hydrostatic law, Pressure measurement- manometers and piezometers.	06
2	Static Forces on Surfaces and Bouyancy: Fluid static, action of fluid pressure on surface, resultant force and center of pressure - plane surface, plane surface immersed in a liquid, forces on a curved surface due to hydrostatic pressure, buoyancy, equilibrium of floating bodies, stability of a submerged body, stability of floating bodies, determination of the metacentric height.	08





3	Fluid Kinematics and Fluid Dynamics: Fluid kinematics: Fluid flow and different types of flow, Lagrangian and Eulerian description of fluid flow - Velocity and acceleration of fluid particles - Stream, streak and path lines, Continuity equation (one-, two- and three-dimensional forms). Fluid dynamics: Euler's equation of motion along a stream line - Bernoulli's equation. Practical applications of Bernoulli's equation in flow measurement devices like venturi meter, orifice meter and pitot tube.	11
4	Two-Dimensional Ideal Fluid Flow: Rotational and irrotational flow, circulation and vorticity, streamlines and the stream functions, velocity potential and potential flow, relation between stream function and velocity potential; flow nets, stream function and velocity potential for uniform flow.	05
5	Viscous Flow And Turbulent Flow: Reynolds number, flow of viscous fluid through circular pipe- Hagen Poiseuille formula, Flow of viscous fluid between two parallel fixed plates, power absorbed in viscous flow through - journal, foot step and collar bearing, movement of piston in dash pot, methods of measurement of viscosity, Moody diagram resistance of smooth and rough pipes shear stress and velocity distribution in turbulent flow through pipes.	10
6	Flow Through Pipes: Darcy-Weisbach equation, major and minor losses in pipes, pipe friction, parallel, series and branched pipes.	06
7	Compressible Flow: Basic equations for one dimensional, compression, Pressure wave propagation, sound velocity in fluid, Mach number, Stagnation properties.	06

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
15%	20%	25%	25%	25%	0%

Reference Books:

1. Fluid Mechanics and Fluid Power Engineering by D.S. Kumar, S.K.Kataria & Sons
2. Fluid Mechanics and Hydraulic Machines by R.K. Bansal, Laxmi Publications
3. Fluid Mechanics and Hydraulic Machines by R.K. Rajput, S.Chand & Co.
4. Fluid Mechanics by Frank .M. White, McGraw Hill Publishing Company Ltd.
5. Fundamentals of Fluid Mechanics by Munson, Wiley India Pvt. Ltd
6. Fluid Mechanics by A. K. Mohanty, PHI Learning Pvt. Ltd.
7. Laboratory Manual Hydraulics and Hydraulic Machines by R V Raikar

List of Experiments:





1. Verification of Bernoulli's theorem.
2. To determine the Friction factor for the different pipes.
3. To determine the loss coefficients for different pipe fittings.
4. To determine the Coefficient of discharge through different flow meters. (Any two out of Orifice meter, Venturi meter and Nozzle meter.)
5. To measure the velocity of flow using Pitot tube.
6. To determine the Coefficient of discharge through open channel flow over a Notch. (Rectangular or V notch)
7. To determine the different types of flow Patterns by Reynolds's experiment
8. To determine the viscosity of fluid by viscometer (Redwood or Saybolt).
9. To determine metacentric height of floating body.
10. To understand pressure measurement procedure and related instruments/devices.

List of Open Base Software/learning website:

1. <http://nptel.iitm.ac.in>
2. <http://media.efluids.com/galleries/all>





Subject Code: 01ME0302

Subject Name: Kinematics of Machines

B.Tech. II Year (Sem-III) Mechanical & Automobile Engineering.

Type of course: Under Graduate

Prerequisite: Nil

Rationale: Kinematics of machines is intended to impart the fundamental knowledge of mechanism and machines so as to understand their functional aspects and perform the kinematic analysis of machine elements like linkages, gears and cams.

Course Outcome:

After learning the course, the students will be competent to

1. Identify the functional characteristics of various machine elements.
2. Construct specified motion profiles for cam and follower.
3. Analyze and synthesize planar mechanisms for the motion parameters.
4. Evaluate gear tooth geometry and analyze the motion of gear trains.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	2	0	4	50	30	20	25	25	150

Sr. No.	Content	Total Hrs.
1	Mechanisms & Machines Introduction: Various mechanisms & machines, Various types of links, kinematic pairs & kinematic chain, Types of motion, mobility of a mechanism - Kutzbach and Grubler's criterion Classification: Classification of Mechanisms Inversion: Concept of inversion, Kinematic inversion of four bar, single slider, & double slider crank chain	06
2	Synthesis & Analysis of mechanisms Introduction: Concept of synthesis & its classification, Various types of synthesis problems Graphical synthesis & analysis: Accuracy points for function generation, Analysis of four bar mechanism using Freudenstein's equation, synthesis of four bar & slider crank chain mechanism using graphical techniques	08





3	Kinematic Analysis Velocity analysis: Analysis of Velocity diagrams, Relative velocity method, Instantaneous centre method, rubbing velocity Acceleration analysis: Analysis of acceleration diagram, Klien's construction, Coriolis component of acceleration.	08
4	Special Mechanisms: Functional aspects: Various types of lower pair mechanisms such as Straight-line mechanism, Indicator diagrams, universal Joint, Steering gear Mechanism	06
5	Gears: Introduction: Introduction & various types of toothed wheels, Terminology of gear, fundamental condition for constant velocity ratio, sliding velocity Forms of gears teeth: Cycloidal profile teeth, Involute profile teeth, Relative benefits and drawbacks of cycloidal and involute tooth forms Interference: Contact ratio, Interference & undercutting in involute gears, Minimum number of teeth to avoid interference Functional aspects: Basic concepts of Worm, Bevel, helical & spiral gears	09
6	Gear Trains: Introduction: Basic concepts of Simple, compound & reverted gear trains Analysis: Motion Analysis of Epicyclic gear trains by different methods	06
7	Cam & Follower: Introduction: Introduction to various classification of cam & follower, terminology of cam, various types of displacement, velocity & acceleration diagrams for various follower motions Cam profile construction: Determination of basic dimensions of profile of cam and its construction using Graphical techniques	10

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
10%	25%	25%	25%	15%	0%

Reference books:

1. Theory of Machines and Mechanisms (3/e 2009, 2013 Impression) Uicker J J Jr., Pennock G R, Shigley J E, Oxford Press.
2. Kinematics and Dynamics of Machinery (1/e 2009, 2013 Reprint) Norton R L, McGraw-Hill
3. Mechanism and Machine Theory (2013 Reprint), Ambekar, A G, Prentice Hall
4. Theory of Machines, Singh Sadhu, Pearson Education
5. Theory of Machines, Rattan S S, Tata McGraw-Hill

List of Tutorials:

1. Mechanisms & machines
2. Steering gear mechanism
3. Velocity ratio of gears





4. Cam and follower
5. Kinematic Analysis
6. Special Mechanisms
7. Gears
8. Gear Trains
9. Cam profile
10. Working model of Cam & follower
11. Virtual Lab

Web Resources:

1. <http://kmoddl.library.cornell.edu/>

Open Ended Project:

1. Make model of any mechanism.

List of Open Base Software/learning website:

1. <http://nptel.iitm.ac.in>
2. <http://vlab.co.in/>





Subject Code: 01ME1303
Subject Name: Manufacturing Process I
B.Tech. IInd Year Semester: III

Type of course: Under Graduate

Prerequisite: Workshop.

Rationale: Understanding of basic application of machine tools for metal removing processes.

Course Outcome:

After learning the course, the students should be able to:

1. Understand the characteristics of different machine tools.
2. Ability to compare among the different machine tools.
3. Selection of machine tools according to requirements.
4. Analyze any conventional machining operations.
5. Develop the sequence of machining operation to produce the end product.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
3	0	2	4	50	0	100	0	0	150

Sr. No.	Content	Total Hrs
1	<p>Lathe: Introduction: Various components, Function of components, Tooling: Various attachment and accessories used, Function of various attachment and accessories, Working Principle of attachment and accessories Operation: Various operation required, preparation required for operation, Various Tools Used Specification/Selection: Important specification, Quotation, Analysis of Quotation Important Parameters and Economy: Total Machining Time Calculation</p>	15





2	<p>Milling: Introduction: Various components, Function of components, Tooling: Various attachment and accessories used, Function of various attachment and accessories, Working Principle of attachment and accessories Operation: Various operation required, preparation required for operation, Various Tools Used Specification/Selection: Important specification, Quotation, Analysis of Quotation Important Parameters and Economy: Total Machining Time Calculation</p>	15
3	<p>Shaper: Introduction: Various components, Function of components, Tooling: Various attachment and accessories used, Function of various attachment and accessories, Working Principle of attachment and accessories Operation: Various operation required, preparation required for operation, Various Tools Used Specification/Selection: Important specification, Quotation, Analysis of Quotation Important Parameters and Economy: Total Machining Time Calculation</p>	10
4	<p>Grinding: Introduction: Various components, Function of components, Tooling: Various attachment and accessories used, Function of various attachment and accessories, Working Principle of attachment and accessories Operation: Various operation required, preparation required for operation, Various Tools Used Specification/Selection: Important specification, Quotation, Analysis of Quotation Important Parameters and Economy: Total Machining Time Calculation</p>	10
5	<p>Drilling: Introduction: Various components, Function of components, Tooling: Various attachment and accessories used, Function of various attachment and accessories, Working Principle of attachment and accessories Operation: Various operation required, preparation required for operation, Various Tools Used Specification/Selection: Important specification, Quotation, Analysis of Quotation Important Parameters and Economy: Total Machining Time Calculation</p>	10

Suggested Theory Distribution

The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
10%	33%	22%	25%	0%	0%

Reference Books:





1. Workshop Technology Vol. I, II & III, WAJ Chapman.
2. Workshop Technology Vol. II, Hajra & Choudhari.
3. Production Technology, R. K. Jain.
4. Production Technology - H.M.T. By HMT
5. Workshop Technology Vol. II by Raghuvanshi, Dhanpat Rai Publication

List of Experiments:

1. Prepare a component using Lathe Machine.
2. Prepare a component using Shaper Machine.
3. Prepare a component using Milling Machine.
4. Prepare a component using Grinding Machine.
5. Prepare a component using Drilling Machine.

List of Assignment:

1. Prepare a detailed report on industrial visit.
2. Prepare a Report on an allotted machine.
3. Dismantle and mantle the machine subassemblies & write about it.

Major Equipment/Machine:

1. Lathe
2. Milling
3. haper
4. Grinding
5. Drilling
6. Measuring Instruments

List of Open Base Software/learning website:

1. <http://nptel.ac.in/course.php>





Subject Code: 01CR0302
Subject Name: Professional Ethics
(Semester III, 2nd Year, Level 2)
Branch: CHEM, IT, ICT, CE, ME

Objective: This course will enable the budding engineers and managers to effectively resolve the ethical issues they will face in their professional lives.

Credits Earned: 1 Credit

Course Outcomes:

1. After completion of this course, student will be able to:
2. Understand the basics of human values
3. Inculcate human values to grow as responsible human beings with proper personality
4. Maintain ethical conduct and discharge their professional duties
5. Resolve ethical confusions and contradictions and bring harmony at thought, behaviour and action level

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
0	0	2	1	0	0	0	0	50	50

SR No	Content	Teaching Hours
1	Over View and Basic Concepts The concept of terminology of morals and morality, ethics, values, spirituality and stakeholder will enable students to have clarity about the concepts which are important for individuals and organizations.	2
2	Profession and Professionalism Introduction to Profession and Professionalism will cultivate the ability to relate to ethical concepts and ethical problems in specific professions and professionalism	2
3	Ethical Theories. Understand variety of Moral Issues and Examples of Moral Dilemmas and Resolving Moral Dilemmas Conflict to enable the students to differentiate between right and wrong. .	2
4	Responsibilities and rights of professional. Professional Rights & Responsibilities will impart clarity on Loyalty, Confidentiality, Respect for Authority, Accountability and its importance. Issues related to Pride of Profession, Pride of Employer, Gifts and Bribes,	3





	Whistle-blowing, Discrimination Vishakha Guidelines and Sexual Harassment of Women at Workplace (Prevention, Prohibition And Redressal) Act 2013	
5	Ethics in Engineering Profession Ethics In Engineering Profession will bring clarity about the Roles of Engineers such as Engineers as Managers and Other Roles Played by Engineers.	1
6	Ethical Codes Need for Ethical Codes will enable students to understand the prominence of ethical codes and become benchmarks against which individual and organizational performance can be measured. Codes From Other Profession- Advertising Standards Council of India, Corporate Codes-Tata Group of Companies will give them the profound knowledge of ethical codes.	1
7	Intellectual Property Rights will bring out the broader ethical issues surrounding intellectual property rights. Roles of Media, Positive Aspects of Media, Negative Aspects of Media, Accountability of Media, Regulation of Media Factors in Media Ethics, Advertising Ethics, Corporate Social Responsibility- Concept ISO and CSR, Scenario CSR Rules in India Manufacturing and Marketing of Computers Software, Cybercrimes, Data Stealing, Embezzlement, Hacking.	3
	Total Hours	14

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
20%	20%	35%	10%	10%	5%

References:

1. Text book: Professional Ethics by- R. Subramanian
2. Reference Book/other reading material: Engineering Ethics & Human Values by: M.Govindarajan, S. Natarajan & V.S.Senthilkumar PHI Learning Pvt. Ltd.

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, case studies etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in classroom.
- d. Students will use supplementary resources such as online videos





Subject Code: 01MA0201
Subject Name: Numerical Analysis
B.Tech. IInd Year Semester: IV

Type of course: Under Graduate

Pre-requisite: Adequate knowledge of Differentiation and Integration

Rationale: Application of various Numerical Analysis methods for solution of Engineering problems

Course Outcome:

After learning the course, the students will be competent

1. Recognize the error in the number generated by the solution
2. Compute solution of algebraic and transcendental equation by numerical methods like Bisection method and Newton Raphson method
3. Apply method of interpolation and extrapolation for prediction
4. Use numerical methods and tools in the engineering problem solving process.
5. Student able to apply numerical integration in engineering problems
6. Student able to apply ordinary differential equation in engineering problems

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	2	0	5	50	30	20	25	25	150

No.	Content	Total Hrs
1	Numerical Analysis and Computers: Concepts and definition, Representation of numbers in computers, types of errors, basic sources of errors, significant digits, computer arithmetic, errors in computations with digital computers.	8
2	Approximate solutions of nonlinear equations and system of linear equations: Bisection method, Method of false position, Method of Iteration, Newton- Raphson method for single variable convergence criteria and rate of convergence and for simultaneous equations with two variables, Convergence criteria and rate of convergence, Convergence criteria and error estimates for these methods	12
3	Numerical Differentiation and Integration Approximate differentiation based on Newton's interpolation, Newton – cotes quadrature formula, trapezoid rule, Simpson's rules, Remainder terms, error bounds and estimates of these rules, Gaussian integration.	10





4	Interpolation, Curve fitting Finite differences of various orders, difference table, Newton's formulae for interpolation, Lagrange's Interpolation formula, Error estimates of these formulae.	10
5	Numerical solution of ordinary differential equation Single step methods – Taylor series, Euler's and modified Euler, Runge - Kutta method of 2nd and 4th order, Multistep Methods- Milne's and Adam's – Bashforth predictor corrector methods.	10

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
20%	20%	30%	15%	10%	5%

Reference books:

5. Introductory Methods of Numerical Analysis – S.S. Sastry, Prentice Hall of India
6. Computer Oriented Numerical Methods – V Rajaraman, Prentice Hall of India
7. Numerical methods with programs in C++ - S Balachandra Rao & C K Shantha
8. Numerical Methods with programs in C and C++ - Veerarajan & Ramchnadran. Tata McGraw Hill
9. A textbook of Computer based numerical and Statistical Techniques – A. K. Jaiswal & Anju Khandelwal, New Age International Publishers

List of Assignment:

1. Theory and Example on Numerical Analysis and Computers.
2. Theory and Example on Approximate solutions of nonlinear equations and
3. Theory and Example on Numerical Differentiation and Integration.
4. Theory and Example on Interpolation, Curve fitting
5. Theory and Example on Numerical solution of ordinary differential equation.

List of Open Base Software/learning website:

1. <http://numericalmethods.eng.usf.edu>
2. <http://mathworld.wolfram.com/>
3. <http://en.wikipedia.org/wiki/Math>





Subject Code:01ME0304

Subject Name: Design Thinking and Problem-Solving Skills
B.Tech. Year - II

Objective: The main objective of this course is to inculcate interdisciplinary engineering skills in students for taking real time engineering problem available in our society/industry and to come-up with the grass root innovation, can be helpful to all level of human beings.

Credits Earned: 1 Credits

Course Outcomes: After completion of this course, student will be able to

1. Understand the importance of Design Thinking.
2. Evaluate the quality of your information and your emotions; keep thinking straight.
3. Identify skills and personality traits of successful problem solving.
4. Apply standard problem-solving heuristics to aid in problem solving.
5. Apply problem-solving techniques to programming activities.
6. Formulate and successfully communicate the solutions to problems.

Pre-requisite of course: Not Required.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
0	0	2	1	00	00	00	25	25	50

Contents:

Sr. No.	Content	Total Hrs.
Module-1 Design Thinking Introduction, Team Formation, Documentation and Canvas, Exercise	Introduction, Need of Design Thinking, Traditional Problem Solving versus Design Thinking, phases of Design Thinking, Tools for Design Thinking, Relevance of Design and Design Thinking in Engineering	3
	Team Building Domain Selection (Society/Industry project), Log Books-need, types of log book, preparation of log book, Importance of Documentation, Strategy Design	3
	Formation of Team and aspects for the selection, Domain selection, Observation exercise, Design activities through Canvas, Brainstorming for the problem , Users Interview conduction, generation of records via logbooks	6





Module-2 Problem Solving Skills Introduction, Techniques, Exercise	Developing logical thinking. Introduction to Problem Solving in Computer Science domain, Errors in reasoning; verbal reasoning; analogy problems lateral thinking	4
	Deductive and hypothetical reasoning; computational problem solving; generating, implementing, and evaluating solutions; interpersonal problem solving.	4
	Group Activities based assignments related to problem solving skills will be given for better understanding and development of problem-solving skills	4
7	Mini project exercise based on understanding of modules contents	6

Note: Mentors are advised to take suitable project/activity to explore the above topics and make students understand the various concepts.

References:

1. H. S. Fogler and S. E. LeBlanc, Strategies for Creative Problem Solving, 2nd edition, Pearson, Upper Saddle River, NJ, 2008.
2. A. Whimbey and J. Lochhead, Problem Solving & Comprehension, 6th edition, Lawrence Erlbaum, Mahwah, NJ, 1999.
3. M. Levine, Effective Problem Solving, 2nd edition, Prentice Hall, Upper Saddle River, NJ, 1994

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done based on continuous evaluation of students in the laboratory and classroom.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. <https://www.coursera.org/learn/uva-darden-design-thinkinginnovation>
2. http://www.cs.odu.edu/~cs381/cs381content/problem_solving/problem_solving.html
3. <https://www.cs.vt.edu/undergraduate/courses/CS2104>
4. <https://ryanstutorials.net/problem-solving-skills/>
5. <http://courses.cs.vt.edu/cs2104/Fall17Barnette/>
6. <https://www.k-state.edu/wwparent/programs/hero/hero-action.htm>
7. <http://proquest.safaribooksonline.com/book/programming/9781457169618/firstchapter>





Subject Code: 01ME1401

Subject Name: Machine Design & Industrial Drafting

B.Tech. IInd Year Semester: IV Mechanical & Automobile Engineering

Type of course: Under Graduate

Prerequisite: Engineering Graphics, Fundamental of Machine Design

Rationale: Understanding the Geometrical Dimension and Tolerance for Production Drawing & Design the Machine Component.

Course Outcome:

After learning the course, the students will be competent

1. To Recognize the Important of GD & T.
2. To generate and interpret assembly and production drawings in 2D Drafting Computer software Packages.
3. To analyze components subjected to various mechanical loads.
4. To analyze beams and columns for stresses and deflection.
5. To design and analyze shafts, keys and couplings.
6. To select fasteners and design welded / riveted joints.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Sr. No	Content	Total Hrs.
1	<p>Principle Stresses: Introduction: Two-dimensional stress system. Evaluation of stresses in an inclined plane for members subjected to orthogonal stresses. Definition of principal plane, principal stresses, angle of obliquity, and resultant stress. Principal Stress and Strain: Evaluation of Principal plane and Principal stresses using analytical method. Analysis of Principal stresses and principal planes for two-dimensional stress system. Application of Mohr's circle and ellipse of stress.</p>	6
2	<p>Design concepts of Mechanical Components: Concepts of stresses, Strain, strain and its relation, Shear loading and Torsion as well as Bending loads; Different theories of Failures and its limitation and application for Different theories i.e. Distortion energy, Maximum Shear stress, Maximum Principal stress, Coulomb-Mohr Theory, Factor of safety and its different parameters for</p>	6





	selection, Selection of theories of failures and Use of theories of failures; Contact stresses, Crushing and Bearing pressure.	
3	<p>Design of Mechanical Joints: Temporary Joint</p> <p>Cotter and Knuckle Joints: Design of Cotter and Knuckle Joints</p> <p>Screw and nut: Different types of thread for Single as well as Multiple threaded screw, screw fastening and its types, Cap and Set screw, concept of uniform strength in bolt, locking devices, Different Terms of Screw thread, Simple and Eccentric loading. Calculation of torque for bolt tightening.</p> <p>Design of Power screw: Different terms used to describe power screw, Calculation of torque required for lifting and lowering of Load, Efficiency of threads, Self-locking phenomenon, Co-efficient of friction.</p> <p>Permanent Joint: Welded Joints: different types of welded joints and stress relieving methods in weld joints, Strength of butt and fillet joint eccentric loading in the plane of weld, welded joint subjected to bending and torsion.</p> <p>Riveted Joints: material selection and criteria for rivet joints and type of its failure, riveted joints efficiency and strength calculation, strengthen method for riveted joints like Caulking and Fullering, Longitudinal lap joint and circumferential lap joint, Eccentric loading condition in riveted joint.</p>	20
4	<p>Design of Machine Component: Shafts, Keys and Couplings</p> <p>Design of solid and hollow circular shaft subjected to torque as well combined loading; Design of shaft based on rigidity and stiffness; Design of Keys: Saddle, Sunk, Woodruff, Square, and Flat. Design and Concept of Couplings, Rigid coupling Flexible coupling.</p>	16
5	<p>Design and analysis of levers: Cranked, Bell crank, Foot, Rocker arm.</p>	6
6	<p>Columns: Type of loading compressive axial loading of columns and struts, Slenderness ratio, Compressive stress and buckling of components, Effect of end forms. Euler's equation with applications and validate with limitations, Rankine and Johnson's equation, Eccentric loading for long columns.</p>	6
7	<p>Geometric Dimensioning and Tolerance (GD&T):</p> <p>Basic terminology of GD & T, major advantages of geometric dimensioning and tolerance GD&T Concepts and its application, Size Tolerance Machining flowchart, Requirement of dimensional tolerance, Tolerance dimensioning, Methods of conveying tolerance in industrial drawing, Identifying the tolerance for the assembly drawing, Tolerance for Manufacturing process.</p>	6
8	<p>Limits, Fit, And Tolerances & Surface Roughness:</p> <p>Deviation , Hole and shaft basic system , Indian Tolerance grades, Different types of Fits with application , Allowance , Clearance, Maximum Material Condition of a feature of size , Minimum Material Condition of a feature of Modifiers and Symbols , Types of geometric characteristic symbols , Fourteen geometric characteristic symbols , Common modifying symbols used in geometric tolerance , Detecting the parts of a feature control frame , Detecting the additional symbols used in geometric tolerance Parameters of surface texture and qualifications, Relation of surface roughness and various manufacturing processes, Surface Lay Indication.</p>	8





Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
15%	30%	30%	15%	0%	0%

List of Experiments:

Practical should be designed to include chapter no 4 & 5. Industrial Drafting Portion.

1. Problems related to Limits, fits and tolerances & Indian Tolerance Grade.
2. Introduction to computer aided drafting tools and 2D software Packages, using drafting software, generate Assembly and Production drawings after completion of basic Drawing.
3. Understanding of Reverse Engineering and Draw at least two Assembly drawing and Detailed Drawing of Actual Machines per industrial Standard.
4. Case study on Drafting and Designing problem Any Real case of Industrial problem and Solution.

List of Assignment:

Assignment should be designed to include chapter no 1, 2 & 3. Machine Design Portion.

1. Theory and Example on Beam & Column.
2. Theory and Example on Lever & Rocker Arm.
3. Theory and Example on Shaft, Key and Coupling.
4. Theory and Example on Power Screw.
5. Theory and Example on All Temporary Joint.
6. Theory and Example on All Permanent joint.

Major Equipment:

1. Computational facility.
2. CAD Software.
3. Workshop hand tool and Machinery.

Design based Examples (DE)/Open Ended Example:

Design / Analyze a mechanical structure which may involve different components included in Syllabus from Machine Design Portion. Prepare assembly and production drawings in 2D computer Graphics.

Reference books:

1. Design of Machine Elements, V B Bhandari, 3/e, McGraw Hill.
2. Machine Design: Fundamentals and Applications, P C Gope, 1/e PHI.
3. Fundamentals of Machine Component Design, R C Juvinall, 4/e, Wiley.
4. Machine Design: An Integrated Approach, R L Norton, Pearson





5. Machine Drawing, B Bhattacharyya, 1/e, Oxford Press.
6. Engineering Metrology and Measurements, N.V. Raghavendra & L. Krishnamurthy, Oxford Press.
7. Machine Drawing, K C John, PHI.

List of Open Base Software/learning website:

1. <http://nptel.ac.in/course.php>





Subject Code: 01ME1402

Subject Name: Manufacturing Processes-II

B.Tech. II Year (Sem-IV) Mechanical & Automobile Engineering.

Type of course: Engineering Science

Prerequisite: Knowledge of Manufacturing Process-I

Rationale: Understanding of basic principles of manufacturing techniques and proper selection of manufacturing processes is required in various field of engineering.

Course Outcome:

After learning the course, the students will be competent to

1. Application of manufacturing process for making metallic and nonmetallic components.
2. Identify and optimize parameters for manufacturing process.
3. Design gating system for casting components.
4. Application of simulation software for manufacturing processes.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
3	0	2	4	50	30	20	25	25	150

Sr. No.	Content	Total Hrs.
1	Metal Casting Pattern Making: Identification, Design with allowances, Making a wooden pattern, Composition, Methodology Mould Making: No-back mould making, Sodium silicate mould making, Specimen preparation Sand Testing: Permeability testing, Clay Content testing, Sieve analysis, melting metal for ready to pour Metal Poring: Gating system design & preparation, sand mould casting Investment Casting: Industry visit and summery report Study of other/remaining casting techniques: Working principle and methodology Metal casting defects: List of defects with causes and remedies	24





2	<p>Metal Joining Introduction: Types of joint and edge preparation SMAW(Shielded Metal Arc Welding): Working Principle and set-up, Parameters of Performance MIG (Metal Inert Gas Welding): Working Principle and set-up, Parameters of Performance TIG (Tungsten Inert Gas Welding): Working Principle and set-up, Parameters of Performance Spot Welding: Working Principle and set-up, Parameters of Performance Oxy-Acetylene Gas Welding/Cutting: Working Principle and set-up, Parameters of Performance Friction Stir Welding: Working Principle and set-up, Parameters of Performance Study of other/remaining casting techniques: Working principle and methodology Metal casting defects: List of defects with causes and remedies</p>	18
3	<p>Metal Forming (from Virtual lab) (To be performed in lab duration) Rolling: Working Principle and set-up Parameters Forging: Working Principle and set-up Parameters Extrusion: Working Principle and set-up Parameters Drawing & Deep drawing: Working Principle and set-up Parameters Metal forming defects: List of defects with causes and remedies</p>	-

Suggested Theory Distribution

The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
15%	30%	30%	15%	10%	0%

Final Exam of MP-II		
Making a component which require minimum two machine		
Detail	Marks	Hours
Pattern making for the given drawing	15	6
Sand casting for the given component	15	
To prepare a weld joint by arc welding	10	
To Prepare a joint by spot welding	10	
Total	50	6

Reference books:

1. Manufacturing Engineering and Technology By S. Kalpakjian, Pearson.
2. Manufacturing Processes Vol-I, By P.N.Rao, Mac-grawhill publication.
3. Manufacturing technology –I, by P.C.Sharma, S.Chand Publication.
4. Manufacturing Processes and Systems, 9th Ed. Phillip F., Ostwald, Jairo Munoz, Wiley India
5. Casting Practice by John Campbell, Elsevier/Butterworth-Heinemann publication.
6. Welding Engineering and Technology, by R.S.Parmar, 2nd edition, khanna publication.





7. Welding Technology, by O. P. Khanna, Dhanpat Rai publishers.
8. Welding process technology by Houldcroft P.T., Cambridge University Press, 1977.

List of Experiments:

1. Study and selection of a component for pattern making
2. Design for allowance and prepare a pattern
3. Prepare a mould and casting component
4. Analyze defects, causes and remedies of casting components
5. To understand and perform various types welding joints by using MIG and TIG welding processes.
6. To understand and demonstrate Oxy-acetylene process
7. To understand and perform metal forming for a given component
8. To study resistance welding and perform spot welding for a given component
9. Virtual lab experiment for E-foundry
10. Virtual lab experiment for metal forming

List of Assignments:

1. Welding processes
2. Casting processes

Major Equipment:

1. Different patterns for Demonstration
2. Small Foundry
3. Arc welding Machine (SMAW, TIG, MIG etc.)
4. Resistant Spot-welding m/c.
5. Oxy- Acetylene welding machine.

List of Open Base Software/learning website:

1. <http://nptel.iitm.ac.in>,
2. <http://vlab.co.in>
3. <http://www.sme.org/fmp/>
4. <http://efoundry.iitb.ac.in/Academy/index.jsp>





Subject Code: 01ME1403

Subject Name: Material science and Engineering

B.Tech. II Year Semester: IV

Type of course: Engineering Science

Prerequisite: Basic knowledge of Physics, Chemistry.

Rationale: Basic principles of science are used to study the structure-properties relationships of various materials for their proper applications in this subject. Especially study of different types of ferrous and non-ferrous metals and alloys, in terms of their composition, structure, properties and applications; non-destructive testing are included in this course to understand the basic concept of selection and processing of metals and materials for their applications.

Course Outcome:

After learning the course, the students will be able to

1. Enhance the technical knowledge on Engineering materials & its applications.
2. Establish important relationships between internal structure, properties and performance of materials during processing and use.
3. Design the alloy system based on their knowledge of phase diagrams and metal characteristics.
4. Understand different non-destructive testing methods
5. Know the various heat treatment processes for steels.
6. Apply the knowledge of Heat treatment process for emphasizing relation between microstructure and mechanical properties.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Sr. No.	Content	Total Hrs
1.	Introduction of Material science and Metallurgy: Introduction to properties of materials, Engineering Requirements of materials, Classification of Engineering Materials, Criterion for selection of materials.	03
2.	Metallography: Macro-examination and Micro examinations, Procedure for preparing the specimen for macro and micro examination.	*





3.	Crystal Geometry, Structure and Defects: Crystal Structure for Metallic Elements, Types of crystal systems, Crystal lattice, Lattice parameter, co-ordination number, Atomic radius, atomic packing factors for various cubic systems, crystal Directions, Lattice Planes and Miller Indices.	04
4.	Solidification of Metals and Phase Diagrams: Solid Solutions: Types Solid Solutions, Hume-Rothery's Rules. Concept of solidification of metals, Solidification of pure metals, Nucleation, Growth, Growth of the new phase, Solidification of alloys, Progressive, Directional solidification & control of solidification to obtain sound casting. Phase Diagrams: Objectives & classification of System, phases & structural constituent of phase diagram, Gibb's solid phase rule, Cooling Curves (Time-Temperature Curves), Eutectic, Peritectic & Eutectoid system, Equilibrium diagrams for non-ferrous alloys, Lever rule.	07
5.	Iron-Carbon Diagram: Allotropic forms of Iron, Iron- Iron carbide equilibrium Diagram, Development of microstructure in iron-carbon alloys.	04
6.	Heat Treatment Processes: Definition, Purpose & classification of heat treatment processes for various types of special steels, Introduction applications of various case hardening & surface hardening treatments. TTT & CCT curves.	06
7.	Ferrous Materials Pig Iron, Wrought Iron Cast Iron: Classification of Cast irons Gray cast irons, nodular cast irons, white cast irons, malleable cast irons, chilled. Effect of various parameters on structure and properties of cast irons Steel: Classification and application of steels, Effect of alloying elements, Specification of some commonly used steels for Engineering applications (e.g. En. AISI, ASTM, IS etc.) with examples. Classification and application of plain carbon steels.	08
8.	Non-ferrous alloys: Introduction, Aluminium Alloys, Magnesium and Beryllium Alloys, Copper Alloys, Nickel and Cobalt Alloys, Titanium Alloys, Refractory and Precious Metals.	03
9.	Non-Destructive Testing's (NDT): Radiography Testing, Dye, Penetration Testing, Magnetic Particle Testing, Ultrasonic Testing. Eddy current testing with their Principle of non-destructive testing, the test methods, relative merits, demerits and applications.	04
10.	Powder Metallurgy Introduction, Methods of manufacturing powders, mixing of powders, compaction, sintering, secondary operation, advantages and limitation of powder metallurgy.	03

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process





Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
15%	25%	20%	20%	10%	0%

Reference books:

1. Physical Metallurgy, Sydney H. Avner, Tata McGraw-Hill.
2. Material science & Engineering of materials, Donald Askeland & Pradeep Phule, Thomson Learning.
3. Materials Science and Engineering, W.D. Callister, John Wiley & Sons.
4. Material Science, O.P. Khanna, Dhanpatrai Publication.
5. Metallurgy for engineers, V. Raghvan, PHI Learning.
6. Material Science and Metallurgy, U.C. Jindal, Pearson Education.

List of Experiments:

1. To understand the construction and working of a Metallurgical Microscope.
2. To study of microstructures for various ferrous and nonferrous materials.
3. To prepare the specimen for microscopic observation.
4. To determine the strength and hardness of ferrous and non-ferrous specimen.
5. To study the effect of Heat treatment process on the Hardness and Tensile Strength of Mild Steel.
6. To show the effect of different quenching media (Oil, Water and Brine) on the hardness of Mild steel.
7. To determine the harden ability of a specimen by Jominy end quench test.
8. To study of powder metallurgy.
9. To determine the surface defect by liquid penetrant test and magnetic particle test.
10. To determine the internal defect by Ultrasonic Test

List of Assignment:

Assignment should be designed to include the following modules

1. Introduction, Crystal geometry and Crystal Imperfections, Plastic Deformation.
2. Solidification of Metals & alloys, Phase & Phase Equilibrium
3. Non-ferrous, Powder Metallurgy, and NDT
4. Alloy steel, Cast Iron
5. Iron Carbon diagram and Heat Treatment

Major Equipment:

1. Metallurgical Microscope.
2. Belt grinder and Polishing Machine.
3. Hardness Tester i.e. Rockwell Hardness test.
4. Muffle Furnace.
5. Jominy end quench tester.
6. NDT equipments.

Design based Examples (DE)/Open Ended Example:





1. Students may be asked for metallography to prepare specimens for microstructure analysis. Moreover, they may be asked to provide design of heat treatment cycles of specific types of steels for their applications, e.g., design heat treatment cycle for tool steel.
2. Students may be asked to choose a material for given application based on structure-property-performance relationship. Also, they should give specification and designation of a chosen material.

List of Open Base Software/learning website:

1. <http://nptel.ac.in/course.php>





Subject Code: 01ME0404

Subject Name: Engineering Thermodynamics

B. Tech. 2nd Year Semester: IV

Type of course: Engineering Science

Prerequisite: Zeal to learn the subject.

Rationale: Thermodynamics is the introductory course on Thermal Science and Engineering. It comprises the understanding of certain natural laws and energy interaction prominently heat and work transfer.

Course Outcome:

After learning the course, the students will be competent

1. To elucidate the basic concepts of thermodynamics.
2. To simplify properties of Ideal and Real gases.
3. To express and utilize first law of thermodynamics for closed and open systems.
4. To determine the feasibility of thermodynamic cycles and processes using second law of thermodynamics.
5. To make the use of concept of entropy and exergy to different thermodynamic processes and cycles.
6. To analyze different gas power, vapor power and refrigeration cycles.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	2	0	5	50	30	20	25	25	150

Sr. No.	Content	Total Hrs
1	Introduction: Concept of Continuum, Macroscopic and Microscopic approach, Control Volume, Thermodynamic System, Types of Systems, Surrounding, Universe, Boundaries, State, Point and Path Function, Thermodynamic Properties, Process, Cycle, Quasi – Static Process, Thermodynamic Equilibrium, Pure Substance, Vapour-Liquid-Solid Phase in a Pure Substance, Heat and Heat Capacity, Energy and Work Transfer, Free Expansion Work, Types of Work Transfer.	04
2	Laws of Thermodynamics: Zeroth law, First law for closed system, Energy, Specific Heat Capacities, Enthalpy, PMM-I, Steady flow energy equation, Application of First Law, First Law Limitations.	12





	Second Law: Thermal Energy Reservoir, Heat Engine, Refrigerator and Heat Pump, Kelvin-Planck and Clausius Statements of Second Law, Equivalence of Kelvin-Planck and Clausius Statements, PMM-II, Reversibility and Irreversibility, Causes & types of Irreversibility, Condition for Reversibility, Carnot Cycle, Reverse Carnot Cycle, Carnot's theorem & its corollary, Kelvin Scale, Third Law of Thermodynamics.	
3	Entropy: Clausius' Theorem, Entropy-A Property of System, Inequality of Clausius, Entropy Change in Irreversible Process, Entropy Change in Various Thermodynamics Process, Entropy Principle and It's Applications, Entropy Generation in Closed and Open System, Entropy and Disorder.	06
4	Availability: Concept of Exergy, Available and Unavailable Energy, Exergy of a Source and Finite Body, Exergy Destruction in Heat Transfer Process, Dead State, Exergy of a Closed System and Steady Flow System, Second Law Efficiency.	06
5	Vapour Power Cycle: Carnot & Rankine Cycle, Comparison of Rankine and Carnot Cycle, Efficiency Calculation of Rankine Cycle, Mean Temperature of Heat Addition, Factors Affecting Efficiency of Rankine Cycle, Reheat, Regenerative, Reheat-Regenerative Cycle, Feed water Heaters. Air standard Efficiency and Comparison of Otto, Diesel and Dual Cycle.	16
6	Ideal and Real Gases: Properties of Ideal and Real Gases, Equation of State, Avogadro's Law, Vander Waal's Equation of State, Reduced Properties, Law of Corresponding States, Compressibility Chart, Gibbs-Dalton law, Internal Energy, Enthalpy and Specific Heat of Gas Mixtures.	08

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
20%	30%	20%	20%	10%	0%

Reference books:

1. P. K. Nag, Engineering Thermodynamics, McGraw Hill Education.
2. R. K. Rajput, Engineering Thermodynamics, EVSS Thermo Laxmi Publications.
3. E. Rathakrishnan Fundamentals of Engineering Thermodynamics, PHI, 2005.
4. Y. A. Cengel and M. A. Boles, Thermodynamics an Engineering Approach, McGraw Hill Education.
5. Jones and Dugan, Engineering Thermodynamics, PHI Learning Pvt. Ltd.
6. Holman J.P, Thermodynamics, McGraw Hill Education.





7. M. Achuthan, Engineering Thermodynamics, PHI Learning Pvt. Ltd.

List of Tutorials:

1. To study about Basics and First law of thermodynamics.
2. To study about Second law of thermodynamics.
3. To study about Entropy.
4. To study about Availability (Exergy).
5. To study about Vapour power and Gas power cycle.
6. To study about Ideal and Real Gases.

List of Open Base Software/learning website:

1. <http://nptel.iitm.ac.in/courses.php>





Subject Code: 01ME0405

Subject Name: Human Centric Design Approach

B.Tech. IInd Year Semester: IV

Type of course: Under Graduate

Prerequisite: No

Rationale: This course focuses to build the empathy for the people for designing to solve the societal problem as Human-Centered design. It is a creative repeatable approach for problem solving by understanding the real need of the users.

Course Outcome:

After learning the course, the students will be competent to

1. Understand the Human Centric approach for design.
2. Understand significance of the empathy and solution based on empathy.
3. Importance of design thinking when addressing social change.
4. Generate the innovative ideas and will convert in new solutions.
5. Build a possible prototype solution.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
0	0	2	1	0	0		25	25	50

Sr. No.	Content	Total Hrs.
1	Introduction to Human Centered Design: Introduction to Human-Centered Design, Design Principles, the Diamond Model, The Human-Centered Design Process, Systems Thinking, Psychology behind Design, History of Design/History of Innovation. Activity: Mini Design Challenge	04
2	Inspiration Phase: Defining and Visualizing Challenges, Team formation, Key Assumptions. Activity: Choose Your Design Problem, Plan Your Research Build Interview Guide + Activity: Conduct activity with canvas for this phase	04





3	<p>Ideation Phase: A business case developed, High-level requirements are elicited; and, A Project Overview Statement (POS), Share Stories and Learning from User Research, Ideation Methods to Select Ideas. Activity: Conduct activity with canvas for this phase</p>	04
4	<p>Prototype Phase: What is Prototype, Types of Prototyping- Low-Fidelity Prototyping, High-Fidelity Prototyping, Guidelines for Prototyping. Discussion: Determine What to Prototype. Activity: Brainstorm, Selecting Best Ideas, checking viability, Creating a Storyboard, Start Prototyping, Test Prototype and get feedback.</p>	08
5	<p>Implementation Phase: Activity: Create an Action Plan Activity: Create a Pitch Activity: Share Your Solution Reflection Discussion: Moving Forward</p>	08

Note: Faculty are advised to take suitable project/activity to explore the above topics and make students understand the various concepts

Reference books:

1. Gray, Dave, Sunni Brown and James Macanufu (2010). Game Storming: A Playbook for Innovators, Rule breakers, and Change makers, O'Reilly Media, Inc.
2. Maul, June (2011). Developing A Business Case: Expert Solutions to Everyday Challenges, Harvard Business Review Press. Project Management Institute, (2013).
3. A Norman, D.A. (1988). The Design of Everyday Things. New York: Basic Books.
4. Stickdorn, M & Schneider, J (2011). This is Service Design Thinking. John Wiley & Sons: New Jersey.
5. Stickdorn, Marc and Jakob Schneider. (2012). this is Service Design Thinking: Basics, Tools and Cases. Wiley Publishing.
6. Dubberly, Hugh and Shelley Evenson. (2010). Designing for Service: Creating an Experience Advantage, Wiley Online Library

Instructional Method:

1. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
2. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
3. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.





4. Students will use resources like online videos, NPTEL course videos, e- courses, Virtual Laboratory

Supplementary Resources:

1. IDEO Workshop: Part 1 Observations (video) <https://www.youtube.com/watch?v=>
2. Dubberly, Hugh and Shelley Evenson. (2009). Designing for Service: Creating an Experience Advantage Design at Stanford University
3. Greenberg, S., Carpendale, S., Marquardt, N., & Buxton, W (2012). Sketching User Experiences: The Workbook. Amsterdam: Elsevier/Morgan Kaufmann.
4. Moggridge, B. (2007). Designing Interactions. Cambridge, MA: The M.I.T.Press.
5. Stickdorn, Marc and Jakob Schneider. (2012). This is Service Design Thinking
6. Creativity. http://www.ted.com/themes/the_creative_spark.html
7. http://www.usaid.gov/sites/default/files/documents/1868/USAID_eBook.pdf
8. Kelley, David (2013). "How to Build Your Creative Confidence." Ted Talk. Retrieved from http://www.ted.com/talks/david_kelley_how_to_build_your_creative_confidence?language-en
9. Osborn, Alex F. (1979). Applied Imagination: Principles and Procedures of Creative Problem Solving
10. <https://www.interaction-design.org/literature/article/stage-3-in-the-design-thinking-process-ideate>
11. <https://www.qaiglobalinstitute.com/product/design-thinking-ideationphase/>
12. <http://www.designkit.org/human-centered-design>
13. <https://www.usertesting.com/blog/2015/07/09/how-ideo-uses-customer-insights-to-design-innovative-products-users-love/>





Subject Code: 01ME0406

Subject Name: Creativity, Problem Solving and Innovation

B. Tech. 2nd Year Semester: IV

Prerequisite: Zeal to learn the subject.

Course Objective: To develop creative thinking skill in the students using cone of learning components leading to understanding of various strategies for creativity, problem solving and innovation.

Course Outcome:

After learning the course, the students will be competent

1. Importance of creativity, problem solving and innovation while addressing science, engineering and social issues.
2. Demonstrate the ability to contextualize knowledge related to professional engineering practices.
3. Demonstrate the functioning effectively as an individual and team member.
4. Ability to engage in life-long learning in the context of technological change.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks					Total Marks
L	T	P		Theory Marks			Practical Marks		
			ESE(E)	IA	CSE	Viva (V)	Term Work (TW)		
0	0	2	1	0	30	0	20	0	50

Content:

Sr. No.	Content	Total Hrs
1	Phase 1: To introduce the subject of the course: this course as a needed skill for your future. Psychology of problem solving; Vertical versus Lateral thinking	02
2	Phase 2: Strategy of Questioning; Method of questioning; Importance of asking the right question. Who, what, when, where, why, how?	02





3	Phase 3: Learning and its importance; Sources of learning; Methods of learning. Purpose and value of education in future creativity in real life.	02
4	Phase 4: Strategy of Knowing how to see; Making your thought visible; Visualizing thinking; Mapping of mind, Fishbone diagram.	02
5	Phase 5: Strategy of Thinking Fluency; Generating all possibilities; more the better; Quantity without screening is helpful; SCAMPER technique; Creative or divergent idea generating thinking versus Critical or convergent idea selection thinking.	02
6	Phase 6: Strategy of Fusing of ideas; Making novel combinations; Connecting the unconnected.	02
7	Phase 7: Strategy of Looking at the other side, looking in other world, finding what you are not looking for and following it up.	02
8	Phase 8: Strategy of Play, Importance of play; Diversion; Unstructured activities for sheer joy, Activities for joy, Let subconscious figure it out, Various puzzles as play or fun.	02
9	Phase 9: Strategy of Awakening the collaborative spirit, Collaborative thinking, brain storming, Innovation requires collaboration to make it happen.	02
10	Phase 10: Review Strategies for Creative problem solving methods, Five building blocks as per Fogler & LeBlanc, Stanford D school approach.	02
11	Phase 11: Strategy for critical thinking for Choosing, Creative or divergent thinking needs follow up by Critical thinking or Convergent thinking in order to choose the solution for implementation, Kepner-Tregoe (K.T.) method with an example, Edward De Bono CoRT thinking process including PMI (Plus, Minus and Interesting), Also Edward de Bono method of decision making called Six thinking hats.	02
12	Phase 12: Edward de Bono explaining and teaching his ideas having evolved many years ago consisting as CoRT thinking tool, Lateral thinking and the decision making by Six thinking hats method.	02
13	Phase 13: Strategy for Making; From idea to innovation.	02





14	Phase 14: Individual presentation for 75 minutes by 15 students (5 minutes per student).	04
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Reference books:

1. Zig Zag, The surprising path to greater creativity by R. Keith Sawyer. 2013.
2. Group Genius by Keith Sawyer, the creative power of Collaboration. 2007
3. Crackling Creativity, The secrets of creative genius by Michael Michalko. 2001
4. Thinkertoys by Michael Michalko, second edition 2006
5. De Bono’s Thinking Course by Edward De Bono, Revised Edition 1994
6. Six Thinking Hats by Edward De Bono Revised and updated edition 1999
7. Lateral thinking, Creativity Step by Step by Edward De Bono. 1973
8. How to Mind Map by Tony Buzan. 2002
9. Mapping Inner Space by Nancy Margulies with Nusa Maal. Second edition.2002
10. The Myths of Innovation by Scott Berkun. Expanded and revised edition 2010
11. The art of Innovation by Tom Kelly with Jonathan Littman. 2001
12. Creative Confidence: Unleashing the Creative Potential Within Us All by Tom Kelly and David Kelly. 2013
13. A Whack on the side of the head by Roger von Oech. Revised edition 1998
14. A Kick in the seat of the pants by Roger von Oech.1986
15. They all laughed by Ira Flatow. 1992
16. Imagine, How creativity works by Jonah Lehrer. 2012
17. 101 Creative problem solving techniques by James m Higgins.1994
18. Creative approach to problem solving by Scott G Isaksen, K Brian Dorval, Donald J Treffinger. 2000
19. Creative problem solving An Introduction by Donald J. Treffinger, Scott G Isaksen and K. Brian Stead=Dorval. 4th edition, 2006
20. Strategies for creative problem solving by H. Scott Fogler & Steven E. LeBlanc. Second edition 2008
21. Game storming by Dave Gray, Sunni Brown and James Macanuf.2010
22. Creating minds by Howard Gardner. 1993
23. Creativity –Flow and Psychology of Discovery and Invention by Mihaly Csikzentmihalyi.1996
24. Aha! Insight by Martin Gardner. 1978
25. The Ultimate Lateral & Critical Thinking Puzzle book by Paul Sloane, Des MacHale & M. A. DiSpezio. 2002
26. Test your Lateral Thinking IQ by Paul Sloane. 1994
27. Intriguing Lateral Thinking Puzzles by Paul Sloane & Des MacHale.1996.





Subject Code: 01AE0501

Subject Name: Automotive Electrical & Electronics

B.Tech. Year III

Type of course: Engineering

Prerequisite: Element of Electrical Engineering

Rationale: Understanding of application of electrical and electronic system in automobile vehicle

Course Outcome:

After learning the course, the students should be able to:

1. Understand the basic auto electrical systems.
2. Understand the layout of wiring and connections of electrical systems in automobiles.
3. Understand the working of different electrical components used in automobiles.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
3	0	2	5	50	30	20	25	25	150

Sr	Contents	Teaching hours
1	Batteries and Accessories Principle and construction of lead acid battery, characteristics of battery, rating capacity and efficiency of batteries, various tests on batteries, maintenance and charging. Lighting system: insulated and earth return system, details of head light and side light, LED lighting system, head light dazzling and preventive methods – Horn, wiper system and traffic car.	9
2	Starting System Condition at starting, behavior of starter during starting, series motor and its characteristics, principle and construction of starter motor, working of different starter drive units, Starter motor requirements, care and maintenances of starter motor, Drive mechanisms, starter switches.	7
3	Charging System Generation of direct current, shunt generator characteristics, armature reaction, third brush regulation, cut out. Voltage and current regulators, compensated voltage regulator, alternators principle and constructional aspects and bridge rectifiers, new developments.	4





4	Fundamentals of Automotive Electronics Current trends in automotive electronic engine management system, electromagnetic interference suppression, electromagnetic compatibility, electronic dashboard instruments, on board diagnostic system, security and warning system.	6
5	Sensors and Actuators Types of sensors: sensor for speed, throttle position, exhaust oxygen level, manifold pressure, crankshaft position, coolant temperature, exhaust temperature, air mass flow for engine application. Solenoids, stepper motors, relay.	13
6	Safety and Security Systems Keyless entry system, Antilock braking system, Air bag restraint system, Adaptive cruise control system, Voice warning system, Seat belt system, antitheft system.	5

Suggested Theory Distribution

The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	30%	40%	15%	10%	00%

References

1. Bechhold “Understanding Automotive Electronics”, SAE, 1998.
2. Kholi. P.L. “Automotive Electrical Equipment”, Tata McGraw-Hill Co., Ltd., New Delhi, 1975.
3. Robert Bosch “Automotive Hand Book”, SAE (5th Edition), 2000.
4. Ganesan V. “Internal Combustion Engines”, Tata McGraw-Hill Publishing Co., New Delhi, 2003.
5. Crouse, W.H. “Automobile Electrical Equipment”, McGraw-Hill Book Co., Inc., New York, 3rd edition, 1986.
6. Allan W. M. Bonnick, Automotive Computer Controlled Systems, Butterworth-Heinemann A division of Reed Educational and Professional Publishing Ltd
7. Willium B. Ribbens, Understanding Automotive Electronics, Willium B. Ribbens,-Sixthedition Elsevier Science 2003

List of Experiments:

1. Introductory study of automobile electrical systems.
2. Study of automobile battery System.
3. Study of electrical engine starting system.
4. Study of different types of battery charging system.
5. Study of different types of ignition systems.
6. Study of automobile lighting system.
7. Study of different types of gauges, sensors and meters of an automobile.
8. Study of various electrical equipments like Windscreen wipers, power windows, Rear windshield glass heating system, Central Locking system





Subject Code: 01AE0502

Subject Name: Automobile Systems and Transmission

B.Tech. Year III

Type of course: Under Graduate

Prerequisite: Elements of Mechanical Engineering, Internal Combustion Engine, and fundamental of machine design.

Rationale: Subject is designed to provide knowledge on the various parts of the automobile systems. This course provides skill to study transmission and suspension systems and also to calculate the resistances during motion, power required for acceleration and constant velocity motions, braking force and engine characteristics.

Course Outcome

Students will be able to

1. The student will understand the various Systems of an automobile
2. Determine various parts and types of gear box
3. Determine working of steering and suspension systems

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Sr.	Contents	Teaching Hours
1	Introduction Need for Transmission system, Tractive Effort and Resistances to Motion of a vehicle, Requirements and Classification of Transmission systems, Single, Two and four wheel drive systems, Multi axle drives, Chain, Shaft and Electric drives, Location of transmission system, Different transmissions in scooter, car, MUVs and transport vehicles of Indian make	05
2	Vehicle Classification and Layouts Study various vehicle layouts as front engine and front wheel drive, front engine & rear wheel drive, rear engine & rear wheel drive, Components of transmission system, Four wheel drives	03





3	Clutch Principle of operation, Constructional details, axial force, Different types of clutches, Operation of single plat, Multi plate clutch, Centrifugal and Automatic Clutch, Dry and Wet type of clutch, Friction lining materials. Over-running clutch. Modes of operating a clutch – mechanical, Hydraulic and electric, clutch maintenance	05
4	Gear box Objective of the Gear Box, Determination of gear ratios for vehicles, Performance characteristics in different speeds, Different types of gear boxes – sliding, constant and synchromesh type, Planetary gear box, need for double declutching and working of synchronizing unit. Power and economy modes in gearbox, Transfer box, Transaxles, Overdrives. Gear shifting mechanisms, mechanical link and wire types, Gear box maintenance	05
5	Drive line and Axles Propellers shaft, Types of drive as torque tube and Hotchkiss drive, Final drive types, Bevel, Hypoid, Worm and worm wheel, Type of drive axles & differential, Fully or semi floating and three-quarter floating, Dead axle	03
6	Hydrodynamic drive Fluid coupling, Principle of operation, Constructional details, Torque capacity, Performance characteristics, Reduction of drag torque, Torque converter-Principle of operation, constructional details, performance characteristics, Converter coupling – Construction - Free wheel –Characteristic performance.	04
7	Hydrostatic drive Principle, types, advantages, limitations of hydrostatic drive - Comparison between hydrostatic drive and hydrodynamic drive	03
8	Brakes Function, Internal expanding brakes, Brake lining material, Properties, Calculation of braking force and shoe geometry, Hydraulic braking system, Brake oil, Bleeding of brakes, Pneumatic braking system, Vacuum brakes, Electrical brakes, Parking brake and braking efficiency	06
9	Wheels and Tyres Types of wheel rims, Tread patterns, Types of tyres, Cross ply, Radial & tubeless tyres, Specifications of tyre	03
10	Steering and Front Axle Steering requirements, Condition for correct steering, Steering system and linkages, Steering gears, Steering geometry, Ackermann linkages, Wheel alignment, Toe-in, Toe out, Caster, Camber, Under steer and over steer conditions, Power steering, Steering wheel shimmy, Types of front axle, Elliot & reverse Elliot type	05





11	Suspension System Purpose, Types of suspension system, Front and rear suspension, Coil spring, Leaf spring, Torsion bars, Shock absorbers, Air and rubber suspension, Plastic suspensions, Hydro-pneumatic suspension, Independent suspension	05
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Suggested Theory Distribution

The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	30%	40%	15%	10%	00%

Reference Books:

1. Automotive mechanics by W. Crouse, - TMH.
2. Automobile Engineering Vol-I & II Dr. K.M. Gupta
3. Automobile Engineering, Vol-I Dr. Kripal Singh.
4. Automobile engineering GBS Narang.
5. P S Gill, Automobile Engineering Vol-II, S K Kataria & Sons, 2014
6. Judge.A.W., Modern Transmission systems, Chapman and Hall Ltd.

List of the Experiment

- 1 To study about vehicle layouts
- 2 To study about different types of clutch.
- 3 To study about the performance of vehicle.
- 4 To study about the different types of gear boxes.
- 5 To study about rear axle, final drive and differential.
- 6 To study about Automatic Transmission system.
- 7 To study about different types of tyres and wheels
- 8 To study of different types of automobile brakes.
- 9 To study of steering systems
- 10 To study about different types of suspension system

List of Open Source Software/learning website:

1. www.nptel.ac.in
2. www.coursera.org





Subject Code: 01AE0503

Subject Name: Automobile Engines

B.Tech. III Year - (Sem-5)

Type of course: Under Graduate

Prerequisite: Elements of Mechanical Engineering

Rationale: - The course aims to impart basic skills for understanding of construction of automobile engines working principle and performance under various conditions.

Course outcome

After learning the course, the students should be able to

1. Understand the basic working principles of engines, its Construction and Operation
2. Understand phenomena of Combustion and Design of Combustion Chambers.
3. Conduct Engine Testing and Performance and understand Performance characteristics.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
3	0	2	5	50	30	20	25	25	150

SR No	Contents	Teaching Hours
1	Construction and Operation: Constructional and working principal of 2 stroke and 4 stroke - spark ignition (SI) and compression ignition (CI) engines. Comparison of SI and CI engines and four stroke and two stroke engines. Engine classification, firing order. Otto, diesel and dual cycles.	5
2	Fuel Supply Systems for SI Engine: Air fuel ratio requirements of SI engines, Air fuel ratio and emissions. Requirements of an automotive carburetor; Working of a simple fixed venture carburetor, Constant vacuum carburetor, compensation, Maximum power devices. Fuel feed systems, LPG and CNG fuel systems. MPFI systems for petrol.	6
3	Fuel Supply Systems for CI Engine: Diesel fuel injection systems, Air and solid injection, Jerk pumps, distributor pumps, Unit injector, Need for a governor for diesel engines - Mechanical and Pneumatic governors. Fuel injector -pintle and multi-hole nozzles, Spray characteristics, pump calibration. CRDI systems for diesel.	5





4	Combustion and Combustion Chambers: Introduction to combustion in SI and diesel engines and stages of combustion. Knock in SI and CI engines. Effect of engine variables and knock. Combustion chambers for SI and CI engines. Direct and indirect injection combustion chambers for CI engines. Importance of Swirl, squish and turbulence. Factors controlling combustion chamber design.	8
5	Supercharging and Turbocharging: Necessity and limitation, Different methods of turbocharging, Intercooling, Turbocharger controls including, waster gate, variable geometry, variable nozzle types.	4
6	Cooling and Lubrication System: Need for cooling, types of cooling systems- air and liquid cooling systems. Thermosyphon and forced circulation and pressurized cooling systems. Properties of coolants. Requirements of lubrication systems. Types-mist, pressure feed, dry and wet sump systems. Properties of lubricants.	5
7	Engine Testing and Performance Characteristics: Dynamometers, indicated thermal, brake thermal and volumetric efficiencies. Measurement of friction, Cylinder pressure measurement. Engine performance maps, Engine testing standards. Variables affecting engine performance. Methods to improve engine performance. Heat balance.	7

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	30%	40%	15%	10%	00%

Reference Books:

1. A Textbook of Internal Combustion Engines by R.K Rajput, Laxmi Publication, NEW DELHI, 2005
2. Internal Combustion Engines by V. Ganesan, Tata-McGraw Hill Publishing Co., New Delhi, 1994.
3. Automotive Engines by E. H. Ellinger, Prentice Hall Publishers, 1992
4. Diesel Engines by C.B Dicksee, Blackie & Son Ltd., London, 1964.

List of Experiments:

1. To identify the major components of different automobile engines
2. To study two stroke cycle engine.
3. To study four stroke CI and SI engine.
4. To study the fuel supply system of petrol & diesel engines and represent the same in sketches
5. To study the engine lubrication system circuit.





6. To analyze Computerized Exhaust Gas of a petrol engine, & a diesel engine; and, to compare the output value to the prescribed limit set by the Government.
7. To perform the Morse Test on I.C. engine.
8. To perform the Heat Balance Test on petrol / diesel engine.
9. To study the performance characteristics of petrol / diesel engine by using an engine test rig.

List of Open Source Software/learning website:

1. <http://nptel.ac.in/>
2. www.learnerstv.com
3. <http://auto.howstuffworks.com/>
4. nptel.iitk.ac.in/





Subject Code: 01AE0504
Subject Name: Automobile Component Design
B.Tech. III Year

Type of course: Advanced / Application

Prerequisite: Automobile engine, Automobile Transmission and Machine Design and Industrial Drafting.

Rationale: This subject will make students well versed with concept of design of different components like piston, gear, gearbox, piston pin, connecting rod, crank shaft, cylinder liner, flywheel, valve mechanism etc. and how to standardize this design. They will also learn about bearings that are required for the components by considering different design considerations.

Course Outcome

After learning the course, the students should be able to:

1. Demonstrate knowledge and understanding of selection and designing of different automobile components.
2. Use practical and theoretical knowledge to standardize different parts.
3. Student will be able to give reasons of assumptions made while designing the component with reference to manufacturing assembly, thermal and wear considerations point of view.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Sr. No.	Content	Teaching Hours
1	Standardization in automobile system design Preferred numbers –preferred series – derived series- and their applications in design.	3
2	Design Considerations: Manufacturing and assembly considerations, Design of components for casting, welding, forging, hot and cold working, machining etc. assembly considerations in design. Design for Fatigue and Creep – thermal considerations – wear considerations in design – Human considerations in design.	7
3	Design of Bearings: Bearing Identification/Designations. Rolling Contact Bearing: Types of rolling contact bearings, static and dynamic load capacities, Strobeck's	07





	Equation, Equivalent bearing load, load life relationship, Bearing life, Load factor, Selection of bearings from manufacturers catalogue. Lubrication and mountings, dismounting and preloading of bearings, Oil seals and packing. Sliding Contact Bearings: Bearings- types, material, properties, constructional detail, hydrodynamic lubrication- design consideration, Raimondi and Boyd method relating bearing variables.	
4	Design of Gears: Types of gears, Design consideration of gears, material selection, Types of gear failures, Gear lubrication. Spur Gears: Force analysis, Number of teeth, Face width & Beam strength of gear tooth. Dynamic tooth load. Effective load on gear tooth. Estimation of module based on beam strength. Wear strength of gear tooth. Estimation of module based on wears strength. Spur gear design for maximum power transmission. Helical Gears: Virtual number of teeth, Tooth proportions, Force analysis, Beam strength of helical gears, Effective load on gear tooth, Wear strength of helical gears, Design of helical gears Bevel Gears: Terminology of bevel gears, Force analysis, Beam strength of bevel gears, Wear strength of bevel gear, Effective load on gear tooth, Design of bevel gear. Worm Gears: Force analysis, Friction in worm gear, Vector method, Strength rating of worm gears, Wear rating of worm gear.	13
5	Design of Gearbox Design considerations of gearbox, selection of proper gear ratios for an automobile gearbox, design of shafts, splines, and gears for gear box used in automobiles.	6

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	30%	40%	15%	10%	00%

Reference Books :

1. Automotive Mechanics by N. K. Giri, Khanna Publishers
2. Machine Design by Sadhu Singh, Khanna Publishers
3. Automobile Chassis Design by Dean Avern, Llife Books Ltd (1992)
4. Automobile Engg. Vol-I & II by Kirpal Singh, Standard Pub.
5. Automobile Engg. Vol-I & II by K.M.Gupta, Umesh Pub.
6. Auto Design by R. B. Gupta, Satya Prakashan





7. “Mechanical Engineering Design”, Fourth Edition, by Joseph E. Shigley & Larry D. Mitchell, McGraw-Hill International Book Company
8. Design of Machine Elements by Bhandari, Tata McGraw-Hill Publishing Company Ltd
9. Machine Design by, Sharma and Agrawal, S. K. Kataria & Sons
10. Transmission System Design by R. B. Patil, Tech Max Pub, Pune.
11. Elements of Motor Vehicles Design by D T Bdonkins, TMH
12. Automobile Chassis Design and calculations by P. Lukin, Mir Publishers
13. Auto design Problems by K. M. Agrawal, Satya prakashan.
14. Machine Design Vol-II & III by F.Haideri, Nirali Prakashan, Pune.
15. PSG Design Data Book.
16. Automotive Chassis by P. M. Heldt, Chilton Co., NY(1992)
17. Machine Design by Pandya and Shah, Charotar Publishing House.
18. Machine Design by R. S. Khurmi, J. K. Gupta, Schand & Co.
19. Bearing Manufacturers Catalogues.

List of Experiments

1. To standardize the given automobile part for size, torque and power, point of view.
2. To design the spur, helical, bevel and worm gear for given situation of automobile vehicle.
3. To design the gear box for given situation of automobile vehicle.
4. To design the engine cylinder for given situation of automobile vehicle.
5. To design the piston for given situation of automobile vehicle.
6. To design the flywheel for given situation of automobile vehicle.
7. To design the valve and valve mechanism for given situation of automobile vehicle.
8. To design the connecting rod for given situation of automobile vehicle.

List of Open Source Software/learning website

1. <http://nptel.ac.in/>
2. <http://ocw.mit.edu/>





Subject Code: 01AE0505

Subject Name: Alternative fuels and power systems

B.Tech. III Year

Type of course: Under Graduate

Prerequisite: Elements of Mechanical Engineering, Internal Combustion Engine

Rationale: Understanding & Analysis Alternative Fuels for Engine

Course Outcome

Students will be able to

1. The student will understand the various alternative fuels available
2. Determine alternative fuels properties, performance characteristics, combustion characteristics, emission characteristics
3. Determine Engine Modification required for alternative fuels
4. Determine Electric, Hybrid and fuel cell technologies

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
3	0	2	4	50	30	20	25	25	150

Sr No	Contents	Teaching Hours
1	Alcohols as Fuel Introduction to alternative fuels. – Need for alternative fuels – Availability of different alternative fuels for SI and CI engines. Alcohols as fuels. Production methods of alcohols. Properties of alcohols as fuels. Methods of using alcohols in CI and SI engines. Blending, dual fuel operation, Performance emission and combustion characteristics in CI and SI engines. Emulsification of alcohol and diesel	08
2	Biodiesel as Fuels Raw materials used for production of Bio Diesel (Karanja oil, Neemoil Sunflower oil, Soya been oil, Mustard oil, Palm oil, Jatropha seeds, Algae). Production process of Bio Diesel. Properties Diesel blended with vegetable oil, Difference in performance of Engine blended with biodiesel	07
3	Biogas, Natural gas and LPG as Engine Fuel Production methods and Properties of Biogas, Natural gas and LPG, CO ₂ , and H ₂ S scrubbing in Biogas., Modification required to use in SI and CI Engines- Performance and emission characteristics of Biogas, NG and LPG in SI and CI engines. combustion characteristics, storage, cost and safety of NG and LPG	08





4	Hydrogen as Engine Fuel Production methods of hydrogen. Combustive properties of hydrogen. Problems associated with hydrogen as fuel and solutions. Different methods of using hydrogen in SI and CI engines. Performance, emission and combustion analysis in engines. Hydrogen storage – safety aspects of hydrogen.	05
5	Electric, Hybrid and Fuel cell vehicles Layout of Electric vehicle and Hybrid vehicles – Merits and demerits of electric and hybrid vehicles. System components, Electronic control system – Different configurations of Hybrid vehicles. Power split device. High energy and power density batteries – Fundamentals of Fuel cell vehicles. Fuel cells principle, working, Types	06
6	Other Alternative Fuels Di-Methyl Ether (DME), Pyrolysis gas/oil, Synthetic gas/oil from plastic, rubber, coal, wood etc., Eco Friendly Plastic fuels (EPF).	03

Suggested Theory Distribution

The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	30%	40%	15%	10%	00%

Reference Books:

1. Alternative Fuels Guidebook by Bechtold R.
2. Alternative Fuels by Arumugam S. Ramadhas
3. Modern Electric, Hybrid Electric and Fuel cell Vehicles by Mehrdad Ehsani, Yimin Gao, Ali emadi

List of the Experiment

- 1 Flash and fire point density measurement test of biofuel – alcohol
- 2 Flash and fire point density measurement test of biofuel – Biodiesel
- 3 Cloud Point Temperature, Pour Point temperature measurement of alcohol ,Biodiesel
- 4 Emission analysis of CNG based vehicle.
- 5 Emission analysis of Biofuels based vehicle
- 6 Inspect and study different components of CNG based vehicle
- 7 Study Electric Hybrid Vehicles
- 8 Study of Fuel cell based vehicles
- 9 Study of different topological configurations of Electric Hybrid /Fuel cell Vehicles
- 10 Study of solar powered vehicles

List of Open Source Software/learning website:





Marwadi
University

Syllabus for Bachelor of Technology
Department of Automobile Engineering

1. www.nptel.ac.in
2. www.coursera.org





Subject Code: 01AE0506

Subject Name: Hydraulic and Pneumatic system

B.Tech. III Year

Course Type: Under Graduate

Prerequisite: None

Rationale: The subject gives in-depth knowledge of different system working on fluid power and compressed air with understanding of different valves used in the hydraulic and pneumatic system. This subject also gives useful understanding for designing of circuits for system related to hydraulic and pneumatic system.

Course Outcome

After learning the course, the students should be able to:

1. Identify and analyze operation of industrial fluid power and pneumatics systems, including the design, application, and trouble-shooting.
2. Design an appropriate hydraulic or pneumatic circuit or combination circuit like electro-hydraulics, electro-pneumatics for a given application. Develop a circuit diagram.
3. Identify different symbols of components used in hydraulic and pneumatic system.
4. Demonstrate the needed analytical skills in handling basic hydraulic and pneumatic calculations.
5. Selection and sizing of components of the circuit.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
3	0	2	4	50	30	20	25	25	150

Sr.	Content	Teaching hours
1	Introduction: Fundamentals and basic principal of Hydraulics, advantages and disadvantages of Hydraulics and Pneumatics Systems, hydraulic power principles, Symbols, hydraulic circuit electrical components. Comparison between a hydraulic and a pneumatic system	5
2	Hydraulic System Components, Hydraulic Oils, Fluid Properties and Filter: Hydraulic & Pneumatic system Symbols as per ISO/ANSI, Fluid Classification, governing Principles and Laws.	5





3	Hydraulic Pumps, Motors and Actuators: Construction, working principle and operation of rotary & reciprocating pumps like Gear, Vane, Gerotor, Screw, Axial Piston, Radial Piston, Pump characteristics, Linear and Rotary Actuators, Hydrostatic Transmission Systems. Selection of components for applications. Comparison of different power systems	6
4	Hydraulic Valves and Hydraulic System Accessories: Direction control valves, Pressure control valves, Flow control valves, Non-return valves, Reservoirs, Accumulators, Heating & cooling devices, Hoses. Selection of valves for circuits.	6
5	Design of hydraulic circuits: Basic hydraulic circuits, Industrial hydraulic circuits, Power losses in flow control circuits.	6
6	Introduction to Pneumatic Systems: Fundamentals and basic requirements of pneumatic system with application, Construction and working principle of pneumatic power transmission system. Preparation compressed air. Components like Power source, FRL unit, Actuators and control valves like DCV, FCV, PCV, time delay, quick exhaust valve, Use of Memory Valve (Double Piloted Valve), shuttle Valve.	6
7	Pneumatic circuits: Basic pneumatic circuits, Development of single Actuator Circuits, Development of multiple Actuator Circuits, Cascade method for sequencing.	6
8	Introduction to Automation in hydraulic and Pneumatic Systems.	3

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	30%	40%	15%	10%	00%

Reference Books:

1. Industrial Hydraulics by John Pippenger and Tyler Hicks, McGraw Hill.
2. Oil Hydraulic Systems, Principle and Maintenance by S R Majumdar, McGraw-Hill.
3. Fluid Power with Applications by Anthony Esposito, Pearson.
4. Fluid Power: Generation, Transmission and Control, Jagadeesha T., Thammaiah Gowda, Wiley.
5. The Analysis & Design of Pneumatic Systems by B. W. Anderson, John Wiley.
6. Control of Fluid Power Analysis and Design by Mc Clay Donaldson, Ellis Horwood Ltd.
7. Hydraulic and Pneumatic Controls: Understanding made Easy, K. Shanmuga Sundaram, S.Chand & Co Book publishers, New Delhi, 2006 (Reprint 2009)





8. Basic Pneumatic Systems, Principle and Maintenance by S R Majumdar, McGraw-Hill.
9. Basic fluid power Dudley, A. Pease and John J. Pippenger, , Prentice Hall, 1987

List of Experiments (Any 10)

A. Experiments on Hydraulics Circuits:

1. Extend-Retract and Stop system of a linear actuator.
2. Regenerative circuit.
3. Speed Control circuits: meter-in, meter-out and bleed off Sequencing circuit
4. Use of solenoid operated DCV.
5. Rapid Traverse and Feed circuit.

B. Experiments on Pneumatic Circuits:

1. Study of Compressor, FRL unit and 5/3 DCV.
2. Reciprocating motion of a single and a double acting actuators using 5/3 DCV.
3. Speed control circuits.
4. Automatic to & fro motion of a pneumatic linear actuator.
5. Sequencing circuit.
6. Logical circuits using shuttle valve.
7. Cascading Circuit

C. Students should build up the above circuits on computer using software and simulate the flow of fluid during the operation. Afterwards, they themselves can physically connect the circuit on the hydraulic/pneumatic trainer and run the circuit.

List of Open Source Software/learning website

1. Autosim Premium
2. Hydrosym





Subject Code: 01AE0507
Subject Name: Reverse Engineering
B.Tech. Year – III

Course Type: Under Graduate

Prerequisite: None

Rationale: The objective of the module is to go through the Reverse Engineering process as it is a self-learning tool used to summarize the process of reconstructing/ reformation of an already existing object.

Course Outcomes:

After completion of this course, student will be able to

1. Understand the problem in the existing process.
2. Collect the large number of data/ information for the product
3. Depth analyze of the products and extraction of real time data
4. Understand the principles behind the design of the product, ways to redesign and improve the performance of the system.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
0	0	2	1	0	0	0	25	25	50

Units	Topics	Contact Hours
Module-1 Reverse Engineering Basics	Need of reverse engineering, Methodologies for Reverse Engineering, understanding of Reverse Engineering through example , reasons for reverse engineering, process for ReverseEngineering, Phases of Reverse Engineering, conceptual System Reasons for Reverse Engineering, Difficulties in Reverse Engineering, Levels of abstraction: Application level, Functional level, Structural level	6
Module-2 Reverse Engineering Methodology	Detailed study of Reverse Engineering for Branch Specific learning Disassemble the existing selected artefact/ product/ component/ process/ system to study technical aspects and design detail, Reverse engineering in various computer software/ application, CASE STUDY EIS Client Application, Implementation level	6
Module-3 Software	Reverse engineering of software, Binary reverse engineering, Binary software techniques, Software classification, Source code, number of UML	10





Reverse Engineering	tools, Reverse engineering of Protocols	
Module-4 Capstone Project	Mini project exercise based on understanding of modules contents	6

Suggested Theory Distribution

The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	30%	40%	15%	10%	00%

References:

1. Reversing: Secret of Reverse Engineering, Eldad Eilam, Wiley Publishing, Inc.
2. Reverse Engineering, Wills, Linda M., Newcomb, Philip (Eds.), Springer, 1996, ISBN 978-0-585-27477-5
3. Practical Reverse Engineering: x86, x64, ARM, Windows® Kernel, Reversing Tools, and Obfuscation, Bruce Dang, Alexandre Gazet, Elias Bachaalany, John Wiley & Sons, Inc, ISBN: 978-1-118-78731-1.

Instructional Method:

1. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
2. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
3. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
4. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. <https://canvas.instructure.com/courses/838884/pages/unit-3-lesson-6-reverse-engineering>
2. <https://www.cs.drexel.edu/~spiros/teaching/CS675/>
3. <https://eforensicsmag.com/course/software-reverse-engineering-techniques-level-1/>
4. <http://www.npd-solutions.com/remethodology.html>





Subject Code: 01AE0601

Subject Name: Automobile Chassis & Body Engineering
B.Tech. III Year

Type of course: Engineering

Prerequisite: Production Technology

Rationale: Understanding of chassis and body design of Automobile systems

Course Outcomes:

1. The student can identify different areas of automobile chassis and body engineering.
2. Can find the applications of all the areas in day to day life.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Sr No	Contents	Teaching hours
1	Vehicle Aerodynamics Types of Chassis frames & body, aerodynamic consideration in body profiling, ergonomic consideration, defects in frame and body. Vehicle drag and types, various types of forces and moments, effects of forces and moments, side wind, various body optimization techniques and Aerodynamic Aids for Optimization of drag.	10
2	Car Body Details: Types, Regulations, Drivers seat design & dimensions parameters, drivers' visibility, methods for improving visibility and space in cars, design for safety, car safety requirements, car body construction. Crash Test & Roll over test regulations. Heating and ventilation systems. Instrument panel, Dash boards & passenger compartment lighting, Audio- visual systems.	9





3	<p>Bus Body Details: Types: Mini bus, single decker & double decker, two level, split level and articulated bus, bus body layout, floor height, engine location, entrance - exit locations, passenger's seating dimensions, seat layout according to RTO registration, details of constructional, construction of frame, double skin construction, types of metal sections used, integral and conventional coach type construction. Bus body Code Regulations (ARAI). Pneumatic equipment for passenger door opening & closing. Air conditioning equipment selection and mounting.</p>	10
4	<p>Commercial Vehicle Details: Types of body, flat platform, drop side, fixed side, tipper body, tanker body, light commercial vehicle body types. Dimensions of driver's seat in relation to controls, drivers cab design. Tipper body designs, volume/weight considerations, pay load and related regulations.</p>	9
5	<p>Body Loads: Idealized structure, structural surface, shear panel method, symmetric and asymmetric vertical loads in a car, longitudinal load, different loading situations, chassis frame design. Construction of Doors, door apertures, windows. Spare wheel carrier construction and design for different types of vehicle and weight distribution criteria in relation to Spare wheel location. Sources of body noises testing and methods of elimination. Water leakage test.</p>	5
6	<p>Body Materials: Metal sheets (Steel, Aluminium etc.), plastics, timber, GRP, FRP, Insulating materials, adhesives and sealants. Wind screen, Back light & window Glasses and regulations for glasses. Difference between toughened glass, sheet glass & laminated glass. Composite materials, properties of materials, corrosion, anti-corrosion methods, selection of paint and painting process, body trim items, body mechanisms.</p>	5

Suggested Theory Distribution

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Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	30%	40%	15%	10%	00%

References

- “Automotive Chassis & Body”, by P.L.Kohli, Papyrus Publishing House, New Delhi.
1. “Automotive Chassis”, by Crouse W.H.& Anglin D.L, McGraw-Hill Int. Book Co.
 2. “Body Engineering”, by Sydney F. Page, Chapman & Hill Ltd., London.
 3. “Fundamentals of Vehicle Body work”, by J. Fairbrother, Hutchinson, London.
 4. “Automotive Chassis”, by P.M. Heldt, Chilton Co. NK
 5. “Vehicle Body Layout & Analysis”, by John Fenton, Hutchinson, London.





6. “Vehicle Body Engineering”, by J. Powloski, Business Books Ltd., London.





Subject Code: 01AE0602
Subject Name: Automobile System Design
B.Tech. III Year

Type of course: Automobile System and Machine Design and Industrial Drafting

Prerequisite: Automobile engine, Machine Design and Industrial Drafting.

Rationale: To make student get acquainted with to standardize the automobile part after designing the system component like clutch, propeller shaft, axle, steering linkages, braking parts, suspension system etc. within the space limitations and optimize it.

Course Outcome

1. Student will be able to select and design the different automobile system for given situation.
2. Student will be able to standardize the different parts.
3. Student will be able to optimize the parts for given situation

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Sr.	Contents	Teaching Hours
1	Design of Propeller Shaft: Design of propeller shaft for bending, torsion, rigidity and critical speed criteria. Design of universal joint and slip joint.	5
2	Design of Clutch System Design of various clutch system components (Single plate, multiple plates, centrifugal clutch, lining material) and Pressure Plate Assembly components. Hydraulic Clutch system components (Master Cylinder, Slave cylinder, reservoir) clutch fluid – its properties, hydraulic pipes. Clutch Pedal & Clutch hand lever design. Clutch cable Design / selection considerations	10
3	Design of Braking System Brake balance, stopping distance, Brake fade, Work done in braking, braking efficiency, braking of vehicle, braking of vehicle moving in a curved path, Design of drum brake, Design of disc brake, Design of hydraulic brake system, Design of hand brake or parking brake.	12





4	Design of Axle: Front Axle beam, Steering Knuckle, King pin. Rear Axle (drive Axle) tube, Design of fully floating, half floating axle and dead axle. Design of Final drive and differential: Design of spiral bevel and hypoid type of final drive/differential.	8
5	Design of Steering System: Condition for true rolling, Turning circle radius, Principle of Ackermann steering, Ackermann-linkage geometry, Steering gear ratio, Steering box torque, Design of various steering gear box.	5
6	Design of Suspension System: Function of suspension, Forces act on suspension, Suspension springs (laminated or leaf, coil, torsion bar, rubber spring, pneumatic spring), Design of laminated or leaf spring, Design of helical or coil spring, Design of torsion bar spring	12
7	Optimum Design: Optimum design for automotive elements like shaft-springs etc, Johnson's method of optimum design	8

Suggested Theory Distribution

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Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	30%	40%	15%	10%	00%

Reference Books:

1. Automotive Mechanics by N. K. Giri, Khanna Publishers
2. Machine Design by Sadhu singh, Khanna Publishers
3. Automobile Chassis Design by Dean Avern, Life Books Ltd (1992)
4. Automobile Engg. Vol-I & II by Kirpal Singh, Standard Pub.
5. Automobile Engg. Vol-I & II by K.M.Gupta, Umesh Pub.
6. Auto Design by R. B. Gupta, Satya Prakashan
7. Mechanical Engineering Design", Fourth Edition, by Joseph E. Shigley & Larry D.Mitchell, McGraw-Hill International Book Company
8. Design of Machine Elements by Bhandari, Tata McGraw-Hill Publishing Company Ltd
9. Machine Design by, Sharma and Agrawal, S. K. Kataria & Sons
10. Transmission System Design by R. B. Patil, Tech Max Pub, Pune.
11. Elements of Motor Vehicles Design by D T Bdonkins, TMH
12. Automobile Chassis Design and calculations by P. Lukin, Mir Publishers
13. Auto design Problems by K. M. Agrawal, Satya prakashan.
14. Machine Design Vol-II & III by F.Haideri, Nirali Prakashan, Pune.
15. PSG Design Data Book.
16. Automotive Chassis by P. M. Heldt, Chilton Co., NY(1992)





17. Machine Design by Pandya and Shah, Charotar Publishing House.
18. Machine Design by R. S. Khurmi, J. K. Gupta, Schand & Co.
19. Bearing Manufacturers Catalogues.

List of Experiments

1. To standardize the any automobile system part for size, torque and power point of view.
2. To design the clutch for given situation of automobile vehicle.
3. To design the propeller shaft for given situation of automobile vehicle
4. To design the Axle for given situation of automobile vehicle
5. To design the steering system for given situation of automobile vehicle.
6. To design the braking system for given situation of automobile vehicle
7. To design the suspension system for given situation of automobile vehicle.
8. To optimize the part from above design given situation of automobile vehicle.

List of Open Source Software/learning website

1. <http://nptel.ac.in/>





Subject Code: 01AE0603
Subject Name: Vehicle Dynamics
B.Tech. III Year

Type of course: Engineering

Prerequisite: Basic knowledge of KOM, DOM & Automobile system

Rationale: Understanding of Dynamic behaviour of different systems in different loading condition in automobile vehicle

Course Outcomes:

1. To present a problem oriented in depth knowledge of Vehicle Dynamics.
2. To address the underlying concepts and methods behind Vehicle Dynamics

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Sr No	Contents	Teaching Hours
1	Introduction to Vehicle Dynamics: History, vehicle classifications, fundamental approaches to vehicle dynamics modelling; SAE Vehicle axis system, Forces & moments affecting vehicle, Earth Fixed coordinate system, Dynamic axle loads, Equations of motion, transmission characteristics, vehicle performance , power limited and traction limited acceleration, braking performance, Brake proportioning, braking efficiency.	6
2	Acceleration Performance Power train components; power and traction limited acceleration; transverse weight shift; front wheel drive vs rear wheel drive vs. all-wheel drive vehicles	5
3	Braking Performance Braking force analysis ; brake design and analysis; federal regulation on braking performance; antilock braking system; wheel lock-up; tire/road friction; safety and maintenance issues in braking	5
4	Road Loads Wind drag and car body design, rolling resistance; breakdowns of total road loads; gas mileage analysis and driving styles; Aerodynamics	6
5	Tire and Tire Dynamics	5





	Tire specifications and constructions; tire motion analysis; tire force analysis; tire contact stress analysis; tire vibration analysis; tire models	
6	Ride & Cornering/steering Riding comfort; perception of vibration; vibration sources; vibration transmission to the passengers; lower speed cornering; high speed corner; cornering bicycle model; Quasi-Static Rollover of a Rigid Vehicle, Quasi-Static Rollover of a Suspended Vehicle, Transient Rollover	8
7	Chassis and Suspension Systems Suspension Kinematics, Suspension types, Solid Axles, Independent Suspensions, Anti-Squat and Anti-Pitch Suspension Geometry, Anti-Dive Suspension Geometry, Roll Center Analysis, Suspension Dynamics, Multi-body vibration, Body and Wheel hop modes, Invariant points, Controllable Suspension Elements: Active, Semi-Active. Choice of suspension spring rate, Calculation of effective spring rate, Vehicle suspension in fore and aft directions.	5
8	Motorcycle Dynamics Kinematic structure and geometry of motorcycles, importance of trail, Resistance forces acting on motorcycle (tyre rolling and aerodynamic resistance forces, resistance force caused by slope), Location of motorcycle's centre of gravity (C.G), Moments of inertia on Motorcycle	5

Suggested Theory Distribution

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Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	30%	40%	15%	10%	00%

References Book

1. Fundamentals of Vehicle Dynamics, Thomas Gillespie, SAE Publication.
2. The Multibody systems Approach to Vehicle Dynamics, Mike Blundell and Damian Harty, Elsevier, 2004.
3. Vehicle Dynamics, Theory and Application, Reza N. Jazar, Springer, 2009, ISBN 978-0-387-74243-4, e-ISBN 978-0-387-74244-1.
4. Race Car Vehicle Dynamics, W.F. Milliken and D.L. Milliken, SAE, 1995, ISBN 1-56091-526-9.
5. Reimpell, Stoll and Betzler: The Automotive Chassis: Engineering Principles.
6. Hans Pacejka, Tire and Vehicle Dynamics, Elsevier, 2012
7. Rajesh Rajamani, Vehicle Dynamics & control, Springer.
8. R.V. Dukkipati, Vehicle dynamics, Narsova Publications.
9. Vittore Cossalter, Motorcycle Dynamics, 2nd Edition, Publisher: LULU.com





List of Experiments:

1. Experimental study of mechanism for air flow over different geometry of vehicles.
2. Experimental studies of measurements of drag and lift coefficient for different geometry vehicle using wind tunnel apparatus.
3. To study the effect of tyre pressure and temperature on the performance of the tyre.
4. To simulate and study a quarter car models using MBD software.
5. To simulate and understand behaviour of sprung / un-sprung mass & lumped mass system MBD software.
6. Finding the stiffness of tyre with variation of air pressure.
7. To simulate and study the effect of different conditions on vehicle loading.
8. Study of latest technologies available nowadays in vehicles helping to maintain stability of the vehicle on the road.
9. Study geometry of motorcycles as well as various types of forces faced by the motorcycle & its rider
10. Study the location & height of Centre of gravity (C.G) of a motorcycle





Subject Code: 01AE0604

Subject Name: Automobile Refrigeration & Air conditioning
B.Tech. III Year

Type of Course: Engineering

Pre-requisite of course: Engineering Thermodynamics

Rationale: The course is designed to give fundamental knowledge of types of refrigeration, refrigeration cycles, refrigerants and behavior under various conditions, different air conditioning terms and load calculation, designing of components of air distribution system.

Course Outcomes:

After learning the course, the students should be able to:

1. Understand the basic concepts of refrigeration and air conditioning systems
2. Understand and analysis of various refrigeration cycles
3. Make basic calculation of psychometric properties and process
4. Do basic calculations of heating and cooling load requirements of a room.
5. Apply scientific and engineering principles to analyze and design aspects of engineering systems that relate to refrigeration and air conditioning

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Sr.	Contents	Teaching Hours
1	Introduction: Brief history, refrigeration and air conditioning needs, refrigeration and air condensing systems – types and applications, cooling methods, ton of refrigeration, coefficient of performance,	2
2	Refrigerants: Classification, terminology, required properties, secondary refrigerants, upcoming industrialized refrigerants	2
3	Air refrigeration: Reversed Carnot cycle. Restrictions of Reverse Carnot cycle, Bell-Coleman cycle, working and examination of air refrigeration systems (Simple; Bootstrap; Regenerative and Reduced ambient, refrigeration inside Aircraft,	4





4	Vapour Compression system: Simple system on P-h and T-s diagrams, simple cycle analysis, elements affecting the performance of the cycle, actual cycle Compound Compression System: Compound compression by means of intercooler (flash gas abstraction and flash intercooler), analysis of two evaporators with flash intercooler and individual expansion valve and multiple expansion valve, multiple evaporators with back pressure valves and with multiple expansion valves without flash inter cooling, , cascade refrigeration system	7
5	Absorption refrigeration system: Desired characteristics of refrigerant, selection of pair, practical H ₂ O -NH ₃ cycle, LiBr – H ₂ O system and its functioning, h-x diagram and simple calculation of several process alike adiabatic mixing and mixing with heat transfer, throttling, Electrolux refrigeration system	3
6	Refrigeration system components: Types; compressors construction; working; comparison and selection, condensers; expansion devices; and evaporators, refrigeration piping accessories*, evacuation and charging of refrigerant*, properties and classification of thermal insulation	5
7	Psychrometry: Dalton's law of partial pressure, Properties of moist air, temperature and humidity measuring instruments, psychrometric chart, psychrometric processes such as sensible heating and cooling, heating and humidification cooling and dehumidification, , adiabatic saturation, chemical dehumidification.	5
8	Human comfort: Assortment of inside design conditions, thermal relaxation, heat balance equation for user (human being), elements affecting thermal comfort, Operative temperature, comfort chart and factors governing effective temperature, selection of outside design conditions	1
9	Load analysis: Site survey, outdoor and indoor design conditions, classification of loads, flywheel effect of building material and its use in design, effect of wall structure on cooling capacity, calculations of cooling capacity, instantaneous heat gain and instantaneous cooling load heat transmission through sunlit and shaded glass using tables, TETD due to sunlit and shaded roof and walls using tables, method of reduction of solar heat gain through glass, ventilation and air infiltration, load due to outside air, heat gain from occupants; electric lights; product; electric motor and appliances, , use of load estimation sheet, introduction of CLTD method ,load calculations for automobiles	6
10	Duct design and air distribution: Purpose; classification and economic factors influencing duct layout, equal friction technique of duct design, usage of friction chart, dynamic losses and its determination, Requirements of air distribution arrangement, air distribution, grills, outlets, application, location	4





11	Air-conditioning systems: Classification, system components, all air; all water; and air-water systems, room mid-air conditioners, packaged air conditioning plant, centralized air conditioning systems, split air conditioning systems	3
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Suggested Theory Distribution

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Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	30%	40%	15%	10%	00%

Reference Books:

1. Refrigeration and Air Conditioning by C P Arora, McGraw-Hill India Publishing Ltd.
2. Refrigeration and Air-conditioning by Ramesh Arora , Prentice Hall of India
3. Refrigeration and Air Conditioning by Manohar Prasad, New Age International Publisher
4. Principles of Refrigeration by Roy. J Dossat, Pearson Education
5. Refrigeration and Air Conditioning by Jordon and Prister, Prentice Hall of India Pvt. Ltd.
6. Refrigeration and Air Conditioning by W.F. Stocker and J. W. Jones, McGraw-Hill
7. Refrigeration and Air Conditioning by Ameen Ahmadul, PHI India
8. Automobile Air conditioning by Crouse and Anglin, McGraw Hill Publications

List of laboratory experiments (Any Ten)

1. To understand different components of VCR system and to determine its COP
2. To understand working of Electrolux refrigerator and to determine its COP.
3. To understand construction and working of reciprocating, rotary and centrifugal compressor used for R&AC.
4. To understand various tools used for refrigeration tubing and to perform various operations like flaring, swaging, bending, brazing etc.
5. To perform different psychrometric processes and analyze the same using psychrometric chart.
6. To understand construction and working of window air-conditioner/ split air-conditioner and to determine its capacity.
7. To determine COP and apparatus dew point of an air conditioning test rig.
8. To calculate cooling load of a confined space using table and compare the same with load estimation sheet.
9. Study of domestic refrigerator and to determine % running time at different thermostat settings.
10. To determine (COP)_C and (COP)_H of heat pump
11. To determine saturation efficiency of air cooler/air washer
12. Study of packaged plant





Subject Code: 01AE0605
Subject Name: Dynamics of Machine
B.Tech. III Year

Type of course: Engineering

Prerequisite: Higher order ODE, PDE, and Kinematics of Mechanism

Rationale: Understanding & Analysis of Vibration in Mechanical System.

Course Outcome:

After learning the course, the students should be able to

1. Understand unbalance force and bearing reaction force in rotating mass.
2. Understand unbalance force in reciprocating engine.
3. Understand natural frequency of Vibrating Mechanical system
4. Understand critical speed of shaft term and cam-follower system.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Sr.No	Contents	Teaching Hours
1	Rotating Mass Balance: Understanding static and dynamic balancing, Investigation of effect of unbalance rotating mass (Single & Multi plane), Methods for measuring unbalance force & mass. Bearing reactions.	04
2	Balancing of Reciprocating Mass: Balancing of slider crank chain mechanisms, Modelling real system for static and dynamic analysis. Inertia force, disturbing force and torque, Balancing of Multi Cylinder Engines: Analysis of Multi Cylinder In-line Engines: Direct and Reverse crank method, optimized configuration of in-line engine. Balancing of Radial Engine: Evaluation of V and radial engine, Analytical & Graphical methods.	12
3	Fundamental of Mechanical Vibrations: Vibration and oscillation, Reason for generation of vibration, Parameters of Vibration- spring, mass, damper, Damper models, Motion –periodic, non-periodic, harmonic, non- harmonic, Degree of freedom, static equilibrium position, Vibration classification.	20





	<p>Free Undamped Single Degree of Freedom Vibration System Longitudinal, transverse, torsional vibration system, Methods for formulation of differential equations by Newton, Energy, and Rayleigh's Method,</p> <p>Free Damped Single Degree of Freedom Vibration System Viscous damping, Under, Critically & Over damped System, Damping Factor, Logarithmic decrement;</p> <p>Free Undamped vibration of Two Degrees of freedom System: Characteristics Equation and basic mode of vibration, torsional vibrations of two and three rotor system, torsionally equivalent shaft, geared system.</p> <p>Forced Vibration: Undamped Forced vibrations, Damped Forced Vibration, Equivalent viscous damping; Externally Applied forces due to unbalanced masses. Vibration Isolation and Transmissibility: Force Transmissibility, Motion Transmissibility Typical isolators & Mounts</p>	
4	<p>Vibration in Rotating System: Whirling of shafts, Critical speed and its practical influence in the design of shafts, Application of Dunkerley's method and Rayleigh's method for determination of critical speed of shafts</p>	04
6	<p>Vibration Measurement: Basic of vibration measurement and analysis Instruments used: Vibrometer, velocity pickup, accelerometer, FFT analyzer.</p>	04
7	<p>Cam Dynamics: Dynamics of force-closed cam follower system: Jump phenomenon: Reason for Jump, response of spring force and static mass on jumping of cam.</p>	03

Suggested Theory Distribution

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Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	30%	40%	15%	10%	00%

Reference Books:

1. S S Rao, Mechanical Vibrations, Pearson.
2. R L Norton, Kinematics and Dynamics of Machinery, McGraw-Hill.
3. J.Uicker, Gordon R Penstock & J.E. Shigley, Theory of Machines and Mechanisms, Oxford.
4. V. P. Singh, Mechanical Vibration
5. R L Norton, Design of Machinery, McGraw-Hill.
6. A. G. Ambekar, Mechanical vibrations and noise engineering
7. G. K. Grover, Mechanical Vibration.

List of the Experiment

1. Balancing of rotating mass in different plane.





2. Analysis of unbalanced reciprocating mass.
3. Experimental analysis of Free Undamped longitudinal Vibration of single degree of freedom system
4. Experimental analysis of Free Undamped torsional vibration of single degree of freedom system
5. Experimental analysis of Free Undamped torsional vibration of two rotor system
6. Experimental analysis of Damped torsional vibration
7. Experimental analysis of forced vibration
8. Experimental analysis of forced damped vibration
9. To verify Dunkerley's theorem for lateral vibration
10. To determine critical speed of the shaft and study effect of shaft diameter and end conditions on the same.
11. To determine jump speed and effect of dead weight and spring force on it.

List of Open Source Software/learning website:

1. www.nptel.ac.in
2. www.coursera.org
3. www.edx.org
4. <http://vlab.co.in/>





Subject Code: 01AE0606
Subject Name: Heat and Mass Transfer
B.Tech. III Year

Type of course: Engineering Science

Prerequisite: Thermodynamics, Fluid Mechanics

Rationale: The course is prepared to provide the detailed understating of heat and mass transfer principles.

Course Outcome:

After learning the subjects, Students will be able to

1. Understand the modes and phenomenological origin of laws for the different modes of heat and mass transfer
2. Analysis of heat conduction in a steady and transient state for various geometrics
3. Apply empirical correlation for analyzing free and forced convection problem
4. Evaluate the performance of heat exchangers by using the method of heat exchanger effectiveness
5. To analyze radiation heat exchange between surfaces and in diffuse, gray enclosure

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Sr.	Contents	Teaching Hours
1	Introduction to Heat Transfer Basic concepts and laws of Conduction, Convection and Radiation, Difference between Thermodynamics and Heat Transfer, Thermal conductivity, Thermal diffusivity, General heat conduction equation in Rectangular, Cylindrical and Spherical coordinates and its reduction to specific cases.	3
2	Conduction Heat conduction in plane and composite wall including thermal resistance concepts, Heat conduction in multilayered cylinders and spheres, electrical analogy, Contact resistance, Overall heat transfer coefficient, Critical radius of insulation for cylinder and sphere, Overall heat transfer coefficient.	5
3	Extended Surfaces Types and applications of fins, Heat flow through uniform cross section of fin, infinitely long fin, fin insulated at the tip and fin losing heat at the tip, Fin	5





	efficiency, Fin effectiveness, Estimation of error in temperature measurement in a thermometer well	
4	Transient heat conduction Transient heat conduction in solids having infinite thermal conductivity, Significance of Biot and Fourier number, Time constant, Transient heat conduction in solids with finite conduction and convective resistances	4
5	Convection Introduction to dimensionless number, Physical significance of dimensionless number, Dimensional analysis applied to natural and forced convection, Empirical correlations applied to natural and forced convection problems, Conservation of mass, momentum and energy equations, Hydrodynamic and thermal boundary layer, General solution of Von-Karman integral momentum equation	5
6	Heat exchanger Types of heat exchanger, Analysis of heat exchanger, Log Mean Temperature Difference for parallel and counter flow heat exchanger, condenser and evaporator, overall heat transfer coefficient, Fouling factor, Correction factors for multi pass arrangement, Effectiveness and NTU method for parallel and counter flow heat exchanger	7
7	Radiation Radiation properties, blackbody radiation, Different laws of radiation, Intensity of radiation and solid angle, Lambert's cosine law, Radiation heat exchange between black bodies, Shape factor, Heat exchange between non-black bodies-infinite parallel planes and infinite long concentric cylinders, Radiation shield, Heat exchange between two grey surfaces, electrical analogy	7
8	Boiling and Condensation Boiling regimes, Film wise & drop wise condensation, laminar film condensation on vertical plate, turbulent film condensation, film condensation on tubes.	4
9	Mass Transfer Modes of mass transfer, concentrations, velocities and fluxes, Fick's law, general equation of mass diffusion in stationary media, steady state diffusion through a plain membrane, steady state equimolar counter diffusion, isothermal evaporation of water into air from a surface, mass transfer coefficient, convective mass transfer.	4

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	30%	40%	15%	10%	00%

Reference Books:

1. Heat & Mass Transfer by P.K. Nag, McGraw Hill





2. Heat and Mass Transfer: Fundamentals and Application by YunusCengel, McGraw Hill
3. Fundamental of Heat and Mass Transfer by Incropera and Dewitt, Wiley Publication
4. Heat Transfer by Mills and Ganesan, Pearson Education
5. Heat Transfer by J P Holman , McGraw Hill
6. Heat & Mass Transfer by Arora & Domkundwar, Dhanpat rai and Co., NewDelhi
7. Engineering Heat & Mass Transfer by M.M. Rathore, LaxmiPrakshan
8. Heat & mass transfer by by D.S. Kumar, S.K. Kataria& Sons
9. Heat & Mass Transfer by R.K. Rajput, S. Chand & Co. New Delhi.

List of experiments

1. To determine the thermal conductivity of the given composite walls.
2. To determine Stephan Boltzmann constant experimentally.
3. To determine heat transfer co-efficient by natural convection.
4. To determine the effective thermal conductivity of the composite cylinders.
5. To determine heat transfer co-efficient by forced convection.
6. To determine the overall heat transfer co-efficient of shell and tube type heat exchangers.
7. To determine the emissivity of gray body.
8. To study drop & film wise condensation & determine the film co-efficient
9. To determine convective heat transfer co-efficient of the fin under free and forced convection.
10. To determine heat transfer co-efficient for transient heat transfer apparatus.

List of Open Source Software/learning website:

1. Nptel.ac.in
2. www.learnerstv.com
3. Cosmolearning.org





Subject Code: 01AE0610

Subject Name: Design Engineering and Project Management
B.Tech. Year - III

Type of course: Engineering Science

Prerequisite: Nil.

Rationale: The main objective of this course is to put on the engineering problem solving procedure to solve basic engineering design and analysis problems. using various techniques. This course is also designed with aim to demonstrate planning, execution and testing of various Projects.

Course Outcomes:

After completion of this course, student will be able to

6. Understand the importance of Design Engineering.
7. Identify various Design Engineering approaches.
8. Apply various methodologies to design the product and in testing the product.
9. Understand various Project Management Processes.
10. Demonstrate effective project execution and control techniques that result in successful projects.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
0	0	2	1	0	0		25	25	50

Sr No	Contents	Teaching hours
1	Design Engineering Introduction: Design and its objectives, Design Constraints, Design functions, Role of Science Engineering and Technology in design Engineering as Business Proposition: How to Initiate Creative design? Initiating the thinking process for designing a product of daily use. Need Identification, problem Statement, Market survey-customer requirement, Design Attributes and objectives: Ideation: Brainstorming approach arriving at solution, closing on to Design Need.	6
2	Design Engineering Methodology: System level Design, Detailed Design, Design for performance, safety and reliability, (2) Design for Ergonomics and Aesthetics, (3) Design for Manufacturing & Assembly (DFMA), (4) Design for cost & Environment, (5) Modelling and Analysis of their design (6) Prototyping (7) Engineering Economics of Design, (8)	6





	Design for Use, Reuse and Sustainability and (9) Test the prototype. And additionally, students will also learn topic like (10) Ethics in Design.	
3	Project Management: PM Foundations, Project management processes, Project execution, Project closing, Global issues in PM, Product-based planning, PM documents	14

Suggested Theory Distribution

The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	30%	40%	15%	10%	00%

References Books:

1. Designing for Growth: a design thinking tool kit for managers, Jeanne Liedtka and Tim Ogilvie, Columbia Business School Publishing
2. Eva Dijksterhuis, Gilbert Silvius, “The Design thinking approach to projects”, PM World Journal Vol. V, Issue VI, June 2016, pp. 1-15
3. Guide to the Project Management Body of Knowledge (PMBOK® Guide), Fifth Edition, Project Management Institute, Inc.
4. Wysocki, Robert K. (2014a). Effective Project Management: Traditional, Agile, Extreme, 7th Edition, John Wiley & Sons, Inc.
5. Wysocki, Robert K. (2014b). Effective Complex Project Management: An Adaptive Agile Framework for Delivering Business Value, J. Ross Publishing.

Instructional Method:

1. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
2. The internal evaluation will be done based on continuous evaluation of students in the laboratory and classroom.
3. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
4. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources

1. <http://nptel.ac.in/syllabus/107106009/>





Subject Code: 01AE0701

Subject Name: Project 1

B.Tech. IV Year (Sem-7)

Type of course: Engineering Science

Prerequisite: None

Rationale: This is a laboratory-oriented subject focusing on enhancing practical, design, presentation and project management skills required for Power Electronics. This is based on the topics/subjects already covered in previous semesters and subjects of current semester.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
0	0	12	6	0	0	50	25	25	100





Subject Code: 01AE0711
Subject Name: Computer Aided Design
B.Tech. IV Year

Type of course: Engineering Science

Prerequisite: None

Rationale: Nowadays computer have become important for there application in various stages of product development. In this course student will understand how the computer stores and represent the design data and use of computer in design viz. geometric modelling and finite element analysis.

Course Outcome:

1. Explain the application of computer in product development.
2. Prepare DDA and Bresenham's algorithms to create line and circle.
3. Explain various methods to generate solids and surface model.
4. Apply different geometric transformation like translate, rotate, scale, etc. to 2-D and 3-D model.
5. Formulate problems to calculate stress-strain, deformation and temperature distribution in 1-D element.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Sr. No.	Content	Teaching Hours
1.	Introduction: Product cycle, CAD in design process of product cycle, evaluation criteria for CAD/CAM system, Coordinate Systems: Screen Coordinate System, Working Coordinate System, Model Coordinate System. Generation algorithm Line and Curve: DDA, Bresenham's algorithms. Graphics exchange standards.	6





2.	Curves, Surfaces and solids: Parametric representation of lines: points on a line, parallel and perpendicular lines, Intersection of lines. Parametric representation of circle, recursive method. Synthetic Curves: Cubic Spline and Bezier Curve: equation, properties and blending, advantages of B-Splines, Concept of continuity. Various types of surfaces and their application. Various types of solids and their application	10
3.	Geometric Transformations: Homogeneous representation; Translation, Scaling, Reflection along different axis, Rotation along different axis, Shearing in 2D and 3D; Orthographic projections. Window to View-port transformation.	8
4.	Finite Element Analysis: Stress-strain relation and generalized Hooke's Law, Plane stress and strain conditions; Total Potential Energy concept; Basic procedure Finite Element Analysis. 1-D Analysis: Concept of natural coordinates and Shape function, strain - displacement matrix, stiffness matrix - derivation for structural problems, properties. 1-D structural problems with penalty approaches and elimination, 1-D thermal and fluid problems. Trusses and Beams: stiffness matrix, truss problems to find displacement, reaction and stresses in truss members. Structural analysis by Euler-Bernoulli beam element. Higher Order Element: CST element stiffness matrix formulation, shape functions and applications of Quad and axisymmetric elements.	25

Suggested Theory Distribution

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Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	30%	40%	15%	10%	00%

Reference Books:

1. Ibrahim Zied, CAD / CAM: Theory and Practice, McGraw-Hill
2. Hearn E J and Baker M P, Computer Graphics, Pearson.
3. Introduction to Finite Elements in Engineering, Chandrupatla T. R. and Belegunda A. D., PHI.
4. A First Course in the Finite Element Method, D Logan, Thompson Learning
5. An Introduction to Finite Element Method, J N Reddy, McGraw - Hill.
6. Concepts and Applications of Finite Element Analysis, R D Cook, Wiley India.

List of Experiments:

1. Introduction to 3-D modelling software.
2. advanced 3-D modelling.





3. 3-D model editing.
4. Assembly of 3-D modeled parts.
5. Surface modelling.
6. Understanding of GD & T - Create 2D engineering drawings using functional GD&T using manufacturing Surface Roughness symbol
7. Industrial Use of GD & T –Using Form , Profile , Runout orientation and Location Control Feature.
8. FEA of 1-D structural and trusses problems.
9. FEA of 1-D thermal problems.
10. FEA of 1-D fluid problems.
11. FEA of 2-D structural and thermal problems





Subject Code: 01AE0712

Subject Name: Industrial Management and Operation Research
B.Tech. IV Year

Type of course: Engineering Science

Prerequisite: Nil

Rationale: Operations Research now a day widely used in the area of decision making for the real-life problems. Managers and decision makers get idea for optimizing and approximating industrial problems. They not only strive to devise appropriate measures for problem solving but also apply scientific techniques to monitor the organizations ongoing activities such as production mix, transportation, queuing, assignment, dynamic, Integer, goal and game problem.

Course Outcome:

1. Students will be able to describe characteristics and scope of OR.
2. Students will be able to define and formulate mathematical problems.
3. Students will be able to select optimal problems solving techniques for a given problem using LP.
4. Students will be able to demonstrate and solve simple models of Game theory.
5. Students will be able to evaluate optimum solution using dynamic programming for different applications.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	2	0	5	50	30	20	25	25	150

Sr. No.	Content	Teaching Hours
1.	Operations Research: Origin of Operation Research, Historical Standpoint, Methodology, Different Phases, Characteristics, Scope and Application of Operations Research.	05
2.	Linear Programming Problem: Introduction, Requirement of LP, Basic Assumptions, Formulation of LP, General Statement of LP, Solution techniques of LP: Graphical Methods, Analytical Methods: Simplex, Big M and Two Phase, Sensitivity Analysis, Primal and Dual Problems, Economic Interpretation.	06





3.	Transportation and Assignment: Transportation Problems definition, Linear form, Solution methods: North west corner method, least cost method, Vogel's approximation method. Degeneracy in transportation, Modified Distribution method, Unbalanced problems and profit maximization problems. Transshipment Problems. Assignment Problems and Travelling sales man Problem.	06
4.	Queuing Theory: Basis of Queuing theory, elements of queuing theory, Kendall's Notation, Operating characteristics of a queuing system, Classification of Queuing models, Preliminary examples of M/M/1:∞/FCFA	06
5.	Inventory Control: Inventory classification, Different cost associated to Inventory, Economic order quantity, Inventory models with deterministic demands, ABC analysis.	06
6.	Replacement theory: Introduction, Replacement of capital equipment which depreciated with time, replacement by alternative equipment, Group and individual replacement policy.	05
7	Game Theory: Introduction, Characteristics of Game Theory, Two Person, Zero sum games, Pure strategy. Dominance theory, Mixed strategies (2x2, mx2), Algebraic and graphical methods.	05
8	Project Management: Introduction to PERT and CPM, critical Path calculation, float calculation and its importance. Cost reduction by Crashing of activity.	05
9	Industrial Management: Introduction, Production Planning and Control, Product design, Value analysis and value engineering, Plant location and layout, Equipment selection, Maintenance planning, Job, batch, and flow production methods, Group technology, Work study, Time and motion study, Incentive schemes, Work/job evaluation, Inventory control, Manufacturing planning: MRP, MRP-II, JIT, CIM, Quality control, Statistical process control, Acceptance sampling, Total quality management, Taguchi's Quality engineering. Forecasting, Scheduling and loading, Line balancing, Break-even analysis.	05

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	30%	40%	15%	10%	00%

Reference Books:





1. Operations Research: An Introduction by Hamdy Taha, Pearson
2. Operations Research by A M Natarajan, P Balasubramani, A Tamilarasi, Pearson Education Inc
3. Operations Research by P Mariappan, Pearson
4. Operations Research by H N wagner, Prentice hall.
5. Optimization in Operations Research by Ronald Rardin, Pearson Education Inc.
6. Operations Research by R. Paneerselvam, Prentice Hall of India Pvt. Ltd.
7. Quantitative Techniques in Management by N D Vohra, Tata McGraw-Hill

List of Experiments:

1. Exercise formulation of linear programming problems.
2. Exercise on Graphical solution of linear programming problems
3. Exercise and case problems on Simplex and Big M Problems
4. Exercise and case problems on Dual and Primal LP Problems
5. Exercise and case problems on Transportation Problems.
6. Exercise and case problems on Assignment and Travelling sales man Problems
7. Exercise and case problems on Queuing theory
9. Exercise on Inventory model
10. Exercise on Replacement theory
11. Exercise and case problems on PERT/CPM





Subject Code: 01AE0721
Subject Name: Automobile Testing
B.Tech. IV Year – (Sem-7)

Type of course: Under Graduate

Prerequisite: Basics of automobile vehicle construction and working.

Rationale: To familiarize the students with different techniques used for automobile performance measurement and testing.

Course Outcome

1. Describe basic of vehicle performance.
2. Explain Testing methods implemented for measurement of different vehicle performance parameter.
3. Discuss about the safety testing of the vehicle.
4. Analyze automobile vehicle electrical circuit.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Sr.	Content	Teaching Hours
1	Introduction: Vehicle testing organizations, Need of vehicle testing, Hierarchy of vehicle testing, System level approval and whole vehicle approval, Type of approval and conformity of production tests.	03
2	Vehicle System Testing: Gradeability test, turning circle diameter test, Steering Impact test, Steering effort test, Maximum speed and acceleration, brake testing on the road, Mechanism of corrosion-three chamber corrosion testing, Wind tunnel testing, Road testing, two wheel & four-wheel dynamometers, Vehicle testing lanes - side slip testers, Wheel alignment testing	14
3	Safety testing: Active and passive safety, Wheel rim testing for cornering and radial fatigue, Fire resistance test, Bumper test, Crash test, Side impact test, Rollover test, Safety belt test, Airbag test, Safety belt anchorages, Seat anchorages & head restraints, Occupant protection Impact test, Side door intrusion test.	08





4	<p>Electrical System Testing: Wiring diagram for 2, 3 and 4-wheeler vehicles, Buses and Commercial vehicles, Charging System Testing, Ignition System Testing, Lighting System Testing, Electrical Equipment and accessories Testing. Battery: Performance tests, Battery Capacity, Efficiency, Gravimetric test.</p>	10
5	<p>Engine, Fuel system and Emission testing: Engine Testing- bhp, ihp, types of dynamometers, Engine Analyzers, Orsat apparatus, Infrared gas analysers and gas meter.</p>	06
6	<p>Automobile testing standards: Overview and study of testing standards-AIS testing standards, Euro Standards, SAE standards. ISO26262 standards for functional safety of electrical and/or electronic systems in automobiles.</p>	3

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching- learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	30%	40%	15%	10%	00%

Reference Books:

1. Raymond M. Brach and R. Matthew Brach, "Vehicle Accident Analysis and Reconstruction Methods", SAE International, 2011
2. J. G. Giles – Vehicle operation and performance, Wildlife Publications, London, 1969.
3. W. H. Crouse and L. Anglin – Motor vehicle inspection, McGraw Hill Book Co. 1978.
4. Dr. N.K.Giri- Automotive technology – Khanna publishers, 2009
5. Ulrich Seiffert and Lothar Wech, "Automotive Safety Handbook", SAE International, 2007

List of Experiments (Any 10)

1. To study the performance characteristics of automobile petrol engine
2. To study the performance characteristics of automobile diesel engine
3. To study the performance characteristics of automobile engine operated on alternate fuel (CNG, LPG, Bio Diesel).
4. Testing and Calibration of fuel injection pump.
5. Calibration of Diesel Injectors.
6. Head light beam alignment and testing.
7. Measurement of Brake stopping distance.





8. Vehicle testing on chassis dynamometers.
9. Analyze the emissions of petrol, diesel and CNG vehicles using exhaust gas analyzer.
10. Performance of Gradability test.
11. Measurement of steering effort.
12. Study Pass by noise test.

List of Open Source Software/learning website

1. <http://nptel.ac.in/>
2. <http://ocw.mit.edu/>





Subject Code: 01AE0722

Subject Name: Automotive and Combustion Engine Technology
B.Tech. IV Year – (Sem-7)

Type of course: Advanced / Application

Prerequisite: Automobile engines

Rationale: This course is in persistence to fundamentals of internal combustion engines and its combustion patterns. The course focuses at imparting knowledge and process of combustion regarding automobile engines especially in GDI engines and CAI engines. Students inspect the combustion process and characteristics of different types of internal combustion engines: spark ignition, diesel, stratified-charge, GDI and HCCI engines.

Course Outcome

1. Students will describe basic concepts of combustion process in diesel engine.
2. Students will describe basic concepts of combustion process in spark ignition engine.
3. Students will describe basic concepts of combustion process in HCCI engine.
4. Students will describe basic concepts of combustion process in GDI engine.
5. Students will describe and analysis effect of super charging in petrol engine.
6. Students will describe and analysis effect of stratification in engine.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Sr.	Content	Teaching Hours
1	Combustion in SI and CI engines Stages of combustion in SI and CI engines, Abnormal combustion in SI engines, factor affecting knocking, control of knocking, Turbocharged SI engines	05
2	Overview of gasoline direct injection engines Introduction, outline of direct injection gasoline engines, Differentiation between port fuel injection and direct injection along with carbureted engines, potential and technologies for high efficiency direct injection gasoline engine, high pressure fuel injection system, exhaust emissions and after treatment devices	08
3	Stratified charge combustion in direct injection gasoline engines Introduction, combustion processes in direct injection gasoline engines, Modes of combustion, types of combustion, wall guided, spray guided and air guided, Emission reduction.	08





4	Turbocharged direct injection spark ignition engine Introduction, historical background: turbocharging for high specific output, problems and challenges associated with turbocharging spark ignition engines, advantages of uniting direct injection and turbocharging in spark ignition engines, challenges of applying direct injection to a turbocharged spark ignition engine	08
5	Direct injection gasoline engines with auto ignition combustion Introduction, principle of auto ignition combustion in the gasoline engines, approaches to auto ignition combustion operation in gasoline engines, operation and control of direct injection gasoline engines with auto ignition combustion.	08
6	Homogenous Charge Compression Ignition (HCCI) Engines Introduction, HCCI combustion fundamentals, Gasoline HCCI engine, Diesel HCCI combustion engines, operational limits and emissions.	08

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	30%	40%	15%	10%	00%

Reference Books:

1. Advanced Direct Injection Combustion Engine Technologies and Development. Vol.1
2. Gasoline and gas engines by Hua Zhao
3. HCCI and CAI engines for the automotive industry by Hua Zhao
4. Internal combustion engine by v Ganesan.
5. Internal combustion engine by Heywood.

List of Experiments:

1. Study of combustion process of diesel engine.
2. Study of combustion process of spark ignition engine
3. Study of Stratified charge combustion in direct injection gasoline engines.
4. Study of direct injection gasoline engines with autoignition combustion.
5. Study of Turbocharged direct injection spark ignition engine.
6. Study of Homogenous Charge Compression Ignition (HCCI) Engines.





Subject Code: 01AE0731
Subject Name: Vehicle Testing
B.Tech. IV Year

Type of course: Engineering

Prerequisite: Basics of an Automobile Engine, Automotive system and Transmission

Rationale: The course aims to impart basic understanding of the importance and necessity of vehicle testing.

Course Outcome:

1. To provide students an insight into the concepts of engine, fuel and emission testing.
2. The importance of noise generation and control methods
3. Gain the knowledge of vehicle performance and its testing
4. Gain knowledge about real time vehicle components and system testing

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Sr.	Content	Teaching Hours
1	Introduction: Vehicle testing organizations, Need of vehicle testing, Hierarchy of vehicle testing, Individual component approval System level approval and whole vehicle approval, Type of approval and conformity of production tests.	03
2	Engine, Fuel system and Emission testing: Engine Testing- Brake Power Measurement methods, Indicated Power Measurement Methods, Friction Power Measurement Methods, Air and Fuel Supply Measurement, Engine Exhaust gases Measurement methods for CO, HC, NOx, Orsat apparatus	08
3	Noise and Noise Control: Sound wave –properties Automotive noise criteria, Noise inside and outside the vehicle, Human response to sound, Sources of noise-intake, exhaust, combustion, mechanical, auxiliary assemblies, wind, transmission, brake squeal, structural noise, Noise control method, control of in cabin noise Pass by noise testing method.	06
4	Vehicle Performance Testing: Methods for evaluating vehicle performance- energy consumption friction losses, transmission line losses, heat balance, performance engine, gear box, differential,	08





	aerodynamic loss, emission etc., Effect of vehicle condition Tyre and road condition and traffic condition and driving habits on fuel, Gradeability test, Turning circle diameter test, Steering Impact test, Steering effort test.	
5	On Road testing: Initial inspection, PDI, Engine running in and durability, Intensive driving, Maximum speed and acceleration, brake testing on the road, hill climbing, handling and ride characteristics, Safety, Mechanism of corrosion- three chamber corrosion testing, Wind tunnel testing, Road testing, Road Load Data Acquisition for Automotive systems	06
6	Wheels and Brake Testing: Two wheel & four-wheel dynamometers, Vehicle testing lanes - side slip testers, Wheel alignment testing, Wheel balancing, Brake test.	06
7	Vehicle Component and System testing: Wheel rim testing for cornering and radial fatigue, Bumper test, Crash test, Dummies crash test sensor, sensor mounting positions, Side impact test, Rollover test, Safety belt test, Safety belt anchorages, Seat anchorages & head restraints, Side door intrusion test, Head light alignment and light intensity testing.	08

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	30%	40%	15%	10%	00%

Reference Books:

1. Raymond M. Brach and R. Matthew Brach, "Vehicle Accident Analysis and Reconstruction Methods", SAE International, 2011
2. J. G. Giles – Vehicle operation and performance, Wildlife Publications, London, 1969.
3. W. H. Crouse and L. Anglin – Motor vehicle inspection, McGraw Hill Book Co. 1978.
4. Dr. N.K.Giri- Automotive technology – Khanna publishers, 2009
5. Ulrich Seiffert and Lothar Wech, "Automotive Safety Handbook", SAE International, 2007

List of Experiments (Any 10)

1. To study the performance characteristics of automobile petrol engine
2. To study the performance characteristics of automobile diesel engine
3. To study the performance characteristics of automobile engine operated on alternate fuel (CNG, LPG, Bio Diesel).
4. Testing and Calibration of fuel injection pump.





5. Calibration of Diesel Injectors.
6. Head light beam alignment and testing.
7. Measurement of Brake stopping distance.
8. Vehicle testing on chassis dynamometers.
9. Analyze the emissions of petrol, diesel and CNG vehicles using exhaust gas analyzer.
10. Performance of Gradability test.
11. Measurement of steering effort.
12. Study Pass by noise test.

List of Open Source Software/learning website:

1. <http://nptel.ac.in/>





Subject Code: 01AE0732

Subject Name: Automobile Electrical System Testing
B.Tech. IV Year – (Sem-7)

Type of course: Automobile Electrical System Testing

Prerequisite: basic knowledge of Electrical Motor, Generator, Electrical cables, Electrical automobile devices

Rationale: The course aims to impart testing skills and understanding of automotive electrical systems, equipment and find the fault in working of them.

Course Outcomes:

1. Understand the basic auto electrical systems.
2. Understand the layout of wiring and connections of electrical systems in automobiles.
3. Understand the working of different electrical components used in automobiles.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Sr.	Content	Teaching Hours
1	Automobile Electrical system basic: Storage, Distribution systems & Generation of electric energy, Lighting system, 12 Volt & 24 Volt systems. Insulation and earth (negative and positive earthing) system, types of cables used, color codes, cable connectors, wiring, fuse system, circuitbreakers, Relays, Switches. Layout and Wiring diagram for vehicles, Buses and Commercial vehicles.	5
2	Battery System Testing: Various Types of Automotive batteries. Principles, Construction & working of lead acid battery, dry battery & Alkaline battery. Performance tests: Battery Capacity, Efficiency, Gravimetric test and efficiency. Battery failures test. Recharging test: Electronic circuits, battery charging current, charging methodology	07
3	Starting System Testing: Principle, starting torque, engine resistance torque, and power required for starting of engine. Starter motor and its circuit test. Types of drive mechanisms: bendix drive, pinion type, axial sliding armature starter test. Automatic switches for starting, cold starting devices: Glow plug & choke test.	08





4	Charging System Testing: Need. Charging circuit test, Testing of charging system components: D.C. dynamo, AC dynamo, flywheel magneto charging system and Alternator (more emphasis on Alternators). Testing of charging system controlling & regulators: Relay/cut- out, voltage and current regulator, compensated voltage and current regulator, electronic regulator, regulator characteristics.	07
5	Ignition System Testing: Requirements. Testing of ignition system components: Ballast Resistance, Ignition coil characteristics, spark advance mechanism, spark plug, ignition timing, multi-cylinder distributor, Distributor (contact breaker ignition system), electronic ignition systems test. Voltage and current required for Spark test.	05
6	Lighting System Testing: Testing of lighting system of vehicle, head lamp, tail lamp, brake lamp, parking lamp etc, other types of lamps used. Testing of reflector, head lamp angle and position, fog lamp, side indicator lamp, warning lights and flashers, instrument panel lights, body interior lights. Safety indicator lights. Engine compartment & Rear boot lamps.	08
7	Electrical Equipment and accessories Testing: AC & DC horns' test, electronic horn's test, reverse horn's test. Warning Buzzer. Sensors - Instrument Cluster panel, fuel gauges, oil temperature gauge, warning light sensors, coolant temperature gauge, speedometer, Odometer, tachometer, trip meter, oil level indicator, parking brake indicator, direction indicators. Windscreen wipers, windscreen washers, power windows, doors locks, Rear wind shield glass heating system. Rear view mirror Adjusting, Day light regulating system. Central Locking system.	05

Suggested Theory Distribution

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Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	30%	40%	15%	10%	00%

References

1. Automobile Electrical and Electronics, by A. L. Statini, Delmar Publications
2. Automotive Electrical Equipments, by P. L. Kohli, Tata McGraw Hill Pub. Co. Ltd.
3. Automobile Electrical & Electronic Systems, by Tom Denton, Allied Publishers Pvt. Ltd., Chennai.
4. Automobile Electrical & Electronic Equipments, by Young, Griffithe, The English Language Book Co., London.
5. Automotive mechanics by W. Crouse, TMH





List of experiments

2. Introductory testing of automobile electrical systems.
3. Testing of automobile battery System.
4. Testing of electrical engine starting system.
5. Testing of different types of battery charging system.
6. Testing of different types of ignition systems.
7. Testing of automobile lighting system.
8. Testing of different types of gauges, sensors and meters of an automobile.
9. Testing of various electrical equipment like Windscreen wipers, power windows, Rear wind shield glass heating system, Central Locking system.

List of Open Source Software/learning website:

1. <http://www.nptel.ac.in/courses>





Subject Code: 01AE0801

Subject Name: Project 2

B.Tech. IV Year (Sem-8)

Type of course: Engineering Science

Prerequisite: None

Rationale: This is a laboratory-oriented subject focusing on enhancing practical, design, presentation and project management skills required for Power Electronics. This is based on the topics/subjects already covered in previous semesters and subjects of current semester.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
0	0	12	6	0	0	50	25	25	100





Subject Code: 01AE0811

Subject Name: Vehicle Modeling and Analysis

B. Tech. Year IV

Type of course: Engineering Science

Prerequisite: Automobile System and Transmission, Automobile Engine, Vehicle Dynamics.

Rationale: Every modern vehicle development goes through complete modeling and simulation cycle before it is physically tested. Modeling and simulation have become vital part of modern vehicle development. Students must understand how entire vehicle is modeled and simulated in different software.

Course Outcome:

1. Explain how basic 1-D and 3-D modeling works and working of electrical vehicle modeling and simulation.
2. Apply basic modeling and simulation techniques to develop different engine component.
3. Analyze different automobile system for dynamic stability and factor of safety.
4. Simulate working of electrical vehicle with different configuration.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Sr.	Contents	Teaching Hours
1	1D Simulation Engine: Introduction, Concept of 1-D simulation, Available Software for simulation, General user interface, General input data for engine, cylinder, injector, etc. modes of combustion – self-ignition, assisted ignition and HCCI combustion	8
2	Automobile System analysis: Introduction to MDB Software , General user interface, types of constrain to define assembly, applying motion and force. Modelling and simulation: suspension system, steering system, transmission system, braking system, Tyre and road traction, analysis of rear wheel lockup and proper brake proportioning. Stress Analysis: Steering knuckle, King-pin, wheel axle, drive axle. Chasses analysis:	20





	Importance of location of CG, rolling and pitching of vehicle, crash test and crumple zone analysis.	
3	3D Engine simulation: Introduction to thermal and flow analysis in engine cylinder, modelling of cylinder and piston for combustion analysis, valve body and valve lift, valve lift profile, port flow simulation to analyse the air fuel mixing, combustion chamber simulation to analyse the engine performance parameters and emission, case setup for full cycle simulation.	10
4	Electrical Vehicle Simulation: Overview of Hybrid electrical vehicle model, Modelling – Electrical system, mechanical and thermal system, logic and control system at a system level and component level, power quality analysis, optimization and report generation.	10

Suggested Theory Distribution

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Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	30%	40%	15%	10%	00%

Reference Books:

1. Vehicle Dynamics (Modeling and Simulation) by Dieter Schramm
2. Quasi-Dimensional Simulation of Spark Ignition Engines by Alejandro Medina
3. Engine Modeling and Control by Rolf Isermann
4. Introduction to Modeling and Control of Internal Combustion Engine Systems by LinoGuzzella and Christopher H. Onder
5. Modelling Diesel Combustion by A. Lakshminarayanan, Yogesh V. Aghav

List of Experiments

1. To analyze the single cylinder engine with 1 D simulation.
2. To analyze the multi-cylinder engine with 1 D simulation.
3. To create a model of the Steering system and simulate in MDB software.
4. To create a model of the Suspension system and simulate in MDB software.
5. To create a model of a chassis system and simulate in MDB software.
6. To do stress analysis on steering knuckle.
7. To create a model and simulate engine for port flow analysis.
8. To create a model and simulate engine for combustion analysis.
9. To setup simulation for full engine cycle analysis.
10. To simulate transmission system for an anelectricl vehicle





Subject Code: 01AE0812

Subject Name: Advanced Manufacturing Process

B. Tech. Year IV

Type of course: Engineering Science

Prerequisite: Manufacturing Processes-I, Manufacturing Processes-II

Rationale: Understanding of Advancement in Manufacturing Processes

Course Outcomes:

1. Students will describe basic concepts of Computer Integrated Manufacturing applications and benefits in Automobile Industries.
2. Students will prepare CNC programs for manufacturing of different geometries on milling and lathe machines.
3. Students will form different components using diverse practices of group technology
4. Students will select layouts of FMS for industrial applications
5. Student will design and implement concept of automated assembly line in automobile industry
6. Student will design 3D drawings and able to fabricate the parts with the help of 3D technology.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Sr.	Contents	Teaching Hours
1	Introduction to computer integrated manufacturing: Concepts of Computer Aided and Integrated Manufacturing, Objectives, Types of manufacturing system, Conventional manufacturing systems, Evolution of CIM, Advantages of CIM, Role of manufacturing engineers in automobile industry, Application of CIM in Automobile Industry	3
2	NC/CNC machine tools: NC and CNC Technology: Types, Classification, Specification and components, Construction Details, Controllers, Sensors and Actuators, CNC hardware, step/servo motors. Axis designation, NC/CNC tooling. Fundamentals of Part programming, Types of format, Part Programming for lathe and milling machine operations, canned Cycles.	12





3	Non-conventional machining Introduction to advanced machining processes and their classification, Ultrasonic machining, Water jet cutting (WJC) and Abrasive water jet machining (AWJM), Electric discharge machining (EDM), Laser beam machining (LBM) Plasma arc machining (PAM), Electron Beam Machining (EBM), Electro chemical machining (ECM),	5
4	Robot technology: Introduction: Robot Anatomy, Laws of Robot, Human System and Robotics, Coordinate system, Specifications of Robot. Power sources, actuators and Transducers, Robotic Sensors, Grippers, Robot Safety, Robot Applications, Economic Considerations of Robotics system, Concepts of Computer Vision and Machine Intelligence	6
5	Flexible manufacturing system: Introduction & Component of FMS, Needs of FMS, Objectives, Types of flexibility and FMS, FMS lay out and advantages. Automated material handling system: Types and Application, Automated Storage and Retrieval System, Automated Guided Vehicles, Cellular manufacturing, Tool Management, Tool supply system, Tool Monitoring System, Flexible Fixturing, Flexible Assembly Systems.	6
6	Assembly lines: Fundamental of Assembly line and Automated Assembly line, Concept of transfer line, Design and concept of automated assembly line.	6
7	3D Printing & Prototype: Introduction, Types, 3D printing process and its working, Design Process, software programs, Prototyping, Introduction 3D Scanning.	5

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	30%	40%	15%	10%	00%

Reference Books:

1. V. K. Jain, Advanced Machining Processes, Allied Publishers, 2009.
2. Gary F. Benedict, Nontraditional Manufacturing Processes, Taylor & Francis, 1987.
3. J. A. McGeough, Advanced Methods of Machining, Springer, 1988.
4. Hassan El-Hofy, Advanced Machining Processes:
5. Nontraditional and Hybrid Machining Processes, McGraw-Hill Prof Med/Tech, 2005.
6. V. K. Jain, Introduction to Micromachining, Alpha Science International Limited, 2010 Modern Machining Processes, Pandey, P.C., and Shan, H.S. Tata McGraw-Hill Education





List of Experiments:

1. CNC part Programming: Lathe jobs
2. CNC part Programming: Milling jobs
3. Study of robotics technology
4. Study of automated assembly line.
5. 3D Printing of different components.





Subject Code: 01AE0821
Subject Name: Special Purpose Vehicle
B.Tech Year-IV

Type of course: Engineering Science

Prerequisite: Automobile System

Rationale: The course is designed to give knowledge of various special purpose vehicles existing systems and their applications in the present context.

Course Outcome:

1. Students will be able to classify special type of vehicles based on the need and purpose.
2. Students will be able describe the working principles of different system of SPV.
3. Students will be able to explain design considerations and features of special purpose vehicles.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Content:

Sr. No.	Contents	Teaching Hours
1	Introduction and requirements of off road: Classification of Special Purpose Vehicles: based on applications, Wheel type & Track type vehicle, Power Plants, Transmission, Final Drive, Multi-axle vehicles.	7
2	Earth Moving Machines: Constructional & working features: of different types of earth moving machinery such as Tippers, loaders, Excavators, Dumpers, Dozers, Fork Lift truck, Road rollers, Rippers, Scrapers and shovels.	10
3	Tractors and Farm equipment: Classification of tractors: based on lay out of wheeled tractor, power take off unit, Transmission & Drive line, Steering, Braking system, Wheels & Tires, Hydraulic system, Auxiliary Systems, special implements, accessories and attachments. Tractor trolley.	10
4	Mobile Cranes: Basic characteristics of truck cranes, stability & design features, control systems & safety devices.	6





5	Miscellaneous Vehicles: Articulated Vehicles, Special Purpose Electric Vehicles, Solar Vehicles and Hybrid Vehicles, Ambulance, Fire extinguishing vehicle. Semi-trailer, fifth wheel mechanism	6
6	Ergonomic applications: Human factors in special purpose vehicle design with reference to comfort, convenience and safety, effects of noise, vibration and thermal stresses on human performance. Economics of special purpose vehicle utilization.	6

Suggested Theory Distribution

The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	30%	40%	15%	10%	00%

Reference Books:

1. Y. Pokras and M. Tushnyakov, “Construction Equipment Operation & Maintenance”, MIR, Moscow.
2. A. Astskhov, “Truck Cranes”, MIR, Moscow.
3. E.G. Poninson, “Motor Graders”, MIR, Moscow.
4. Hand book of earth moving machinery Central Water & Power Commission (Govt. of India)
5. N. Rudenko, “Material Handling Equipment”, M.R.
6. Sheldon, R.Shacket, “Electric Vehicles”, Domus Books, New York
7. David A. Day, Neal B. H. Benjamin, “Construction Equipment Guide”, Wiley;
8. C.P. Nakra, “Farm Machines and Equipment”, Dhanpat Rai Publications, New Delhi

List of Experiments:

1. Study of tipping mechanism of a dumper
2. Study of forklift truck
3. Study of operation of a truck crane
4. Study of technical & operational features of a tractor
5. Study of technical & operational features of a power scraper
6. Study of technical & operational features of a power hoe and shovel
7. Study of an extinguishing vehicle

List of Open Source Software/learning website:

1. Videos on special purpose vehicles





Subject Code: 01AE0822

Subject Name: Electric Vehicles

B. Tech. Year IV

Type of course: Engineering Science

Prerequisite: Automobile Electricals

Rationale: -The course aims to impart basic understanding of Electrical Vehicles and give the general idea of Indian and international scenario on EV.

Course Outcomes:

1. Understanding the working of electrical vehicles.
2. Understanding of Architecture of electrical vehicles.
3. Understanding of electrical vehicle batteries and battery management system.
4. Working of charging station and EV scenario.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	2	0	5	50	30	20	25	25	150

Contents:

Sr.	Topics	Teaching Hours
1	Introduction: Electric Vehicle: History, Components of Electric Vehicle, Comparison with Internal combustion Engine: Technology, Comparison with Internal combustion Engine: Benefits and Challenges, EV classification and their electrification levels. EV Terminology.	6
2	Motor Torque Calculations for Electric Vehicle: Calculating the Rolling Resistance, calculating the grade resistance, Calculating the Acceleration Force, Finding the Total Tractive Effort, Torque Required on The Drive Wheel	6
3	Electric Vehicle Architecture Design: Types of Electric Vehicle and components, Electrical protection and system requirement, Photovoltaic solar based EV design, Battery Electric vehicle (BEV), Hybrid electric vehicle (HEV), Plug-in hybrid vehicle (PHEV), Fuel cell electric	12





	vehicle (FCEV), Electrification Level of EV, Comparison of fuel vs Electric and solar power, Solar Power operated Electric vehicles	
4	Electric Drive and controller: Types of Motors, Selection and sizing of Motor, RPM and Torque calculation of motor, Motor Controllers, Component sizing, Physical locations, Mechanical connection of motor, Electrical connection of motor	7
5	Energy Storage Solutions (ESS): Cell Types (Lead Acid/Li/NiMH), Battery charging and discharging calculation, Cell Selection and sizing, Battery layouting design, Battery Pack Configuration, Battery Pack Construction, Battery selection criteria	7
6	Electric Vehicles charging station: Type of Charging station, Selection and Sizing of charging station, Components of charging station, Single line diagram of charging station, Electric vehicle integration issues-Battery Performance and cost, Driving Range, Charging Infrastructure and Vehicle cost	6
7	Indian and Global Scenario: Technology Scenario, Market Scenario, Policies and Regulations, Payback and commercial model, Payback and commercial model, Polices in India	4

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	30%	40%	15%	10%	00%

Reference Books:

1. Iqbal Hussein, Electric and Hybrid Vehicles: Design Fundamentals, CRC Press, 2003.
2. Mehrdad Ehsani, Yimi Gao, Sebastian E. Gay, Ali Emadi, Modern Electric, Hybrid Electric and Fuel Cell Vehicles: Fundamentals, Theory and Design, CRC Press, 2004.
3. James Larminie, John Lowry, Electric Vehicle Technology Explained, Wiley, 2003.

List of Tutorials

1. To study about different electric vehicle components.
2. To study about electric vehicle architecture design.
3. To study about electric vehicle drive line.
4. To study about Energy storage solution system.
5. To study about electric vehicle charging system.

Open ended problem:

1. To build an electric vehicle using battery and controller to run a single wheel on motor.





List of Open Source Software/learning website:

1. NPTEL- <http://nptel.ac.in/>





Subject Code: 01AE0831

Subject Name: Vehicle Maintenance & Garage Practice

B. Tech. Year IV

Type of course: Engineering. Science

Prerequisite: Automobile system

Rationale: Understanding of general vehicle maintenance

Course Outcomes:

1. Learning of maintenance types/techniques.
2. Learning of different garage equipments and practices.
3. Learning of workshop documents and records.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

SR.	Topics	Teaching Hours
1	Maintenance Practices: Requirements and importance of service & maintenance, Preventive, Predictive & Breakdown maintenance, daily, weekly and monthly maintenance schedule, Periodic maintenance scheduled chart.	4
2	Measuring and Instruments: Measuring instruments for wear, Fuel consumption, speed, acceleration, vibration, noise. Methods used for measurement of fuel consumption. Gas analyzer	4
3	Service, safety and Reliability: Automotive service procedures – workshop operations – workshop manual - vehicle identification. Safety – Personnel, machines and equipment, vehicles, fire safety - First aid. Basic tools – special service tools – measuring instruments – condition checking of seals, gaskets and sealants. Scheduled maintenance services – service intervals - Towing and recovering.	8
4	Engine and engine subsystem maintenance General Engine service- Dismantling of Engine components- Engine repair-working on the underside, front, top, ancillaries- Service of basic engine parts, cooling and lubricating system, fuel system, Intake and Exhaust system, electrical system - Electronic fuel injection and engine management service - fault diagnosis-servicing emission controls	7





5	Transmission and driveline maintenance Clutch- general checks, adjustment and service- Dismantling, identifying, checking and reassembling transmission, transaxle- road testing- Removing and replacing propeller shaft, servicing of cross and yoke joint and constant velocity joints- Rear axle service points- removing axle shaft and bearings- servicing differential assemblies- fault diagnosis.	7
6	Steering, brake, suspension & wheel maintenance Inspection, Maintenance and Service of Hydraulic brake, Drum brake, Disc brake, Parking brake. Bleeding of brakes. Inspection, Maintenance and Service of Mc person strut, coil spring, leaf spring, shock absorbers. Dismantling and assembly procedures. Wheel alignment and balance, removing and fitting of tyres, tyre wear and tyre rotation. Inspection, Maintenance and Service of steering linkage, steering column, Rack and pinion steering	7
7	Auto electrical and air conditioning maintenance Maintenance of batteries, starting system, charging system and body electrical - Fault diagnosis using Scan tools. Maintenance of air conditioning parts like compressor, condenser, expansion valve, evaporator - Replacement of hoses- Leak detection- AC Charging- Fault diagnosis Vehicle body repair like panel beating, tinkering, soldering, polishing, painting	4
8	Workshop management practices: Study of Workshop documents & records like job cards, parts catalogue, parts price list, vehicle history sheet, warranty card, bill & billing procedure of vehicle, logbook of vehicle, customer satisfaction sheet, service book, etc. Customer complaint Handling & consumer cases in case of any dispute.	4

Suggested Theory Distribution

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Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	30%	40%	15%	10%	00%

Reference Books:

1. Automotive Mechanics by William H. Crouse & Donald L. Anglin; Tata McGrawHill Publishing Company Ltd.
2. Automobile systems by Anil Chikara, Satya Prakashan.
3. Automobile Engineering by K.K.Ramlingan, SciTech Publication.
4. Auto mechanics by Joseph Heitner, East West Press.
5. Automotive Service Basics by Pattern and Donald, Pearson Publications.
6. Vehicle Service book.
7. Vehicle Workshop Manual.





8. Parts Price List.
9. Parts catalogue of service station.
10. Job cards of modern service station.

List of experiments (any ten):

1. Study of modern workshop layout.
2. Study of different types of job cards & maintenance schedule chart.
3. Study of measuring, gauging & service equipments.
4. Demonstration on tyre inflator and hydraulic hoist.
5. Demonstration on tyre changer and car washer unit.
6. Performance on wheel balancer.
7. Performance on wheel aligner.
8. Cleaning and testing of petrol injector.
9. Cleaning and testing of different types of nozzles.
10. Bleeding of hydraulic brakes.
11. Overhauling of any component or system of a heavy duty vehicle.
12. Study of different workshop documents & records.





Subject Code: 01AE0832

Subject Name: Vehicle System Diagnostics and Advance Technology
B. Tech. Year IV

Type of course: Engineering Science

Prerequisite: Knowledge of basic concepts of electronics, sensors, and Actuators

Rationale: The course aim to impart testing skills and understanding of automotive electronics systems, equipment and find the fault in working of them.

Course Outcomes:

1. Understand the basic concepts of Automobile electronics
2. Testing of sensors in automobile engineering
3. Testing of actuators in automobile engineering
4. Analyse use of computer and ECM in automobile engineering
5. Identify different faults and error codes and solve them

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Sr.	Topics	Contact Hours
1	Advanced Vehicle Technology: Active and passive safety, airbags, tightening system, forward collision warning systems, child lock, anti-lock braking systems, EBD, traction control system and lane departure warning system, Adaptive cruise control system, Global positioning system, geographical information systems, navigation system, remote keyless entry, smart card system and number plate coding	8
2	Use of Diagnostic tools, equipment and techniques: Diagnostic tools that connect to ECM, Digital Multi-meter, Oscilloscope, Circuit testing, Ignition system tests, Fault and error Codes , OBD II (On board diagnostic II)	10
3	Testing of Different ECM operated System: Engine related systems. Ignition system, computer-controlled petrol fuelling injection systems, Engine management systems, Anti-lock braking systems, Traction control system, Stability Control system, air conditioning, computer-controlled diesel engine system	





4	Testing of Sensors: Testing of speed sensors, Testing of O2 sensors, Testing of MAP sensors, testing of temperature, knock, mass air flow, Ride height	S
5	Testing of Actuator: Testing of petrol Injectors, Testing of Exhaust gas recirculation actuators/valves, testing of motors, Solenoids, ABS actuators, Testing of idle speed control valves.	S

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	30%	40%	15%	10%	00%

Reference Books:

1. Automotive Computer Controlled Systems By Allan W. M. Bonnick, Butterworth- Heinemann A division of Reed Educational and Professional Publishing Ltd
2. Ronald K Jurgen, "Navigation and Intelligent Transportation Systems – Progress in Technology", Automotive Electronics Series, SAE, USA, 1998
3. Ljubo Vlacic, Michel Parent and Fumio Harashima, "Intelligent Vehicle Technologies", Butterworth-Heinemann publications, Oxford, 2001.
4. Sensors and Transducers By Ronald K.Jurgen - SAE 2003
5. Automotive Technology By Jack Erjavec, Robert Scharff Delmar publications Inc 1992

List of Experiments:

1. Introductory testing of automobile electronic systems.
2. Testing of distributor less ignition system.
3. Testing of automotive air conditioning system.
4. Testing of automotive injection system.
5. Testing of ABS systems.
6. Testing of vehicle emission control and management systems.
7. Testing of safety sensors and actuators

List of Open Source Software/learning website:

1. <https://www.araiindia.com/>

Head of the Department
Automobile Engineering
Marwadi University



B. Pharm Syllabus

Bachelor of Pharmacy (B. Pharm)
Ordinances and Regulations
according to
Pharmacy Council of India
Effective from: 2018-2019
(Four-Year full-time UG Course)

Marwadi University
Rajkot

Course Relevance Presented in this Document
by Highlighting with Following Color-code

Employability/
Entrepreneurship/
Skill Development

B. Pharm. Semester: I

Subject Name: HUMAN ANATOMY AND PHYSIOLOGY-I

Subject Code: 13PH0101

Scope: This subject is designed to impart fundamental knowledge on the structure and functions of the various systems of the human body. It also helps in understanding both homeostatic mechanisms. The subject provides the basic knowledge required to understand the various disciplines of pharmacy.

Objectives: Upon completion of this course the student should be able to

1. Explain the gross morphology, structure and functions of various organs of the humanbody.
2. Describe the various homeostatic mechanisms and their imbalances.
3. Identify the various tissues and organs of different systems of human body.
4. Perform the various experiments related to special senses and nervous system.
5. Appreciate coordinated working pattern of different organs of each system

Sr No	Course Contents	Total Hrs
1.	<p>Introduction to human body: Definition and scope of anatomy and physiology, levels of structural organization and body systems, basic life processes, homeostasis, basic anatomical terminology</p> <p>Cellular level of organization: Structure and functions of cell, transport across cell membrane, cell division, cell junctions. General principles of cell communication, intracellular signaling pathway activation by extracellular signal molecule, Forms of intracellular signaling: a) Contact-dependent b) Paracrine c) Synaptic d) Endocrine</p> <p>Tissue level of organization: Classification of tissues, structure, location and functions of epithelial, muscular and nervous and connective tissues.</p>	10
2.	<p>Integumentary system: Structure and functions of skin</p> <p>Skeletal system: Divisions of skeletal system, types of bone, salient features and functions of bones of axial and appendicular skeletal system Organization of skeletal muscle, physiology of muscle contraction, neuromuscular junction</p> <p>Joints Structural and functional classification, types of joints movements and its articulation</p>	10
3.	<p>Body fluids and blood: Body fluids, composition and functions of blood, hemopoiesis, formation of hemoglobin, anemia, mechanisms of coagulation, blood grouping, Rh factors, transfusion, its significance and disorders of blood, Reticulo endothelial system</p> <p>Lymphatic system: Lymphatic organs and tissues, lymphatic vessels, lymph circulation and functions of lymphatic system</p>	10
4.	<p>Peripheral nervous system: Classification of peripheral nervous system: Structure and functions of sympathetic and parasympathetic nervous system. Origin and functions of spinal and cranial nerves</p> <p>Special senses: Structure and functions of eye, ear, nose and tongue and their disorders.</p>	8
5.	<p>Cardiovascular system: Heart – anatomy of heart, blood circulation, blood vessels, structure and functions of artery, vein and capillaries, elements of conduction system of heart and heart beat, its regulation by autonomic nervous system, cardiac output, cardiac cycle. Regulation of blood pressure, pulse, electrocardiogram and disorders of heart.</p>	7

Practical

Practical physiology is complimentary to the theoretical discussions in physiology. Practicals allow the verification of physiological processes discussed in theory classes through experiments on living tissue, intact animals or normal human beings. This is helpful for developing an insight on the subject.

1. Study of compound microscope.
2. Microscopic study of epithelial and connective tissue
3. Microscopic study of muscular and nervous tissue
4. Identification of axial bones
5. Identification of appendicular bones
6. Introduction to hemocytometry.
7. Enumeration of white blood cell (WBC) count
8. Enumeration of total red blood corpuscles (RBC) count
9. Determination of bleeding time
10. Determination of clotting time
11. Estimation of hemoglobin content
12. Determination of blood group.
13. Determination of erythrocyte sedimentation rate (ESR).
14. Determination of heart rate and pulse rate.
15. Recording of blood pressure.

Recommended Books:

1. Essentials of Medical Physiology by K. Sembulingam and P. Sembulingam. Jaypeebrothers medical publishers, New Delhi.
2. Anatomy and Physiology in Health and Illness by Kathleen J.W. Wilson, Churchill Livingstone, New York
3. Physiological basis of Medical Practice-Best and Tailor. Williams & Wilkins Co, Riverview, MI USA
4. Text book of Medical Physiology- Arthur C, Guyton and John.E. Hall. Miamisburg, OH, U.S.A.
5. Principles of Anatomy and Physiology by Tortora Grabowski. Palmetto, GA, U.S.A.
6. Textbook of Human Histology by Inderbir Singh, Jaypee brother's medical publishers, New Delhi
7. Textbook of Practical Physiology by C.L. Ghai, Jaypee brother's medical publishers, New Delhi
8. Practical workbook of Human Physiology by K. Srinageswari and Rajeev Sharma, Jaypee brother's medical publishers, New Delhi

Reference Books (Latest Editions)

- Physiological basis of Medical Practice-Best and Tailor. Williams & Wilkins Co, Riverview, MI USA
- Text book of Medical Physiology- Arthur C, Guyton and John. E. Hall. Miamisburg, OH, U.S.A.
- Human Physiology (vol 1 and 2) by Dr. C.C. Chatterje , Academic Publishers Kolkata

Baldania

B. Pharm. Semester: I
Subject Name: PHARMACEUTICAL ANALYSIS
Subject Code: 13PH0102

Scope: This course deals with the fundamentals of analytical chemistry and principles of electrochemical analysis of drugs

Objectives: Upon completion of the course student shall be able to

1. understand the principles of volumetric and electro chemical analysis
2. carryout various volumetric and electrochemical titrations
3. develop analytical skills

Sr No	Course Contents	Total Hrs
1.	(a) Pharmaceutical analysis- Definition and scope i) Different techniques of analysis ii) Methods of expressing concentration iii) Primary and secondary standards. iv) Preparation and standardization of various molar and normal solutions- Oxalic acid, sodium hydroxide, hydrochloric acid, sodium thiosulphate, sulphuric acid, potassium permanganate and ceric ammonium sulphate (b)Errors: Sources of errors, types of errors, methods of minimizing errors, accuracy, precision and significant figures (c)Pharmacopoeia, Sources of impurities in medicinal agents, limit tests	10
2.	Acid base titration: Theories of acid base indicators, classification of acid base titrations and theory involved in titrations of strong, weak, and very weak acids and bases, neutralization curves Non aqueous titration: Solvents, acidimetry and alkalimetry titration and estimation of Sodium benzoate and Ephedrine HCl	10
3.	Precipitation titrations: Mohr's method, Volhard's, Modified Volhard's, Fajans method, estimation of sodium chloride. Complexometric titration: Classification, metal ion indicators, masking and demasking reagents, estimation of Magnesium sulphate, and calcium gluconate. Gravimetry: Principle and steps involved in gravimetric analysis. Purity of the precipitate: co-precipitation and post precipitation, Estimation of barium sulphate. Basic Principles, methods and application of diazotisation titration.	10
4.	Redox titrations: (a) Concepts of oxidation and reduction (b) Types of redox titrations (Principles and applications) Cerimetry, Iodimetry, Iodometry, Bromatometry, Dichrometry, Titration with potassium iodate	8

Baldania



5.	Electrochemical methods of analysis Conductometry - Introduction, Conductivity cell, Conductometric titrations, applications. Potentiometry - Electrochemical cell, construction and working of reference (Standard hydrogen, silver chloride electrode and calomel electrode) and indicator electrodes (metal electrodes and glass electrode), methods to determine end point of potentiometric titration and applications. Polarography - Principle, Ilkovic equation, construction and working of dropping mercury electrode and rotating platinum electrode, applications	7
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Practical

Preparation and standardization of

- (1) Sodium hydroxide
- (2) Sulphuric acid
- (3) Sodium thiosulfate
- (4) Potassium permanganate
- (5) Ceric ammonium sulphate

Assay of the following compounds along with Standardization of Titrant

- (1) Ammonium chloride by acid base titration
- (2) Ferrous sulphate by Cerimetry
- (3) Copper sulphate by Iodometry
- (4) Calcium gluconate by complexometry
- (5) Hydrogen peroxide by Permanganometry (6) Sodium benzoate by non-aqueous titration (7) Sodium Chloride by precipitation titration

Determination of Normality by electro-analytical methods

- (1) Conductometric titration of strong acid against strong base
- (2) Conductometric titration of strong acid and weak acid against strong base
- (3) Potentiometric titration of strong acid against strong base

Recommended Books: (Latest Editions):

1. A.H. Beckett & J.B. Stenlake's, Practical Pharmaceutical Chemistry Vol I & II, Stahlone Press of University of London
2. A.I. Vogel, Text Book of Quantitative Inorganic analysis
3. P. Gundu Rao, Inorganic Pharmaceutical Chemistry
4. Bentley and Driver's Textbook of Pharmaceutical Chemistry
5. John H. Kennedy, Analytical chemistry principles
6. Indian Pharmacopoeia

Baldania

B. Pharm. Semester: I
Subject Name: PHARMACEUTICS- I
Subject Code: 13PH0103

Scope: This course is designed to impart a fundamental knowledge on the preparatory pharmacy with arts and science of preparing the different conventional dosage forms.

Objectives: Upon completion of this course the student should be able to:

1. Know the history of profession of pharmacy
2. Understand the basics of different dosage forms, pharmaceutical incompatibilities and pharmaceutical calculations
3. Understand the professional way of handling the prescription
4. Preparation of various conventional dosage forms

Sr No	Course Contents	Total Hrs
1.	<p>Historical background and development of profession of pharmacy: History of profession of Pharmacy in India in relation to pharmacy education, industry and organization, Pharmacy as a career, Pharmacopoeias: Introduction to IP, BP, USP and Extra Pharmacopoeia</p> <p>Dosage forms: Introduction to dosage forms, classification and definitions</p> <p>Prescription: Definition, Parts of prescription, handling of Prescription and Errors in prescription</p> <p>Posology: Definition, Factors affecting posology. Pediatric dose calculations based on age, body weight and body surface area</p>	10
2.	<p>Pharmaceutical calculations: Weights and measures – Imperial & Metric system, Calculations involving percentage solutions, alligation, proof spirit and isotonic solutions based on freezing point and molecular weight</p> <p>Powders: Definition, classification, advantages and disadvantages, Simple & compound powders – official preparations, dusting powders, effervescent, efflorescent and hygroscopic powders, eutectic mixtures. Geometric dilutions</p> <p>Liquid dosage forms: Advantages and disadvantages of liquid dosage forms. Excipients used in formulation of liquid dosage forms. Solubility enhancement Techniques</p>	10
3.	<p>Monophasic liquids: Definitions and preparations of Gargles, Mouthwashes, Throat Paint, Eardrops, Nasal drops, Enemas, Syrups, Elixirs, Liniments and Lotions.</p> <p>Biphasic liquids:</p> <p>Suspensions: Definition, advantages and disadvantages, classifications, Preparation of suspensions; Flocculated and Deflocculated suspension & stability problems and methods to overcome</p> <p>Emulsions: Definition, classification, emulsifying agent, test for the identification of type of Emulsion, Methods of preparation & stability problems and methods to overcome.</p>	8
4.	<p>Suppositories: Definition, types, advantages and disadvantages, types of bases, methods of preparations. Displacement value & its calculations, evaluation of suppositories</p> <p>Pharmaceutical incompatibilities: Definition, classification, physical, chemical and therapeutic incompatibilities with examples</p>	8

5.	Semisolid dosage forms: Definitions, classification, mechanisms and factors influencing dermal penetration of drugs. Preparation of ointments, pastes, creams and gels. Excipients used in semi solid dosage forms. Evaluation of semi solid dosages forms	7
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Practical

1. Syrups:

a) Syrup IP'66 b) Compound syrup of Ferrous Phosphate BPC'68

2. Elixirs:

a) Piperazine citrate elixir b) Paracetamol pediatric elixir

3. Linctus

a) Terpin Hydrate Linctus IP'66 b) Iodine Throat Paint (Mandles Paint)

4. Solutions:

a) Strong solution of ammonium acetate b) Cresol with soap solution c) Lugol's solution

5. Suspensions:

a) Calamine lotion b) Magnesium Hydroxide mixture c) Aluminium Hydroxide gel

6. Emulsions:

a) Turpentine Liniment b) Liquid paraffin emulsion

7. Powders and Granules

a) ORS powder (WHO) b) Effervescent granules c) Dusting powder d) Divided powders

8. Suppositories

a) Glycero gelatin suppository b) Cocoa butter suppository c) Zinc Oxide suppository

8. Semisolids

a) Sulphur ointment b) Non staining-iodine ointment with methyl salicylate c) Carbopal gel

9. Gargles and Mouthwashes

a) Iodine gargle b) Chlorhexidine mouthwash

Recommended Books: (Latest Editions)

1. H.C. Ansel et al., Pharmaceutical Dosage Form and Drug Delivery System, Lippincott Williams and Walkins, New Delhi.
2. Carter S.J., Cooper and Gunn's-Dispensing for Pharmaceutical Students, CBS publishers, New Delhi.
3. M.E. Aulton, Pharmaceutics, The Science & Dosage Form Design, Churchill Livingstone, Edinburgh.
4. Indian pharmacopoeia.
5. British pharmacopoeia.
6. Lachmann. Theory and Practice of Industrial Pharmacy, Lea & Febiger Publisher, The University of Michigan.
7. Alfonso R. Gennaro Remington. The Science and Practice of Pharmacy, Lippincott Williams, New Delhi.
8. Carter S.J., Cooper and Gunn's. Tutorial Pharmacy, CBS Publications, New Delhi.
9. E.A. Rawlins, Bentley's Text Book of Pharmaceutics, English Language Book Society, Elsevier Health Sciences, USA.
10. Isaac Ghebre Sellassie: Pharmaceutical Pelletization Technology, Marcel Dekker, INC, New York.
11. Dilip M. Parikh: Handbook of Pharmaceutical Granulation Technology, Marcel Dekker, INC, New York.
12. Francoise Nieloud and Gilberte Marti-Mestres: Pharmaceutical Emulsions and Suspensions, Marcel Dekker, INC, New York.

Baldania

B. Pharm. Semester: I
Subject Name: PHARMACEUTICAL INORGANIC CHEMISTRY
Subject Code: 13PH0104
Scope: This subject deals with the monographs of inorganic drugs and pharmaceuticals

Objectives: Upon completion of course student shall be able to

1. know the sources of impurities and methods to determine the impurities in inorganic drugs and pharmaceuticals
2. understand the medicinal and pharmaceutical importance of inorganic compounds

Sr No	Course Contents	Total Hrs
1.	Impurities in pharmaceutical substances: History of Pharmacopoeia, Sources and types of impurities, principle involved in the limit test for Chloride, Sulphate, Iron, Arsenic, Lead and Heavy metals, modified limit test for Chloride and Sulphate General methods of preparation, assay for the compounds superscripted with asterisk (*), properties and medicinal uses of inorganic compounds belonging to the following classes	10
2.	Acids, Bases and Buffers: Buffer equations and buffer capacity in general, buffers in pharmaceutical systems, preparation, stability, buffered isotonic solutions, measurements of tonicity, calculations and methods of adjusting isotonicity. Major extra and intracellular electrolytes: Functions of major physiological ions, Electrolytes used in the replacement therapy: Sodium chloride*, Potassium chloride, Calcium gluconate* and Oral Rehydration Salt (ORS), Physiological acid base balance. Dental products: Dentifrices, role of fluoride in the treatment of dental caries, Desensitizing agents, Calcium carbonate, Sodium fluoride, and Zinc eugenol cement.	10
3.	Gastrointestinal agents Acidifiers: Ammonium chloride* and Dil. HCl Antacid: Ideal properties of antacids, combinations of antacids, Sodium Bicarbonate*, Aluminum hydroxide gel, Magnesium hydroxide mixture Cathartics: Magnesium sulphate, Sodium orthophosphate, Kaolin and Bentonite Antimicrobials: Mechanism, classification, Potassium permanganate, Boric acid, Hydrogen peroxide*, Chlorinated lime*, Iodine and its preparations	10
4.	Miscellaneous compounds Expectorants: Potassium iodide, Ammonium chloride*. Emetics: Copper sulphate*, Sodium potassium tartarate Haematinics: Ferrous sulphate*, Ferrous gluconate Poison and Antidote: Sodium thiosulphate*, Activated charcoal, Sodium nitrite Astringents: Zinc Sulphate, Potash Alum	8
5.	Radiopharmaceuticals: Radioactivity, Measurement of radioactivity, Properties of α , β , γ radiations, Half life, radio isotopes and study of radio isotopes - Sodium iodide I131, Storage conditions, precautions & pharmaceutical application of radioactive substances.	7

Practical

I Limit tests for following ions

Limit test for Chlorides and Sulphates

Modified limit test for Chlorides and Sulphates

Limit test for Iron

Limit test for Heavy metals

Limit test for Lead

Limit test for Arsenic

III Identification test Magnesium hydroxide Ferrous sulphate Sodium bicarbonate Calcium gluconate Copper sulphate

III Test for purity

Swelling power of Bentonite

Neutralizing capacity of aluminum hydroxide gel

Determination of potassium iodate and iodine in potassium Iodide

IV Preparation of inorganic pharmaceuticals

Boric acid Potash alum Ferrous sulphate

Recommended Books (Latest Editions)

1. A.H. Beckett & J.B. Stenlake's, Practical Pharmaceutical Chemistry Vol I & II, Stahlone Press of University of London, 4th edition.
2. A.I. Vogel, Text Book of Quantitative Inorganic analysis
3. P. Gundu Rao, Inorganic Pharmaceutical Chemistry, 3rd Edition
4. M.L Schroff, Inorganic Pharmaceutical Chemistry
5. Bentley and Driver's Textbook of Pharmaceutical Chemistry
6. Anand & Chatwal, Inorganic Pharmaceutical Chemistry
7. Indian Pharmacopoeia.

Baldania

B. Pharm. SEMESTER: I
Subject Name: COMMUNICATION SKILLS
Subject Code: 13CS0105

Scope: This course will prepare the young pharmacy student to interact effectively with doctors, nurses, dentists, physiotherapists and other health workers. At the end of this course the student will get the soft skills set to work cohesively with the team as a team player and will add value to the pharmaceutical business.

Objectives:

Upon completion of the course the student shall be able to

1. Understand the behavioral needs for a Pharmacist to function effectively in the areas of pharmaceutical operation
2. Communicate effectively (Verbal and Non Verbal)
3. Effectively manage the team as a team player
4. Develop interview skills
5. Develop Leadership qualities and essentials

Sr No	Course Contents	Total Hrs
1.	Communication Skills: Introduction, Definition, The Importance of Communication, The Communication Process – Source, Message, Encoding, Channel, Decoding, Receiver, Feedback, Context Barriers to communication: Physiological Barriers, Physical Barriers, Cultural Barriers, Language Barriers, Gender Barriers, Interpersonal Barriers, Psychological Barriers, Emotional barriers Perspectives in Communication: Introduction, Visual Perception, Language, Other factors affecting our perspective - Past Experiences, Prejudices, Feelings, Environment	7
2.	Elements of Communication: Introduction, Face to Face Communication - Tone of Voice, Body Language (Non-verbal communication), Verbal Communication, Physical Communication Communication Styles: Introduction, The Communication Styles Matrix with example for each -Direct Communication Style, Spirited Communication Style, Systematic Communication Style, Considerate Communication Style	7
3.	Basic Listening Skills: Introduction, Self-Awareness, Active Listening, Becoming an Active Listener, Listening in Difficult Situations Effective Written Communication: Introduction, When and When Not to Use Written Communication - Complexity of the Topic, Amount of Discussion' Required, Shades of Meaning, Formal Communication Writing Effectively: Subject Lines, Put the Main Point First, Know Your Audience, Organization of the Message	7
4.	Interview Skills: Purpose of an interview, Do's and Dont's of an interview Giving Presentations: Dealing with Fears, Planning your Presentation, Structuring Your Presentation, Delivering Your Presentation, Techniques of Delivery	5
5.	Group Discussion: Introduction, Communication skills in group discussion, Do's and Dont's of group discussion	4

Practical

The following learning modules are to be **conducted using Any Software English** language lab software

Basic communication covering the following topics

Meeting People
Asking Questions
Making Friends
What did you do?
Do's and Dont's

Pronunciations covering the following topics

Pronunciation (Consonant Sounds)
Pronunciation and Nouns
Pronunciation (Vowel Sounds)

Advanced Learning

Listening Comprehension / Direct and Indirect Speech
Figures of Speech
Effective Communication
Writing Skills
Effective Writing
Interview Handling Skills
E-Mail etiquette
Presentation Skills

Recommended Books: (Latest Edition)

1. Basic communication skills for Technology, Andreja. J. Ruther Ford, 2nd Edition, Pearson Education, 2011
2. Communication skills, Sanjay Kumar, Pushpalata, 1stEdition, Oxford Press, 2011
3. Organizational Behaviour, Stephen .P. Robbins, 1stEdition, Pearson, 2013
4. Brilliant- Communication skills, Gill Hasson, 1stEdition, Pearson Life, 2011
5. The Ace of Soft Skills: Attitude, Communication and Etiquette for success, Gopala Swamy Ramesh, 5thEdition, Pearson, 2013
6. Developing your influencing skills, Deborah Dalley, Lois Burton, Margaret, Green hall, 1st Edition Universe of Learning LTD, 2010
7. Communication skills for professionals, Konar nira, 2nd Edition, New arrivals – PHI, 2011
8. Personality development and soft skills, Barun K Mitra, 1st Edition, Oxford Press, 2011
9. Soft skill for everyone, Butter Field, 1st Edition, Cengage Learning india pvt.ltd, 2011
10. Soft skills and professional communication, Francis Peters SJ, 1stEdition, Mc Graw Hill Education, 2011
11. Effective communication, John Adair, 4thEdition, Pan Mac Millan,2009
12. Bringing out the best in people, Aubrey Daniels, 2ndEdition, Mc Graw Hill, 1999

Baldania

B. Pharm. Semester: I
Subject Name: REMEDIAL MATHEMATICS
Subject Code: 13MA101

Scope: This is an introductory course in mathematics. This subject deals with the introduction to Partial fraction, Logarithm, matrices and Determinant, Analytical geometry, Calculus, differential equation and Laplace transform

Objectives: Upon completion of the course the student shall be able to:-

1. Know the theory and their application in Pharmacy
2. Solve the different types of problems by applying theory
3. Appreciate the important application of mathematics in Pharmacy

Sr No	Course Contents	Total Hrs
1.	<p>Partial fraction Introduction, Polynomial, Rational fractions, Proper and Improper fractions, Partial fraction, Resolving into Partial fraction, Application of Partial Fraction in Chemical Kinetics and Pharmacokinetics</p> <p>Logarithms Introduction, Definition, Theorems/Properties of logarithms, Common logarithms, Characteristic and Mantissa, worked examples, application of logarithm to solve pharmaceutical problems</p> <p>Function: Real Valued function, Classification of real valued functions,</p> <p>Limits and continuity : Introduction, Limit of a function, Definition of limit of a function</p>	6
2.	<p>Matrices and Determinant: Introduction matrices, Types of matrices, Operation on matrices, Transpose of a matrix, Matrix Multiplication, Determinants, Properties of determinants, Product of determinants, Minors and co-Factors, Adjoint or adjugate of a square matrix, Singular and non-singular matrices, Inverse of a matrix, Solution of system of linear of equations using matrix method, Cramer's rule, Characteristic equation and roots of a square matrix, Cayley-Hamilton theorem, Application of Matrices in solving Pharmacokinetic Equations</p>	6
3.	<p>Calculus: Differentiation: Introductions, Derivative of a function, Derivative of a constant, Derivative of a product of a constant and a function, Derivative of the sum or difference of two functions, Derivative of the product of two functions (product formula), Derivative of the quotient of two functions (Quotient formula) – Without Proof, Derivative of x^n w.r.t x, where n is any rational number, Derivative of e^x, Derivative of $\log_e x$, Derivative of a^x, Derivative of trigonometric functions from first principles (without Proof), Successive Differentiation, Conditions for a function to be a maximum or a minimum at a point. Application</p>	6

Baldania

4.	Analytical Geometry Introduction: Signs of the Coordinates, Distance formula, Straight Line : Slope or gradient of a straight line, Conditions for parallelism and perpendicularity of two lines, Slope of a line joining two points, Slope – intercept form of a straight line Integration: Introduction, Definition, Standard formulae, Rules of integration , Method of substitution, Method of Partial fractions, Integration by parts, definite integrals, Application	6
5.	Differential Equations: Some basic definitions, Order and degree, Equations in separable form , Homogeneous equations, Linear Differential equations, Exact equations, Application in solving Pharmacokinetic equations Laplace Transform : Introduction, Definition, Properties of Laplace transform, Laplace Transforms of elementary functions, Inverse Laplace transforms, Laplace transform of derivatives, Application to solve Linear differential equations, Application in solving Chemical kinetics and Pharmacokinetics equations	5

Recommended Books (Latest Edition)

1. Differential Calculus by Shanthinarayan
2. Pharmaceutical Mathematics with application to Pharmacy by Panchaksharappa Gowda D.H.
3. Integral Calculus by Shanthinarayan
4. Higher Engineering Mathematics by Dr.B.S.Grewal

Baldania

B. Pharm. Semester: I
Subject Name: REMEDIAL BIOLOGY Subject Code: 13BI0101
Scope: To learn and understand the components of living world, structure and functional system of plant and animal kingdom

Objectives: Upon completion of the course, the student shall be able to

1. know the classification and salient features of five kingdoms of life
2. understand the basic components of anatomy & physiology of plant
3. know understand the basic components of anatomy & physiology animal with special reference to human

Sr No	Course Contents	Total Hrs
1.	Living world: Definition and characters of living organisms Diversity in the living world Binomial nomenclature Five kingdoms of life and basis of classification. Salient features of Monera, Protista, Fungi, Animalia and Plantae, Virus, Morphology of Flowering plants Morphology of different parts of flowering plants – Root, stem, inflorescence, flower, leaf, fruit, seed. General Anatomy of Root, stem, leaf of monocotyledons & Dicotyledones	7
2.	Body fluids and circulation Composition of blood, blood groups, coagulation of blood Composition and functions of lymph Human circulatory system Structure of human heart and blood vessels Cardiac cycle, cardiac output and ECG Digestion and Absorption Human alimentary canal and digestive glands Role of digestive enzymes Digestion, absorption and assimilation of digested food Breathing and respiration Human respiratory system Mechanism of breathing and its regulation Exchange of gases, transport of gases and regulation of respiration Respiratory volume.	7

Baldania

3.	Excretory products and their elimination Modes of excretion Human excretory system- structure and function Urine formation Rennin angiotensin system Neural control and coordination Definition and classification of nervous system Structure of a neuron Generation and conduction of nerve impulse Structure of brain and spinal cord Functions of cerebrum, cerebellum, hypothalamus and medulla oblongata Chemical coordination and regulation Endocrine glands and their secretions Functions of hormones secreted by endocrine glands Human reproduction Parts of female reproductive system Parts of male reproductive system Spermatogenesis and Oogenesis Menstrual cycle	7
4.	Plants and mineral nutrition: Essential mineral, macro and micronutrients Nitrogen metabolism, Nitrogen cycle, biological nitrogen fixation Photosynthesis Autotrophic nutrition, photosynthesis, Photosynthetic pigments, Factors affecting photosynthesis.	5
5.	Plant respiration: Respiration, glycolysis, fermentation (anaerobic). Plant growth and development Phases and rate of plant growth, Condition of growth, Introduction to plant growth regulators Cell - The unit of life Structure and functions of cell and cell organelles. Cell division Tissues Definition, types of tissues, location and functions.	4

Text Books

- a. Text book of Biology by S. B. Gokhale
- b. A Text book of Biology by Dr. Thulajappa and Dr. Seetaram.
- c. A Text book of Biology by B.V. Sreenivasa Naidu
- d. A Text book of Biology by Naidu and Murthy
- e. Botany for Degree students By A.C.Dutta.
- f. Outlines of Zoology by M. Ekambaranatha ayyer and T. N. Ananthkrishnan.
- g. A manual for pharmaceutical biology practical by S.B. Gokhale and C. K. Kokate

Baldania

Practical

1. Introduction to experiments in biology a) Study of Microscope b) Section cutting techniques c) Mounting and staining d) Permanent slide preparation
2. Study of cell and its inclusions
3. Study of Stem, Root, Leaf, seed, fruit, flower and their modifications
4. Detailed study of frog by using computer models
5. Microscopic study and identification of tissues pertinent to Stem, Root Leaf, seed, fruit and flower
6. Identification of bones
7. Determination of blood group
8. Determination of blood pressure
9. Determination of tidal volume

Reference Books

1. Practical human anatomy and physiology. by S.R.Kale and R.R.Kale.
2. A Manual of pharmaceutical biology practical by S.B.Gokhale, C.K.Kokate and S.P.Shriwastava.
3. Biology practical manual according to National core curriculum .Biology forum of Karnataka. Prof .M.J.H.Shafi.

Baldania

B. Pharm. Semester: II

Subject Name: Human Anatomy and Physiology II
Subject Code: 13PH0201

Scope: This subject is designed to impart fundamental knowledge on the structure and functions of the various systems of the human body. It also helps in understanding both homeostatic mechanisms. The subject provides the basic knowledge required to understand the various disciplines of pharmacy

Objectives: Upon completion of the course student shall be able to

1. Explain the gross morphology, structure and functions of various organs of the human body.
2. Describe the various homeostatic mechanisms and their imbalances.
3. Identify the various tissues and organs of different systems of human body.
4. Perform the hematological tests like blood cell counts, haemoglobin estimation, bleeding/clotting time etc and also record blood pressure, heart rate, pulse and respiratory volume.
6. Appreciate coordinated working pattern of different organs of each system
7. Appreciate the interlinked mechanisms in the maintenance of normal functioning (homeostasis) of human body.

Sr No	Topics	% weightage
1.	<p>Nervous system: Organization of nervous system, neuron, neuroglia, classification and properties of nerve fibre, electrophysiology, action potential, nerve impulse, receptors, synapse, neurotransmitters Central nervous system: Meninges, ventricles of brain and cerebrospinal fluid. structure and functions of brain (cerebrum, brain stem, cerebellum), spinal cord (gross structure, functions of afferent and efferent nerve tracts, reflex activity)</p>	10
2.	<p>Digestive system Anatomy of GI Tract with special reference to anatomy and functions of stomach, (Acid production in the stomach, regulation of acid production through parasympathetic nervous system, pepsin role in protein digestion) small intestine and large intestine, anatomy and functions of salivary glands, pancreas and liver, movements of GIT, digestion and absorption of nutrients and disorders of GIT Energetics: Formation and role of ATP, Creatinine Phosphate and BMR.</p>	6

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3.	<p>Respiratory system</p> <p>Anatomy of respiratory system with special reference to anatomy of lungs, mechanism of respiration, regulation of respiration Lung Volumes and capacities transport of respiratory gases, artificial respiration, and resuscitation methods</p> <p>Urinary system</p> <p>Anatomy of urinary tract with special reference to anatomy of kidney and nephrons, functions of kidney and urinary tract, physiology of urine formation, micturition reflux and role of kidneys in acid base balance, role of RAS in kidney and disorders of kidney</p>	10
4.	<p>Endocrine system</p> <p>Classification of hormones, mechanism of hormone action, structure and functions of pituitary gland, thyroid gland, parathyroid gland, adrenal gland, pancreas, pineal gland, thymus and their disorders.</p>	10
5.	<p>Reproductive system</p> <p>Anatomy of male and female reproductive system, Functions of male and female reproductive system, sex hormones, physiology of menstruation, fertilization, spermatogenesis, oogenesis, pregnancy and parturition.</p> <p>Introduction to genetics</p> <p>Chromosomes, genes and DNA, protein synthesis, genetic pattern of Inheritance</p>	9

Practical:

Practical physiology is complimentary to the theoretical discussions in physiology. Practicals allow the verification of physiological processes discussed in theory classes through experiments on living tissue, intact animals or normal human beings. This is helpful for developing an insight on the subject.

1. To study the integumentary and special senses using specimen, models, etc.,
2. To study the nervous system using specimen, models, etc.,
3. To study the endocrine system using specimen, models, etc
4. To demonstrate the general neurological examination
5. To demonstrate the function of olfactory nerve
6. To examine the different types of taste.
7. To demonstrate the visual acuity
8. To demonstrate the reflex activity
9. Recording of body temperature
10. To demonstrate positive and negative feedback mechanism
11. Determination of tidal volume and vital capacity
12. Study of digestive, respiratory, cardiovascular systems, urinary and reproductive systems with the help of models, charts and specimens
13. Recording of basal mass index

Baldania

14. Study of family planning devices and pregnancy diagnosis test
15. Demonstration of total blood count by cell analyser
16. Permanent slides of vital organs and gonads

Recommended Books (Latest Editions)

1. Essentials of Medical Physiology by K. Sembulingam and P. Sembulingam. Jaypee brothers medical publishers, New Delhi
2. Anatomy and Physiology in Health and Illness by Kathleen J.W. Wilson, Churchill Livingstone, New York
3. Physiological basis of Medical Practice-Best and Tailor. Williams & Wilkins Co, Riverview, MI USA
4. Text book of Medical Physiology- Arthur C, Guyton and John.E. Hall. Miamisburg, OH, U.S.A
5. Principles of Anatomy and Physiology by Tortora Grabowski. Palmetto, GA, U.S.A
6. Textbook of Human Histology by Inderbir Singh, Jaypee brothers medical publishers, New Delhi
7. Textbook of Practical Physiology by C.L. Ghai, Jaypee brothers medical publishers, New Delhi
8. Practical workbook of Human Physiology by K. Srinageswari and Rajeev Sharma, Jaypee brother's medical publishers, New Delhi

Reference Books:

1. Physiological basis of Medical Practice-Best and Tailor. Williams & Wilkins Co, Riverview, MI USA
2. Text book of Medical Physiology- Arthur C, Guyton and John. E. Hall. Miamisburg, OH, U.S.A
3. Human Physiology (vol 1 and 2) by Dr. C.C. Chatterrje ,Academic Publishers Kolkata

Baldania

B. Pharm. Semester: II

Subject Name: Pharmaceutical Organic Chemistry I

Subject Code: 13PH0202

Scope: This subject deals with classification and nomenclature of simple organic compounds, structural isomerism, intermediates forming in reactions, important physical properties, reactions and methods of preparation of these compounds. The syllabus also emphasizes on mechanisms and orientation of reactions.

Objectives: Upon completion of the course the student shall be able to

1. write the structure, name and the type of isomerism of the organic compound
2. write the reaction, name the reaction and orientation of reactions
3. account for reactivity/stability of compounds
4. identify/confirm the identification of organic compound

Course Content:

General methods of preparation and reactions of compounds superscripted with asterisk (*) to be explained To emphasize on definition, types, classification, principles/mechanisms, applications, examples and differences

Sr No	Topics	% weightage
1.	Classification, nomenclature and isomerism: Classification of Organic Compounds Common and IUPAC systems of nomenclature of organic compounds (up to 10 Carbons open chain and carbocyclic compounds) Structural isomerisms in organic compounds	7
2.	Alkanes*, Alkenes* and Conjugated dienes*: SP hybridization in alkanes, Halogenation of alkanes, uses of paraffins, Stabilities of alkenes, SP hybridization in alkenes, E ₁ and E ₂ reactions – kinetics, order of reactivity of alkyl halides, rearrangement of carbocations, Saytzeffs orientation and evidences. E ₁ verses E ₂ reactions, Factors affecting E ₁ and E ₂ reactions. Ozonolysis, electrophilic addition reactions of alkenes, Markownikoff's orientation, free radical addition reactions of alkenes, Anti Markownikoff's orientation. Stability of conjugated dienes, Diel-Alder, electrophilic addition, free radical addition reactions of conjugated dienes, allylic rearrangement	10
3.	Alkyl halides*: SN ₁ and SN ₂ reactions - kinetics, order of reactivity of alkyl halides, stereochemistry and rearrangement of carbocations SN ₁ versus SN ₂ reactions, Factors affecting SN ₁ and SN ₂ reactions Structure and uses of ethylchloride, Chloroform, trichloroethylene, tetrachloroethylene, dichloromethane, tetrachloromethane and iodoform Alcohols*: Qualitative tests, Structure and uses of Ethyl alcohol, Methyl alcohol, chlorobutanol, Cetosteryl alcohol, Benzyl alcohol, Glycerol, Propylene glycol	10
4.	Carbonyl compounds* (Aldehydes and ketones): Nucleophilic addition, Electromeric effect, aldol condensation, Crossed Aldol condensation,	10

	Cannizzaro reaction, Crossed Cannizzaro reaction, Benzoin condensation, Perkin condensation, qualitative tests, Structure and uses of Formaldehyde, Paraldehyde, Acetone, Chloral hydrate, Hexamine, Benzaldehyde, Vanilin, Cinnamaldehyde	
5.	Carboxylic acids* : Acidity of carboxylic acids, effect of substituents on acidity, inductive effect and qualitative tests for carboxylic acids ,amide and ester Structure and Uses of Acetic acid, Lactic acid, Tartaric acid, Citric acid, Succinic acid. Oxalic acid, Salicylic acid, Benzoic acid, Benzyl benzoate, Dimethyl phthalate, Methyl salicylate and Acetyl salicylic acid Aliphatic amines* - Basicity, effect of substituent on Basicity. Qualitative test, Structure and uses of Ethanolamine, Ethylenediamine, Amphetamine	8

Practical:

Systematic qualitative analysis of unknown organic compounds like:

1. Preliminary test: Color, odour, aliphatic/aromatic compounds, saturation and unsaturation, etc
2. Detection of elements like Nitrogen, Sulphur and Halogen by Lassaigne's test
3. Solubility test
4. Functional group test like Phenols, Amides/ Urea, Carbohydrates, Amines, Carboxylic acids, Aldehydes and Ketones, Alcohols, Esters, Aromatic and Halogenated Hydrocarbons, Nitro compounds and Anilides
5. Melting point/Boiling point of organic compounds
6. Identification of the unknown compound from the literature using melting point/ boiling point
7. Preparation of the derivatives and confirmation of the unknown compound by melting point/ boiling point
8. Minimum 5 unknown organic compounds to be analysed systematically
9. Preparation of suitable solid derivatives from organic compounds
10. Construction of molecular models

Recommended Books (Latest Editions)

1. Organic Chemistry by Morrison and Boyd
2. Organic Chemistry by I.L. Finar , Volume-I
3. Textbook of Organic Chemistry by B.S. Bahl & Arun Bahl.
4. Organic Chemistry by P.L.Soni
5. Practical Organic Chemistry by Mann and Saunders.
6. Vogel's text book of Practical Organic Chemistry
7. Advanced Practical organic chemistry by N.K.Vishnoi.
8. Introduction to Organic Laboratory techniques by Pavia, Lampman and Kriz.
9. Reaction and reaction mechanism by Ahluwaliah/Chatwal.

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B. Pharm. Semester: II

Subject Name: Pharmaceutical Engineering

Subject Code: 13PH0203

Scope: This course is designed to impart a fundamental knowledge on the art and science of various unit operations used in pharmaceutical industry.

Objectives: Upon completion of the course the student shall be able to

1. To know various unit operations used in Pharmaceutical industries.
2. To understand the material handling techniques.
3. To perform various processes involved in pharmaceutical manufacturing process.
4. To carry out various test to prevent environmental pollution.
5. To appreciate and comprehend significance of plant lay out design for optimum use of resources.
6. To appreciate the various preventive methods used for corrosion control in Pharmaceutical industries

Sr No	Topics	% weightage
1.	<p>Flow of fluids: Types of manometers, Reynolds number and its significance, Bernoulli's theorem and its applications, Energy losses, Orifice meter, Venturimeter, Pitot tube and Rotometer.</p> <p>Size Reduction: Objectives, Mechanisms & Laws governing size reduction, factors affecting size reduction, principles, construction, working, uses, merits and demerits of Hammer mill, ball mill, fluid energy mill, Edge runner mill & end runner mill.</p> <p>Size Separation: Objectives, applications & mechanism of size separation, official standards of powders, sieves, size separation Principles, construction, working, uses, merits and demerits of Sieve shaker, cyclone separator, Air separator, Bag filter & elutriation tank</p>	10
2.	<p>Heat Transfer: Objectives, applications & Heat transfer mechanisms. Fourier's law, Heat transfer by conduction, convection & radiation. Heat interchangers & heat exchangers.</p> <p>Evaporation: Objectives, applications and factors influencing evaporation, differences between evaporation and other heat process. principles, construction, working, uses, merits and demerits of Steam jacketed kettle, horizontal tube evaporator, climbing film evaporator, forced circulation evaporator, multiple effect evaporator & Economy of multiple effect evaporator</p> <p>Distillation: Basic Principles and methodology of simple distillation, flash distillation, fractional distillation, distillation under reduced pressure, steam distillation & molecular distillation</p>	10
3.	<p>Drying: Objectives, applications & mechanism of drying process, measurements & applications of Equilibrium Moisture content, rate of drying curve. principles, construction, working, uses, merits and demerits of Tray dryer, drum dryer spray dryer, fluidized bed dryer, vacuum dryer,</p>	8

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	freeze dryer Mixing: Objectives, applications & factors affecting mixing, Difference between solid and liquid mixing, mechanism of solid mixing, liquids mixing and semisolids mixing. Principles, Construction, Working, uses, Merits and Demerits of Double cone blender, twin shell blender, ribbon blender, Sigma blade mixer, planetary mixers, Propellers, Turbines, Paddles & Silverson Emulsifier	
4.	Filtration: Objectives, applications, Theories & Factors influencing filtration, filter aids, filter medias. Principle, Construction, Working, Uses, Merits and demerits of plate & frame filter, filter leaf, rotary drum filter, Meta filter & Cartridge filter, membrane filters and Seidtz filter Centrifugation: Objectives, principle & applications of Centrifugation, principles, construction, working, uses, merits and demerits of Perforated basket centrifuge, Non-perforated basket centrifuge, semi continuous centrifuge & super centrifuge.	8
5.	Materials of pharmaceutical plant construction, Corrosion and its prevention: Factors affecting during materials selected for Pharmaceutical plant construction, Theories of corrosion, types of corrosion and there prevention. Ferrous and nonferrous metals, inorganic and organic non metals, basic of material handling systems.	7

Recommended Books (Latest Editions)

1. Introduction to chemical engineering – Walter L Badger & Julius Banchero, Latest edition.
 2. Solid phase extraction, Principles, techniques and applications by Nigel J.K. Simpson-Latest edition.
 3. Unit operation of chemical engineering – McCabe Smith, Latest edition.
 4. Pharmaceutical engineering principles and practices – C.V.S Subrahmanyam et al., Latest edition.
 5. Remington practice of pharmacy- Martin, Latest edition.
 6. Theory and practice of industrial pharmacy by Lachmann., Latest edition.
 7. Physical pharmaceutics- C.V.S Subrahmanyam et al., Latest edition.
- Cooper and Gunn's Tutorial pharmacy, S.J. Carter, Latest edition

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Practical:

1. Determination of radiation constant of brass, iron, unpainted and painted glass
2. Steam distillation – To calculate the efficiency of steam distillation.
3. To determine the overall heat transfer coefficient by heat exchanger
4. Construction of drying curves (for calcium carbonate and starch).
5. Determination of moisture content and loss on drying.
6. Determination of humidity of air – i) From wet and dry bulb temperatures –use of Dew point method.
7. Description of Construction working and application of Pharmaceutical Machinery such as rotary tablet machine, fluidized bed coater, fluid energy mill, de humidifier
8. Size analysis by sieving – To evaluate size distribution of tablet granulations – Construction of various size frequency curves including arithmetic and logarithmic probability plots
9. Size reduction: To verify the laws of size reduction using ball mill and determining Kicks, Rittinger's, Bond's coefficients, power requirement and critical speed of Ball Mill
10. Demonstration of colloid mill, planetary mixer, fluidized bed dryer, freeze dryer and such other major equipment
11. Factors affecting Rate of Filtration and Evaporation (Surface area, Concentration and Thickness/viscosity)
12. To study the effect of time on the Rate of Crystallization.
13. To calculate the uniformity Index for given sample by using Double Cone Blender

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B. Pharm Semester: II

Subject Name: Environmental Sciences

Subject Code: 13EN0201

Scope: Environmental Sciences is the scientific study of the environmental system and the status of its inherent or induced changes on organisms. It includes not only the study of physical and biological characters of the environment but also the social and cultural factors and the impact of man on environment.

Objectives: Upon completion of the course the student shall be able to

1. Create the awareness about environmental problems among learners.
2. Impart basic knowledge about the environment and its allied problems.
3. Develop an attitude of concern for the environment.
4. Motivate learner to participate in environment protection and environment improvement.
5. Acquire skills to help the concerned individuals in identifying and solving environmental problems.
6. Strive to attain harmony with Nature

Sr. No	Topics	% weightage
1.	The Multidisciplinary nature of environmental studies Natural Resources Renewable and non-renewable resources: Natural resources and associated problems Forest resources; b) Water resources; c) Mineral resources; d) Food resources; e) Energy resources; f) Land resources: Role of an individual in conservation of natural resources	10
2.	Ecosystems: Concept of an ecosystem. Structure and function of an ecosystem. Introduction, types, characteristic features, structure and function of the ecosystems: Forest ecosystem; Grassland ecosystem; Desert ecosystem; Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)	10
3.	Environmental Pollution: Air pollution; Water pollution; Soil pollution	10

Recommended Books (Latest Editions)

1. Y.K. Sing, Environmental Science, New Age International Pvt, Publishers, Bangalore
2. Agarwal, K.C. 2001 Environmental Biology, Nidi Publ. Ltd. Bikaner.
3. Bharucha Erach, The Biodiversity of India, Mapin Pu blishing Pvt. Ltd., Ahmedabad – 380 013, India,
4. Brunner R.C., 1989, Hazardous Waste Incineration, McGraw Hill Inc. 480p
5. Clark R.S., Marine Pollution, Clanderson Press Oxford
6. Cunningham, W.P. Cooper, T.H. Gorhani, E & Hepworth, M.T. 2001, Environmental Encyclopaedia, Jaico Publ. House, Mumbai, 1196p
7. De A.K., Environmental Chemistry, Wiley Eastern Ltd.

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MARWADI UNIVERSITY

B.Pharm
SEMESTER: II

Subject Name: Computer Applications in Pharmacy
Subject Code: 13CE0201

Scope: This subject deals with the introduction Database, Database Management system, computer application in clinical studies and use of databases.

Objectives: Upon completion of the course the student shall be able to

1. know the various types of application of computers in pharmacy
2. know the various types of databases
3. know the various applications of databases in pharmacy

Sr No	Topics	% weightage
1.	Number system: Binary number system, Decimal number system, Octal number system, Hexadecimal number systems, conversion decimal to binary, binary to decimal, octal to binary etc, binary addition, binary subtraction – One's complement, Two's complement method, binary multiplication, binary division Concept of Information Systems and Software : Information gathering, requirement and feasibility analysis, data flow diagrams, process specifications, input/output design, process life cycle, planning and managing the project	6
2.	Web technologies: Introduction to HTML, XML, CSS and Programming languages, introduction to web servers and Server Products. Introduction to databases, MYSQL, MS ACCESS, Pharmacy Drug database	6
3.	Application of computers in Pharmacy – Drug information storage and retrieval, Pharmacokinetics, Mathematical model in Drug design, Hospital and Clinical Pharmacy, Electronic Prescribing and discharge (EP) systems, barcode medicine identification and automated dispensing of drugs, mobile technology and adherence monitoring Diagnostic System, Lab-diagnostic System, Patient Monitoring System, Pharma Information System	6
4.	Bioinformatics: Introduction, Objective of Bioinformatics, Bioinformatics Databases, Concept of Bioinformatics, Impact of Bioinformatics in Vaccine Discovery	6
5.	Computers as data analysis in Preclinical development: Chromatographic data analysis(CDS), Laboratory Information management System (LIMS) and Text Information Management System(TIMs)	6

Practical List:

1. Design a questionnaire using a word processing package to gather information about a particular disease.
2. Create a HTML web page to show personal information.
3. Retrieve the information of a drug and its adverse effects using online tools

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4. Creating mailing labels Using Label Wizard , generating label in MS WORD
5. Create a database in MS Access to store the patient information with the required fields Using access
6. Design a form in MS Access to view, add, delete and modify the patient record in the database
7. Generating report and printing the report from patient database
8. Creating invoice table using – MS Access
9. Drug information storage and retrieval using MS Access
10. Creating and working with queries in MS Access
11. Exporting Tables, Queries, Forms and Reports to web pages
12. Exporting Tables, Queries, Forms and Reports to XML pages

Recommended Books (Latest Editions)

1. Computer Application in Pharmacy – William E.Fassett –Lea and Febiger, 600 South Washington Square, USA, (215) 922-1330.
2. Computer Application in Pharmaceutical Research and Development –Sean Ekins – Wiley-Interscience, A John Willey and Sons, INC., Publication, USA
3. Bioinformatics (Concept, Skills and Applications) – S.C.Rastogi-CBS Publishers and Distributors, 4596/1- A, 11 Darya Gani, New Delhi – 110 002(INDIA)
4. Microsoft office Access - 2003, Application Development Using VBA, SQL Server, DAP and Infopath – Cary N.Prague – Wiley Dreamtech India (P) Ltd., 4435/7, Ansari Road, Daryagani, New Delhi - 110002

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Subject code: 13PH0301

Subject name: **Pharmaceutical Organic Chemistry-II**

Scope: This subject deals with general methods of preparation and reactions of some organic compounds. Reactivity of organic compounds are also studied here. The syllabus emphasizes on mechanisms and orientation of reactions. Chemistry of fats and oils are also included in the syllabus.

Objective: Upon completion of the course, the student shall be able to:

1. Write the structure, name and the type of isomerism of the organic compound
2. Write the reaction, name the reaction and orientation of reactions
3. Account for reactivity/stability of compounds
4. Prepare organic compounds

Teaching and assessment scheme:

Teaching Scheme (Hours)			Credits	Theory/ Tutorial Marks			Practical Marks		Total Marks
Theory	Tutorial	Practical		CSE	IA (I)	ESE (E)	TW	Viva (V)	
3	1	4	6	10	15	75	15	35	150

Theory syllabus:

Teaching hours: 45 Hours

Unit-1

10 Hours

Benzene and its derivatives:

Analytical, synthetic and other evidences in the derivation of structure of benzene, Orbital picture, resonance in benzene, aromatic characters, Huckel's rule. Reactions of benzene - nitration, sulphonation, halogenation - reactivity, Friedelcrafts alkylation - reactivity, limitations, Friedelcrafts acylation.

Substituents, effect of substituents on reactivity and orientation of mono substituted benzene compounds towards electrophilic substitution reaction.

Structure and uses of DDT, Saccharin, BHC and Chloramine.

Unit-2

10 Hours

Phenols: Acidity of phenols, effect of substituents on acidity, qualitative tests, Structure and uses of phenol, cresols, resorcinol, naphthols.

Aromatic Amines: Basicity of amines, effect of substituents on basicity, and synthetic uses of aryl diazonium salts.

Aromatic Acids: Acidity, effect of substituents on acidity and important reactions of benzoic acid.

Unit-3

10 Hours

Fats and Oils:

Fatty acids - reactions.

Hydrolysis, Hydrogenation, Saponification and Rancidity of oils, Drying oils.

Analytical constants - Acid value, Saponification value, Ester value, Iodine value, Acetyl value, Reichert Meissl (RM) value - significance and principle involved in their determination.

Unit-4

8 Hours

Polynuclear hydrocarbons:

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Synthesis, reactions.

Structure and medicinal uses of Naphthalene, Phenanthrene, Anthracene, Diphenylmethane, Triphenylmethane and their derivatives.

Unit-5

7 Hours

Cyclo alkanes:

Stabilities - Baeyer's strain theory, limitation of Baeyer's strain theory, Coulson and Moffitt's modification, Sachse Mohr's theory (Theory of strain less rings), reactions of cyclopropane and cyclobutane only.

Tutorials will be based on the above syllabus.

Teaching hours: 15 Hours

Practical syllabus:

Teaching hours: 04 Hours/week

1. Experiments involving laboratory techniques:
 - Recrystallization
 - Steam distillation
2. Determination of following oil values (including standardization of reagents):
 - Acid value
 - Saponification value
 - Iodine value
3. Preparation of compounds:
 - Benzanilide/ Phenyl benzoate/ Acetanilide from Aniline/ Phenol/ Aniline by acylation reaction.
 - 2,4,6-Tribromo aniline/Para bromo acetanilide from Aniline/ Acetanilide by halogenation (Bromination) reaction.
 - 5-Nitro salicylic acid/ Meta di nitro benzene from Salicylic acid/ Nitro benzene by nitration reaction.
 - Benzoic acid from Benzyl chloride by oxidation reaction.
 - Benzoic acid/ Salicylic acid from alkyl benzoate/ alkyl salicylate by hydrolysis reaction.
 - 1-Phenyl azo-2-naphthol from Aniline by diazotization and coupling reactions.
 - Benzil from Benzoin by oxidation reaction.
 - Dibenzal acetone from Benzaldehyde by Claisen Schmidt reaction.
 - Cinnamic acid from Benzaldehyde by Perkin reaction.
 - P-Iodo benzoic acid from P-amino benzoic acid.

Recommended References (Latest edition):

1. Organic Chemistry by Morrison and Boyd.
2. Organic Chemistry by I.L. Finar, Volume-I.
3. Textbook of Organic Chemistry by B. S. Bahl & Arun Bahl.
4. Organic Chemistry by P. L. Soni.
5. Practical Organic Chemistry by Mann and Saunders.
6. Vogel's textbook of Practical Organic Chemistry.
7. Advanced Practical organic chemistry by N. K. Vishnoi.
8. Introduction to Organic Laboratory techniques by Pavia, Lampman and Kriz.

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Subject code: **13PH0302**

Subject name: **Physical Pharmaceutics-I**

Scope: The course deals with the various physical and physicochemical properties, and principles involved in dosage forms/formulations. Theory and practical components of the subject help the student to get a better insight into various areas of formulation research and development, and stability studies of pharmaceutical dosage forms.

Objective: Upon the completion of the course student shall be able to

- Understand various physicochemical properties of drug molecules in the designing the dosage forms
- Know the principles of chemical kinetics & to use them for stability testing and determination of expiry date of formulations
- Demonstrate use of physicochemical properties in the formulation development and evaluation of dosage forms

Teaching and assessment scheme:

Teaching Scheme (Hours)			Credits	Theory/ Tutorial Marks			Practical Marks		Total Marks
Theory	Tutorial	Practical		CSE	IA (I)	ESE (E)	TW	Viva (V)	
3	1	4	6	10	15	75	15	35	150

Theory syllabus:

Teaching hours: 45 Hours

Unit-1

10 Hours

Solubility of drugs: Solubility expressions, mechanisms of solute solvent interactions, ideal solubility parameters, solvation & association, quantitative approach to the factors influencing solubility of drugs, diffusion principles in biological systems. Solubility of gas in liquids, solubility of liquids in liquids, (Binary solutions, ideal solutions) Raoult's law, real solutions. Partially miscible liquids, Critical solution temperature and applications. Distribution law, its limitations and applications

Unit-2

10 Hours

States of Matter and properties of matter: State of matter, changes in the state of matter, latent heats, vapor pressure, sublimation critical point, eutectic mixtures, gases, aerosols– inhalers, relative humidity, liquid complexes, liquid crystals, glassy states, solid-crystalline, amorphous & polymorphism.

Physicochemical properties of drug molecules: Refractive index, optical rotation, dielectric constant, dipole moment, dissociation constant, determinations and applications

Unit-3

10 Hours

Surface and interfacial phenomenon: Liquid interface, surface & interfacial tensions, surface free energy, measurement of surface & interfacial tensions, spreading coefficient, adsorption at liquid interfaces, surface active agents, HLB Scale, Solubilization, detergency, adsorption at solid interface.

Unit-4

8 Hours

Complexation and protein binding: Introduction, Classification of Complexation, Applications,

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methods of analysis, protein binding, Complexation and drug action, crystalline structures of complexes and thermodynamic treatment of stability constants.

Unit-5

7 Hours

pH, buffers and Isotonic solutions: Sorensen's pH scale, pH determination (electrometric and calorimetric), applications of buffers, buffer equation, buffer capacity, buffers in pharmaceutical and biological systems, buffered isotonic solutions.

Tutorials will be based on the above syllabus.

Teaching hours: 15 Hours

Practical syllabus:

Teaching hours: 04 Hours/week

- Determination of the solubility of drug at room temperature
- Determination of pKa value by Half Neutralization/ Henderson Hassel Balch equation.
- Determination of Partition co- efficient of benzoic acid in benzene and water
- Determination of Partition co- efficient of Iodine in CCl₄ and water
- Determination of % composition of NaCl in a solution using phenol-water system by CST method
- Determination of surface tension of given liquids by drop count and drop weight method
- Determination of HLB number of a surfactant by saponification method
- Determination of Freundlich and Langmuir constants using activated char coal
- Determination of critical micellar concentration of surfactants
- Determination of stability constant and donor acceptor ratio of PABA-Caffeine complex by solubility method
- Determination of stability constant and donor acceptor ratio of Cupric-Glycine complex by pH titration method

Recommended References (Latest edition):

- Physical Pharmacy by Alfred Martin.
- Experimental Pharmaceutics by Eugene, Parott.
- Tutorial Pharmacy by Cooper and Gunn.
- Stocklosam J. Pharmaceutical Calculations, Lea & Febiger, Philadelphia.
- Liberman H.A, Lachman C., Pharmaceutical Dosage forms, Tablets, Volume-1 to 3, Marcel Dekkar Inc.
- Liberman H.A, Lachman C, Pharmaceutical Dosage forms. Disperse systems, volume 1, 2, 3. Marcel Dekkar Inc.
- Physical Pharmaceutics by Ramasamy C and Manavalan R.
- Laboratory Manual of Physical Pharmaceutics, C.V.S. Subramanyam, J. Thimma settee
- Physical Pharmaceutics by C.V.S. Subramanyam.
- Test book of Physical Pharmacy, by Gaurav Jain & Roop K. Khar.

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Subject code: **13PH0303**

Subject name: **Biochemistry**

Scope: Biochemistry deals with complete understanding of the molecular levels of the chemical process associated with living cells. The scope of the subject is providing biochemical facts and the principles to understand metabolism of nutrient molecules in physiological and pathological conditions. It is also emphasizing on genetic organization of mammalian genome and hetero & autocatalytic functions of DNA.

Objective: : Upon completion of course student shell able to

- ☐ Understand the catalytic role of enzymes, importance of enzyme inhibitors in design of new drugs, therapeutic and diagnostic applications of enzymes.
- ☐ Understand the metabolism of nutrient molecules in physiological and pathological conditions.
- ☐ Understand the genetic organization of mammalian genome and functions of DNA in the synthesis of RNAs and proteins.

Teaching and assessment scheme:

Teaching Scheme (Hours)			Credits	Theory/ Tutorial Marks			Practical Marks		Total Marks
Theory	Tutorial	Practical		CSE	IA (I)	ESE (E)	TW	Viva (V)	
3	1	4	6	10	15	75	15	35	150

Theory syllabus:

Teaching hours: 45 Hours

Unit-1

08 Hours

Biomolecules: Introduction, classification, chemical nature and biological role of carbohydrate, lipids, nucleic acids, amino acids and proteins.

Bioenergetics: Concept of free energy, endergonic and exergonic reaction, Relationship between free energy, enthalpy and entropy; Redox potential. Energy rich compounds; classification; biological significances of ATP and cyclic AMP

Unit-2

10 Hours

Carbohydrate metabolism: Glycolysis – Pathway, energetics and significance Citric acid cycle- Pathway, energetics and significance HMP shunt and its significance; Glucose-6- Phosphate dehydrogenase (G6PD) deficiency Glycogen metabolism Pathways and glycogen storage diseases (GSD) Gluconeogenesis- Pathway and its significance Hormonal regulation of blood glucose level and Diabetes mellitus

Biological oxidation: Electron transport chain (ETC) and its mechanism. Oxidative phosphorylation & its mechanism and substrate level phosphorylation Inhibitors ETC and oxidative phosphorylation/Uncouplers

Unit-3

10 Hours

Lipid metabolism: -Oxidation of saturated fatty acid (Palmitic acid) Formation and utilization of ketone bodies; ketoacidosis De novo synthesis of fatty acids (Palmitic acid) Biological significance of cholesterol and conversion of cholesterol into bile acids, steroid hormone and vitamin D, Disorders of lipid metabolism: Hypercholesterolemia, atherosclerosis, fatty liver and obesity

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Amino acid metabolism: General reactions of amino acid metabolism: Transamination, deamination & decarboxylation, urea cycle and its disorders Catabolism of phenylalanine and tyrosine and their metabolic disorders (Phenylketonuria, Albinism, alpeptonuria, tyrosinemia) Synthesis and significance of biological substances; 5-HT, melatonin, dopamine, noradrenaline, adrenaline Catabolism of heme; hyperbilirubinemia and jaundice

Unit-4

10 Hours

Nucleic acid metabolism and genetic information transfer: Biosynthesis of purine and pyrimidine nucleotides, Catabolism of purine nucleotides and Hyperuricemia and Gout Diseases Organization of mammalian genome Structure of DNA and RNA and their functions DNA replication (semi conservative model) Transcription or RNA synthesis Genetic code, Translation or Protein synthesis and inhibitors

Unit-5

7 Hours

Enzymes: Introduction, properties, nomenclature and IUB classification of enzymes Enzyme kinetics (Michaelis plot, Line Weaver Burke plot) Enzyme inhibitors with examples, Regulation of enzymes: enzyme induction and repression, allosteric enzymes regulation, Therapeutic and diagnostic applications of enzymes and isoenzymes Coenzymes–Structure and biochemical functions

Tutorials will be based on the above syllabus.

Teaching hours: 15 Hours

Practical syllabus:

Teaching hours: 04 Hours/week

- Qualitative analysis of carbohydrates (Glucose, Fructose, Lactose, Maltose, Sucrose and starch)
- Identification tests for Proteins (albumin and Casein)
- Quantitative analysis of reducing sugars (DNSA method) and Proteins (Biuret method)
- Qualitative analysis of urine for abnormal constituents
- Determination of blood creatinine
- Determination of blood sugar
- Determination of serum total cholesterol
- Preparation of buffer solution and measurement of pH
- Study of enzymatic hydrolysis of starch
- Determination of Salivary amylase activity
- Study the effect of Temperature on Salivary amylase activity
- Study the effect of substrate concentration on salivary amylase activity

Recommended References (Latest edition):

- Principles of Biochemistry by Lehninger.
- Harper's Biochemistry by Robert K. Murray, Daryl K. Granner and Victor W. Rodwell.
- Biochemistry by Stryer.
- Biochemistry by D. Satyanarayan and U. Chakrapani
- Textbook of Biochemistry by Rama Rao.
- Textbook of Biochemistry by Deb.
- Outlines of Biochemistry by Conn and Stumpf
- Practical Biochemistry by R.C. Gupta and S. Bhargavan.
- Introduction of Practical Biochemistry by David T. Plummer. (3rd Edition)
- Practical Biochemistry for Medical students by Rajagopal and Ramakrishna.
- Practical Biochemistry by Harold Varley.

Baldania

Subject code: **13PH0304**

Subject name: **Pathophysiology**

Scope: : Pathophysiology is the study of causes of diseases and reactions of the body to such disease producing causes. This course is designed to impart a thorough knowledge of the relevant aspects of pathology of various conditions with reference to its pharmacological applications, and understanding of basic pathophysiological mechanisms. Hence it will not only help to study the syllabus of pathology, but also to get baseline knowledge required to practice medicine safely, confidently, rationally and effectively.

Objective: : Upon completion of the course, the student shall be able to:

- Describe the etiology and pathogenesis of the selected disease states;
- Name the signs and symptoms of the diseases; and
- Mention the complications of the diseases.

Teaching and assessment scheme:

Teaching Scheme (Hours)			Credits	Theory/ Tutorial Marks			Practical Marks		Total Marks
Theory	Tutorial	Practical		CSE	IA (I)	ESE (E)	TW	Viva (V)	
3	1	0	4	10	15	75	0	0	100

Theory syllabus:

Teaching hours: 45 Hours

Unit-1

10 Hours

Basic principles of Cell injury and Adaptation: Introduction, definitions, Homeostasis, Components and Types of Feedback systems, Causes of cellular injury, Pathogenesis (Cell membrane damage, Mitochondrial damage, Ribosome damage, Nuclear damage), Morphology of cell injury – Adaptive changes (Atrophy, Hypertrophy, hyperplasia, Metaplasia, Dysplasia), Cell swelling, Intra cellular accumulation, Calcification, Enzyme leakage and Cell Death Acidosis & Alkalosis, Electrolyte imbalance.

Basic mechanism involved in the process of inflammation and repair: Introduction, Clinical signs of inflammation, Different types of Inflammation, Mechanism of Inflammation – Alteration in vascular permeability and blood flow, migration of WBC's, Mediators of inflammation, Basic principles of wound healing in the skin, Pathophysiology of Atherosclerosis.

Unit-2

10 Hours

Cardiovascular System: Hypertension, congestive heart failure, ischemic heart disease (angina, myocardial infarction, atherosclerosis and arteriosclerosis).

Respiratory system: Asthma, Chronic obstructive airways diseases.

Renal system: Acute and chronic renal failure.

Unit-3

10 Hours

Haematological Diseases: Iron deficiency, megaloblastic anaemia (Vit B12 and folic acid), sickle cell anaemia, thalassemia, hereditary acquired anaemia, haemophilia.

Endocrine system: Diabetes, thyroid diseases, disorders of sex hormones.

Nervous system: Epilepsy, Parkinson's disease, stroke, psychiatric disorders: depression, schizophrenia and Alzheimer's disease.

Gastrointestinal system: Peptic Ulcer.

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Unit-4

08 Hours

Inflammatory bowel diseases, jaundice, hepatitis (A, B, C, D, E, F) alcoholic liver disease:

Disease of bones and joints: Rheumatoid arthritis, osteoporosis and gout.

Principles of cancer: classification, etiology and pathogenesis of cancer.

Unit-5

7 Hours

Infectious diseases: Meningitis, Typhoid, Leprosy, Tuberculosis, Urinary tract infections.

Sexually transmitted diseases: AIDS, Syphilis, Gonorrhoea.

Tutorials will be based on the above syllabus.

Teaching hours: 15 Hours

Recommended References (Latest edition):

- Vinay Kumar, Abul K. Abas, Jon C. Aster; Robbins & Cotran Pathologic Basis of Disease; SouthAsia edition; India; Elsevier; 2014.
- Harsh Mohan; Textbook of Pathology; 6th edition; India; Jaypee Publications; 2010.
- Laurence B, Bruce C, Bjorn K. ; Goodman Gilman's The Pharmacological Basis of Therapeutics; 12th edition; New York; McGraw-Hill; 2011.
- Best, Charles Herbert 1899-1978; Taylor, Norman Burke 1885-1972; West, John B (John Burnard); Best and Taylor's Physiological basis of medical practice; 12th ed; unitedstates;
- William and Wilkins, Baltimore; 1991 [1990 printing].
- Nicki R. Colledge, Brian R. Walker, Stuart H. Ralston; Davidson's Principles and Practice of Medicine; 21st edition; London; ELBS/Churchill Livingstone; 2010.
- Guyton A, John .E Hall; Textbook of Medical Physiology; 12th edition; WB Saunders Company; 2010.
- Joseph DiPiro, Robert L. Talbert, Gary Yee, Barbara Wells, L. Michael Posey; Pharmacotherapy: A Pathophysiological Approach; 9th edition; London; McGraw-Hill Medical; 2014.
- V. Kumar, R. S. Cotran and S. L. Robbins; Basic Pathology; 6th edition; Philadelphia; WB Saunders Company; 1997.
- Roger Walker, Clive Edwards; Clinical Pharmacy and Therapeutics; 3rd edition; London; Churchill Livingstone publication; 2003.

Recommended Journals:

- The Journal of Pathology. ISSN: 1096-9896 (Online).
- The American Journal of Pathology. ISSN: 0002-9440.
- Pathology. 1465-3931 (Online).
- International Journal of Physiology, Pathophysiology and Pharmacology. ISSN: 1944-8171 (Online).
- Indian Journal of Pathology and Microbiology. ISSN-0377-4929.

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Subject code: **13PH0305**

Subject name: **Pharmacognosy and Phytochemistry-i**

Scope: The subject involves the fundamentals of Pharmacognosy like scope, classification of crude drugs, their identification and evaluation, phytochemicals present in them and their medicinal properties.

Objective: Upon completion of the course, the student shall be able

- to understand the techniques in the cultivation and production of crude drugs
- to describe the crude drugs, their uses and chemical nature
- to explain the evaluation techniques for the herbal drugs
- to analyse the microscopic and morphological evaluation of crude drugs

Teaching and assessment scheme:

Teaching Scheme (Hours)			Credits	Theory/ Tutorial Marks			Practical Marks		Total Marks
Theory	Tutorial	Practical		CSE	IA (I)	ESE (E)	TW	Viva (V)	
3	1	4	6	10	15	75	15	35	150

Theory syllabus:

Teaching hours: 45 Hours

Unit-1

10 Hours

Introduction to Pharmacognosy: (a) Definition, history, scope and development of Pharmacognosy (b) Sources of Drugs – Plants, Animals, Marine & Tissue culture Organized drugs, unorganized drugs (dried latex, dried juices, dried extracts, gums and mucilage, oleoresins and oleo- gum -resins).

Classification of drugs: Alphabetical, morphological, taxonomical, chemical, pharmacological, chemo and sero taxonomical classification of drugs.

Quality control of Drugs of Natural Origin: Adulteration of drugs of natural origin. Evaluation by organoleptic, microscopic, physical, chemical and biological methods and properties. Quantitative microscopy of crude drugs including lycopodium spore method, leaf constants, camera lucida and diagrams of microscopic objects to scale with camera lucida.

Unit-2

10 Hours

Cultivation, Collection, Processing and Storage of Drugs of Natural Origin: Cultivation and Collection of drugs of natural origin Factors influencing cultivation of medicinal plants. Plant hormones and their applications. Polyploidy, mutation and hybridization with reference to medicinal plants.

Conservation of Medicinal Plants

Unit-3

07 Hours

Plant Tissue Culture: Historical development of plant tissue culture, types of cultures, Nutritional requirements, growth and their maintenance. Applications of plant tissue culture in pharmacognosy. Edible vaccines.

Unit-4

10 Hours

Pharmacognosy in various systems of medicine:

Role of Pharmacognosy in allopathy and traditional systems of medicine namely, Ayurveda, Unani, Siddha, Homeopathy and Chinese systems of medicine. Introduction to secondary

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metabolites: Definition, classification, properties and test for identification of Alkaloids, Glycosides, Flavonoids, Tannins, Volatile oil and Resins.

Unit-5

08 Hours

Study of biological source, chemical nature and uses of drugs of natural origin containing following drugs: Plant Products: Fibers - Cotton, Jute, Hemp Hallucinogens, Teratogens, Natural allergens

Primary metabolites: General introduction, detailed study with respect to chemistry, sources, preparation, evaluation, preservation, storage, therapeutic used and commercial utility as Pharmaceutical Aids and/or Medicines for the following Primary metabolites:

Carbohydrates: Acacia, Agar, Tragacanth, Honey, Starch, Sodium alginate, Pectin, Guar gum. **Proteins and Enzymes:** Gelatin, casein, proteolytic enzymes (Papain, bromelain, serratiopeptidase, urokinase, streptokinase, pepsin).

Lipids(Waxes, fats, fixed oils): Castor oil, Chaulmoogra oil, Wool Fat, Bees Wax.

Marine Drugs: Novel medicinal agents from marine sources

Tutorials will be based on the above syllabus.

Teaching hours: 15 Hours

Practical syllabus:

Teaching hours: 04 Hours/week

☐ Analysis of crude drugs by chemical tests: (i) Tragacanth (ii) Acacia (iii) Agar (iv) Gelatin (v) starch (vi) Honey (vii) Castor oil

- ☐ Determination of stomatal number and index
- ☐ Determination of vein islet number, vein islet termination and palisade ratio.
- ☐ Determination of size of starch grains, calcium oxalate crystals by eye piece micrometer
- ☐ Determination of Fiber length and width
- ☐ Determination of number of starch grains by Lycopodium spore method

☐ Determination of Ash value

☐ Determination of Extractive values of crude drugs

☐ Determination of moisture content of crude drugs

☐ Determination of swelling index and foaming

Recommended References (Latest edition):

- ☐ W.C.Evans, Trease and Evans Pharmacognosy, 16th edition, W.B. Saunders & Co., London,2009.
- ☐ Tyler, V.E., Brady, L.R. and Robbers, J.E., Pharmacognosy, 9th Edn., Lea and Febiger,Philadelphia, 1988.
- ☐ T.E. Wallis, Textbook of Pharmacognosy, 5th edition, CBS Publishers & Distributors, NewDelhi, 2005
- ☐ Mohammad Ali. Pharmacognosy, CBS Publishers & Distributors, New Delhi 2008
- ☐ C.K. Kokate, Purohit, Gokhlae. Text book of Pharmacognosy, Gokhlae (2007), 37th Edition, Nirali Prakashan, Pune, 2007
- ☐ R.D. Choudhary, Herbal Drug Industry Ist Edn, Eastern Publisher, New Delhi, 1996
- ☐ SH.Ansari, Essentials of Pharmacognosy, IInd edition, Birla publications, New Delhi, 2007
- ☐ C.K. Kokate, Practical Pharmacognosy, 5th edition, Vallabh Prakashan, New Delhi, 2016.
- ☐ M.A. Iyengar, Anatomy of Crude Drugs, Manipal Press, Manipal, 2001.
- ☐ Biren Shah & A. K. Seth, Textbook of Pharmacognosy & Phytochemistry, 2nd edition, Elsevier Publication, New Delhi, 2011.
- ☐ Khandelwal K. R. Practical Pharmacognosy, 9th edition, Nirali Prakashan, Pune, 2009
- ☐ Agrawal S.S., Herbal Drug Technology, 2nd edition, Orient Blackswan, New Delhi, 2012.
- ☐ Vyas S. P. and Dixit V. K., Pharmaceutical Biotechnology, 1st edition, CBS Publisher

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& Distributors, New Delhi, 2016.

- WHO: Quality Control Methods for Medicinal Plant Materials, World Health Organisation, Geneva, 1988.

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Faculty of Pharmacy
B. Pharm. | Semester: 4
Subject Name: Pharmaceutical Organic Chemistry-III

Subject Code: 13PH0401

Scope: This subject imparts knowledge on stereo-chemical aspects of organic compounds and organic reactions, important named reactions, chemistry of important hetero cyclic compounds. It also emphasizes on medicinal and other uses of organic compounds.

Objectives: Upon completion of the course the student shall be able to

1. understand the methods of preparation and properties of organic compounds
2. explain the stereo chemical aspects of organic compounds and stereo chemical reactions
3. know the medicinal uses and other applications of organic compounds

Sr No	Topics	% weightage
1.	Stereo isomerism Optical isomerism – Optical activity, enantiomerism, diastereoisomerism, meso compounds Elements of symmetry, chiral and achiral molecules DL system of nomenclature of optical isomers, sequence rules, RS system of nomenclature of optical isomers, Reactions of chiral molecules, Racemic modification and resolution of racemic mixture. Asymmetric synthesis: partial and absolute	10
2.	Geometrical isomerism Nomenclature of geometrical isomers (Cis Trans, EZ, Syn Anti systems) Methods of determination of configuration of geometrical isomers. Conformational isomerism in Ethane, n-Butane and Cyclohexane. Stereo isomerism in biphenyl compounds (Atropisomerism) and conditions for optical activity. Stereospecific and stereoselective reactions	10
3.	Heterocyclic compounds: Nomenclature and classification, Synthesis, reactions and medicinal uses of following compounds/derivatives Pyrrole, Furan, and Thiophene Relative aromaticity and reactivity of Pyrrole, Furan and Thiophene	10
4.	Synthesis, reactions and medicinal uses of following compounds/derivatives Pyrazole, Imidazole, Oxazole and Thiazole., Pyridine, Quinoline, Isoquinoline, Acridine and Indole. Basicity of pyridine Synthesis and medicinal uses of Pyrimidine, Purine, azepines and their Derivatives	8
5.	Reactions of synthetic importance Metal hydride reduction (NaBH_4 and LiAlH_4), Clemmensen reduction, Birch reduction, Wolff Kishner reduction. Oppenauer-oxidation and Dakin reaction. Beckmanns rearrangement and Schmidt rearrangement. Claisen-Schmidt condensation	7

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Recommended Books (Latest Editions)

1. Organic chemistry by I.L. Finar, Volume-I & II.
2. A text book of organic chemistry – Arun Bahl, B.S. Bahl
3. Heterocyclic Chemistry by Raj K. Bansal
4. Organic Chemistry by Morrison and Boyd
5. Heterocyclic Chemistry by T.L. Gilchrist

Subject Name: Medicinal Chemistry-I

Subject Code: 13PH0402

Scope: This subject is designed to impart fundamental knowledge on the structure chemistry and therapeutic value of drugs. The subject emphasizes on structure activity relationships of drugs, importance of physicochemical properties and metabolism of drugs. The syllabus also emphasizes on chemical synthesis of important drugs under each class.

Objectives: Upon completion of the course the student shall be able to

1. understand the chemistry of drugs with respect to their pharmacological activity
2. understand the drug metabolic pathways, adverse effect and therapeutic value of drugs
3. know the Structural Activity Relationship (SAR) of different class of drugs
4. write the chemical synthesis of some drugs

Course Content:

Study of the development of the following classes of drugs, Classification, mechanism of action, uses of drugs mentioned in the course, Structure activity relationship of selective class of drugs as specified in the course and synthesis of drugs superscripted (*)

Sr No	Topics	% weightage
1.	<p>Introduction to Medicinal Chemistry, History and development of medicinal chemistry Physicochemical properties in relation to biological action Ionization, Solubility, Partition Coefficient, Hydrogen bonding, Protein binding, Chelation, Bioisosterism, Optical and Geometrical isomerism.</p> <p>Drug metabolism Drug metabolism principles- Phase I and Phase II. Factors affecting drug metabolism including stereo chemical aspects</p>	10
2.	<p>Drugs acting on Autonomic Nervous System Adrenergic Neurotransmitters: Biosynthesis and catabolism of catecholamine. Adrenergic receptors (Alpha & Beta) and their distribution.</p> <p>Sympathomimetic agents: SAR of Sympathomimetic agents Direct acting: Nor-epinephrine, Epinephrine, Phenylephrine*, Dopamine, Methyldopa, Clonidine, Dobutamine, Isoproterenol, Terbutaline, Salbutamol*, Bitolterol, Naphazoline, Oxymetazoline and Xylometazoline. Indirect acting agents: Hydroxyamphetamine, Pseudoephedrine, Propylhexedrine. Agents with mixed mechanism: Ephedrine, Metaraminol.</p> <p>Adrenergic Antagonists: Alpha adrenergic blockers: Tolazoline*, Phentolamine, Phenoxybenzamine, Prazosin, Dihydroergotamine, Methysergide. Beta adrenergic blockers: SAR of beta blockers, Propranolol*, Metibranolol, Atenolol, Betazolol, Bisoprolol, Esmolol, Metoprolol, Labetolol, Carvedilol.</p>	10
3.	<p>Cholinergic neurotransmitters:</p>	10

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	<p>Biosynthesis and catabolism of acetylcholine. Cholinergic receptors (Muscarinic & Nicotinic) and their distribution.</p> <p>Parasympathomimetic agents: SAR of Parasympathomimetic agents Direct acting agents: Acetylcholine, Carbachol*, Bethanechol, Methacholine, Pilocarpine.</p> <p>Indirect acting/ Cholinesterase inhibitors (Reversible & Irreversible): Physostigmine, Neostigmine*, Pyridostigmine, Edrophonium chloride, Tacrine hydrochloride, Ambenonium chloride, Isoflurophate, Echothiophate iodide, Parathione, Malathion.</p> <p>Cholinesterase reactivator: Pralidoxime chloride.</p> <p>Cholinergic Blocking agents: SAR of cholinolytic agents Solanaceous alkaloids and analogues: Atropine sulphate, Hyoscyamine sulphate, Scopolamine hydrobromide, Homatropine hydrobromide, Ipratropium bromide*.</p> <p>Synthetic cholinergic blocking agents: Tropicamide, Cyclopentolate hydrochloride, Clidinium bromide, Dicyclomine hydrochloride*, Glycopyrrolate, Methantheline bromide, Propantheline bromide, Benztropine mesylate, Orphenadrine citrate, Biperidine hydrochloride, Procyclidine hydrochloride*, Tridihexethyl chloride, Isopropamide iodide, Ethopropazine hydrochloride.</p>	
4.	<p>Drugs acting on Central Nervous System</p> <p>A. Sedatives and Hypnotics:</p> <p>Benzodiazepines: SAR of Benzodiazepines, Chlordiazepoxide, Diazepam*, Oxazepam, Chlorazepate, Lorazepam, Alprazolam, Zolpidem</p> <p>Barbiturtes: SAR of barbiturates, Barbitol*, Phenobarbital, Mephobarbital, Amobarbital, Butobarbital, Pentobarbital, Secobarbital</p> <p>Miscellaneous: Amides & imides: Glutethimide. Alcohol & their carbamate derivatives: Meprobamate, Ethchlorvynol. Aldehyde & their derivatives: Triclofos sodium, Paraldehyde.</p> <p>B. Antipsychotics</p> <p>Phenothiazines: SAR of Phenothiazines - Promazine hydrochloride, Chlorpromazine hydrochloride*, Triflupromazine, Thioridazine hydrochloride, Piperacetazine hydrochloride, Prochlorperazine maleate, Trifluoperazine hydrochloride.</p> <p>Ring Analogues of Phenothiazines: Chlorprothixene, Thiothixene, Loxapine succinate, Clozapine.</p> <p>Fluro buterophenones: Haloperidol, Droperidol, Risperidone.</p> <p>Beta amino ketones: Molindone hydrochloride.</p> <p>Benzamides: Sulpieride.</p> <p>C. Anticonvulsants: SAR of Anticonvulsants, mechanism of anticonvulsant action</p> <p>Barbiturates: Phenobarbitone, Methabarbitol. Hydantoins: Phenytoin*, Mephentyoin, Ethotoin Oxazolidine diones: Trimethadione, Paramethadione</p> <p>Succinimides: Phensuximide, Methsuximide, Ethosuximide*</p> <p>Urea and monoacylureas: Phenacemide, Carbamazepine</p> <p>Benzodiazepines: Clonazepam</p> <p>Miscellaneous: Primidone, Valproic acid, Gabapentin, Felbamate</p>	8
5.	<p>Drugs acting on Central Nervous System General anesthetics:</p> <p>Inhalation anesthetics: Halothane*, Methoxyflurane, Enflurane, Sevoflurane, Isoflurane, Desflurane.</p> <p>Ultra short acting barbiturates: Methohexital sodium*, Thiamylal</p>	7

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<p>sodium, Thiopental sodium.</p> <p>Dissociative anesthetics: Ketamine hydrochloride.*</p> <p>Narcotic and non-narcotic analgesics</p> <p>Morphine and related drugs: SAR of Morphine analogues, Morphine sulphate, Codeine, Meperidine hydrochloride, Anilerdine hydrochloride, Diphenoxylate hydrochloride, Loperamide hydrochloride, Fentanyl citrate*, Methadone hydrochloride*, Propoxyphene hydrochloride, Pentazocine, Levorphanol tartarate.</p> <p>Narcotic antagonists: Nalorphine hydrochloride, Levallorphan tartarate, Naloxone hydrochloride.</p> <p>Anti-inflammatory agents: Sodium salicylate, Aspirin, Mefenamic acid*, Meclofenamate, Indomethacin, Sulindac, Tolmetin, Zomepriac, Diclofenac, Ketorolac, Ibuprofen*, Naproxen, Piroxicam, Phenacetin, Acetaminophen, Antipyrine, Phenylbutazone.</p>	
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MEDICINAL CHEMISTRY - I (Practical)

I Preparation of drugs/ intermediates

- 1 1,3-pyrazole
- 2 1,3-oxazole
- 3 Benzimidazole
- 4 Benzotriazole
- 5 2,3- diphenyl quinoxaline
- 6 Benzocaine
- 7 Phenytoin
- 8 Phenothiazine
- 9 Barbiturate

II Assay of drugs

- 1 Chlorpromazine
- 2 Phenobarbitone
- 3 Atropine
- 4 Ibuprofen
- 5 Aspirin
- 6 Furosemide

III Determination of Partition coefficient for any two drugs

Recommended Books (Latest Editions)

1. Wilson and Giswold's Organic medicinal and Pharmaceutical Chemistry.
2. Foye's Principles of Medicinal Chemistry.
3. Burger's Medicinal Chemistry, Vol I to IV.
4. Introduction to principles of drug design- Smith and Williams.
5. Remington's Pharmaceutical Sciences.
6. Martindale's extra pharmacopoeia.
7. Organic Chemistry by I.L. Finar, Vol. II.
8. The Organic Chemistry of Drug Synthesis by Lednicer, Vol. 1-5.
9. Indian Pharmacopoeia.
10. Text book of practical organic chemistry- A.I.Vogel.

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Subject Name: Physical Pharmaceutics-II

Subject Code: 13PH0403

Scope: The course deals with the various physical and physicochemical properties, and principles involved in dosage forms/formulations. Theory and practical components of the subject help the student to get a better insight into various areas of formulation research and development, and stability studies of pharmaceutical dosage forms.

Objectives: Upon completion of the course the student shall be able to

1. Understand various physicochemical properties of drug molecules in the designing the dosage forms
2. Know the principles of chemical kinetics & to use them for stability testing and determination of expiry date of formulations
3. Demonstrate use of physicochemical properties in the formulation development and evaluation of dosage forms

Course Content:

Sr No	Topics	% weightage
1.	Colloidal dispersions: Classification of dispersed systems & their general characteristics, size & shapes of colloidal particles, classification of colloids & comparative account of their general properties. Optical, kinetic & electrical properties. Effect of electrolytes, coacervation, peptization & protective action	7
2.	Rheology: Newtonian systems, law of flow, kinematic viscosity, effect of temperature, non-Newtonian systems, pseudoplastic, dilatant, plastic, thixotropy, thixotropy in formulation, determination of viscosity, capillary, falling Sphere, rotational viscometers Deformation of solids: Plastic and elastic deformation, Heckel equation, Stress, Strain, Elastic Modulus	10
3.	Coarse dispersion: Suspension, interfacial properties of suspended particles, settling in suspensions, formulation of flocculated and deflocculated suspensions. Emulsions and theories of emulsification, microemulsion and multiple emulsions; Stability of emulsions, preservation of emulsions, rheological properties of emulsions and emulsion formulation by HLB method	10
4.	Micromeritics: Particle size and distribution, mean particle size, number and weight distribution, particle number, methods for determining particle size by different methods, counting and separation method, particle shape, specific surface, methods for determining surface area, permeability, adsorption, derived properties of powders, porosity, packing arrangement, densities, bulkiness & flow properties.	10
5.	Drug stability: Reaction kinetics: zero, pseudo-zero, first & second order, units of basic rate constants, determination of reaction order. Physical and chemical factors influencing the chemical degradation of pharmaceutical product: temperature, solvent, ionic strength, dielectric constant, specific & general acid base catalysis, Simple numerical problems. Stabilization of medicinal agents	10

	against common reactions like hydrolysis & oxidation. Accelerated stability testing in expiration dating of pharmaceutical dosage forms. Photolytic degradation and its prevention	
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PHYSICAL PHARMACEUTICS- II (Practical)

1. Determination of particle size, particle size distribution using sieving method
2. Determination of particle size, particle size distribution using Microscopic method
3. Determination of bulk density, true density and porosity
4. Determine the angle of repose and influence of lubricant on angle of repose
5. Determination of viscosity of liquid using Ostwald's viscometer
6. Determination sedimentation volume with effect of different suspending agent
7. Determination sedimentation volume with effect of different concentration of single suspending agent
8. Determination of viscosity of semisolid by using Brookfield viscometer
9. Determination of reaction rate constant first order.
10. Determination of reaction rate constant second order
11. Accelerated stability studies

Recommended Books: (Latest Editions)

1. Physical Pharmacy by Alfred Martin, Sixth edition
2. Experimental pharmaceuticals by Eugene, Parott.
3. Tutorial pharmacy by Cooper and Gunn.
4. Stocklosam J. Pharmaceutical calculations, Lea & Febiger, Philadelphia.
5. Liberman H.A, Lachman C., Pharmaceutical Dosage forms, Tablets, Volume-1 to 3, Marcel Dekkar Inc.
6. Liberman H.A, Lachman C, Pharmaceutical dosage forms. Disperse systems, volume 1,2, 3. Marcel Dekkar Inc.
7. Physical Pharmaceutics by Ramasamy C, and Manavalan R.

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Subject Name: Pharmacology-I

Subject Code: 13PH0404

Scope: The main purpose of the subject is to understand what drugs do to the living organisms and how their effects can be applied to therapeutics. The subject covers the information about the drugs like, mechanism of action, physiological and biochemical effects (pharmacodynamics) as well as absorption, distribution, metabolism and excretion (pharmacokinetics) along with the adverse effects, clinical uses, interactions, doses, contraindications and routes of administration of different classes of drugs.

Objectives: Upon completion of the course the student shall be able to

1. Understand the pharmacological actions of different categories of drugs
2. Explain the mechanism of drug action at organ system/sub cellular/ macromolecular levels
3. Apply the basic pharmacological knowledge in the prevention and treatment of various diseases.
4. Observe the effect of drugs on animals by simulated experiments
5. Appreciate correlation of pharmacology with other bio medical sciences

Course Content:

Sr No	Topics	% weightage
1.	General Pharmacology a. Introduction to Pharmacology- Definition, historical landmarks and scope of pharmacology, nature and source of drugs, essential drugs concept and routes of drug administration, Agonists, antagonists(competitive and noncompetitive), spare receptors, addiction, tolerance, dependence, tachyphylaxis, idiosyncrasy, allergy. b. Pharmacokinetics- Membrane transport, absorption, distribution, metabolism and excretion of drugs .Enzyme induction, enzyme inhibition, kinetics of elimination	8
2.	General Pharmacology a. Pharmacodynamics- Principles and mechanisms of drug action. Receptor theories and classification of receptors, regulation of receptors. drug receptors interactions signal transduction mechanisms, G-protein– coupled receptors, ion channel receptor, transmembrane enzyme linked receptors, transmembrane JAK-STAT binding receptor and receptors that regulate transcription factors, dose response relationship, therapeutic index, combined effects of drugs and factors modifying drug action. b. Adverse drug reactions. c. Drug interactions (pharmacokinetic and pharmacodynamic) d. Drug discovery and clinical evaluation of new drugs -Drug discovery phase, preclinical evaluation phase, clinical trial phase, phases of clinical trials and pharmacovigilance.	12
3.	Pharmacology of drugs acting on peripheral nervous system a. Organization and function of ANS. b. Neurohumoral transmission, co-transmission and classification of neurotransmitters.	10

	c. Parasympathomimetics, Parasympatholytics, Sympathomimetics, sympatholytics. d. Neuromuscular blocking agents and skeletal muscle relaxants (peripheral). e. Local anesthetic agents. f. Drugs used in myasthenia gravis and glaucoma	
4.	Pharmacology of drugs acting on central nervous system a. Neurohumoral transmission in the C.N.S. special emphasis on importance of various neurotransmitters like with GABA, Glutamate, Glycine, serotonin, dopamine. b. General anesthetics and pre-anesthetics. c. Sedatives, hypnotics and centrally acting muscle relaxants. d. Anti-epileptics e. Alcohols and disulfiram	8
5.	Pharmacology of drugs acting on central nervous system a. Psychopharmacological agents: Antipsychotics, antidepressants, anti-anxiety agents, anti-manics and hallucinogens. b. Drugs used in Parkinsons disease and Alzheimer's disease. c. CNS stimulants and nootropics. d. Opioid analgesics and antagonists e. Drug addiction, drug abuse, tolerance and dependence.	7

PHYSICAL PHARMACEUTICS- II (Practical)

1. Introduction to experimental pharmacology.
2. Commonly used instruments in experimental pharmacology.
3. Study of common laboratory animals.
4. Maintenance of laboratory animals as per CPCSEA guidelines.
5. Common laboratory techniques. Blood withdrawal, serum and plasma separation, anesthetics and euthanasia used for animal studies.
6. Study of different routes of drugs administration in mice/rats.
7. Study of effect of hepatic microsomal enzyme inducers on the phenobarbitone sleeping time in mice.
8. Effect of drugs on ciliary motility of frog oesophagus
9. Effect of drugs on rabbit eye.
10. Effects of skeletal muscle relaxants using rota-rod apparatus.
11. Effect of drugs on locomotor activity using actophotometer.
12. Anticonvulsant effect of drugs by MES and PTZ method.
13. Study of stereotype and anti-catatonic activity of drugs on rats/mice.
14. Study of anxiolytic activity of drugs using rats/mice.
15. Study of local anesthetics by different methods

Note: All laboratory techniques and animal experiments are demonstrated by simulated experiments by softwares and videos

Recommended Books (Latest Editions)

1. Rang H. P., Dale M. M., Ritter J. M., Flower R. J., Rang and Dale's Pharmacology, Churchill Livingstone Elsevier
2. Katzung B. G., Masters S. B., Trevor A. J., Basic and clinical pharmacology, Tata Mc Graw-Hill
3. Goodman and Gilman's, The Pharmacological Basis of Therapeutics
4. Marry Anne K. K., Lloyd Yee Y., Brian K. A., Robbin L.C., Joseph G. B., Wayne A. K., Bradley R.W., Applied Therapeutics, The Clinical use of Drugs, The Point Lippincott Williams & Wilkins
5. Mycek M.J, Gelnet S.B and Perper M.M. Lippincott's Illustrated Reviews Pharmacology Physical Pharmaceutics by Ramasamy C, and Manavalan R.

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6. K.D.Tripathi. Essentials of Medical Pharmacology, JAYPEE Brothers Medical Publishers (P) Ltd, New Delhi.
7. Sharma H. L., Sharma K. K., Principles of Pharmacology, Paras medical publisher
8. Modern Pharmacology with clinical Applications, by Charles R.Craig & Robert,
9. Ghosh MN. Fundamentals of Experimental Pharmacology. Hilton & Company, Kolkata.
10. Kulkarni SK. Handbook of experimental pharmacology. VallabhPrakashan

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Faculty of Pharmacy
B. Pharm. | Semester: 4
Subject Name: Pharmaceutical Jurisprudence

Subject Code: 13PH0405

Scope: This course is designed to impart basic knowledge on important legislations related to the profession of pharmacy in India

Objectives: Upon completion of the course the student shall be able to

1. The Pharmaceutical legislations and their implications in the development and marketing of pharmaceuticals
2. Various Indian pharmaceutical Acts and Laws
3. The regulatory authorities and agencies governing the manufacture and sale of pharmaceuticals
4. The code of ethics during the pharmaceutical practice

Course Content:

Sr No	Topics	% weightage
1.	Drugs and Cosmetics Act, 1940 and its rules 1945: Objectives, Definitions, Legal definitions of schedules to the Act and Rules Import of drugs – Classes of drugs and cosmetics prohibited from import, Import under license or permit. Offences and penalties. Manufacture of drugs – Prohibition of manufacture and sale of certain drugs, Conditions for grant of license and conditions of license for manufacture of drugs, Manufacture of drugs for test, examination and analysis, manufacture of new drug, loan license and repacking license.	10
2.	Drugs and Cosmetics Act, 1940 and its rules 1945. Detailed study of Schedule G, H, M, N, P,T,U, V, X, Y, Part XII B, Sch F & DMR(OA) Sale of Drugs – Wholesale, Retail sale and Restricted license. Offences and penalties Labeling & Packing of drugs- General labeling requirements and specimen labels for drugs and cosmetics, List of permitted colors. Offences and penalties. Administration of the Act and Rules – Drugs Technical Advisory Board, Central drugs Laboratory, Drugs Consultative Committee, Government drug analysts, Licensing authorities, controlling authorities, Drugs Inspectors	10
3.	Pharmacy Act –1948: Objectives, Definitions, Pharmacy Council of India; its constitution and functions, Education Regulations, State and Joint state pharmacy councils; constitution and functions, Registration of Pharmacists, Offences and Penalties Medicinal and Toilet Preparation Act –1955: Objectives, Definitions, Licensing, Manufacture In bond and Outside bond, Export of alcoholic preparations, Manufacture of Ayurvedic, Homeopathic, Patent & Proprietary Preparations. Offences and Penalties.	10

	Narcotic Drugs and Psychotropic substances Act-1985 and Rules: Objectives, Definitions, Authorities and Officers, Constitution and Functions of narcotic & Psychotropic Consultative Committee, National Fund for Controlling the Drug Abuse, Prohibition, Control and Regulation, opium poppy cultivation and production of poppy straw, manufacture, sale and export of opium, Offences and Penalties	
4.	Study of Salient Features of Drugs and Magic Remedies Act and its rules: Objectives, Definitions, Prohibition of certain advertisements, Classes of Exempted advertisements, Offences and Penalties Prevention of Cruelty to animals Act-1960: Objectives, Definitions, Institutional Animal Ethics Committee, CPCSEA guidelines for Breeding and Stocking of Animals, Performance of Experiments, Transfer and acquisition of animals for experiment, Records, Power to suspend or revoke registration, Offences and Penalties National Pharmaceutical Pricing Authority: Drugs Price Control Order (DPCO)- 2013. Objectives, Definitions, Sale prices of bulk drugs, Retail price of formulations, Retail price and ceiling price of scheduled formulations, National List of Essential Medicines (NLEM)	8
5.	Pharmaceutical Legislations – A brief review, Introduction, Study of drugs enquiry committee, Health survey and development committee, Hathi committee and Mudaliar committee Code of Pharmaceutical ethics Definition, Pharmacist in relation to his job, trade, medical profession and his profession, Pharmacist's oath Medical Termination of Pregnancy Act Right to Information Act Introduction to Intellectual Property Rights (IPR)	7

Recommended books: (Latest Edition)

1. Forensic Pharmacy by B. Suresh 123
2. Text book of Forensic Pharmacy by B.M. Mithal
3. Hand book of drug law-by M.L. Mehra
4. A text book of Forensic Pharmacy by N.K. Jain
5. Drugs and Cosmetics Act/Rules by Govt. of India publications.
6. Medicinal and Toilet preparations act 1955 by Govt. of India publications.
7. Narcotic drugs and psychotropic substances act by Govt. of India publications
8. Drugs and Magic Remedies act by Govt. of India publication
9. Bare Acts of the said laws published by Government. Reference books (Theory)

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Syllabus | Semester: 5

Course code with name: 13PH0501 Medicinal Chemistry-II

Scope: This subject is designed to impart fundamental knowledge on the structure, chemistry and therapeutic value of drugs. The subject emphasizes on structure activity relationships of drugs, importance of physicochemical properties and metabolism of drugs. The syllabus also emphasizes on chemical synthesis of important drugs under each class.

Objectives: Upon completion of the course the student shall be able to

- Understand the chemistry of drugs with respect to their pharmacological activity
- Understand the drug metabolic pathways, adverse effect and therapeutic value of drugs
- Know the Structural Activity Relationship of different class of drugs
- Study the chemical synthesis of selected drugs

Teaching and examination scheme:

Teaching scheme (Hours/week)			Total credits	Examination scheme					Total Marks
Theory	Tutorial	Practical		CSE	IA	ESE	Term work	Viva	
3	1	0	4	10	15	75	0	0	100

Theory syllabus:

Teaching hours: 45 Hours

Unit-1

10 Hours

Antihistaminic agents: Histamine, receptors and their distribution in the human body. **H1-**

antagonists: Diphenhydramine hydrochloride*, Dimenhydrinate, Doxylamines succinate, Clemastine fumarate, Diphenylpyraline hydrochloride, Tripelenamine hydrochloride, Chlorcyclizine hydrochloride, Meclizine hydrochloride, Buclizine hydrochloride, Chlorpheniramine maleate, Triprolidine hydrochloride*, Phenidamine tartarate, Promethazine hydrochloride*, Trimeprazine tartrate, Cyproheptadine hydrochloride, Azatidine maleate, Astemizole, Loratadine, Cetirizine, Levocetrazine Cromolyn sodium.

H2-antagonists: Cimetidine*, Famotidine, Ranitidin.

Gastric Proton pump inhibitors: Omeprazole, Lansoprazole, Rabeprazole, Pantoprazole.

Anti-neoplastic agents:

Alkylating agents: Meclorothamine*, Cyclophosphamide, Melphalan Chlorambucil, Busulfan, Thiotepa. **Antimetabolites:** Mercaptopurine*, Thioguanine, Fluorouracil, Floxuridine, Cytarabine, Methotrexate*, Azathioprine. **Antibiotics:** Dactinomycin, Daunorubicin, Doxorubicin, Bleomycin.

Plant products: Etoposide, Vinblastin sulphate, Vincristin sulphate. **Miscellaneous:** Cisplatin, Mitotane.

Unit-2

10 Hours

Anti-anginal:

Vasodilators: Amyl nitrite, Nitroglycerin*, Pentaerythritol tetranitrate, Isosorbide dinitrite*, Dipyridamole. **Calcium channel blockers:** Verapamil, Bepridil hydrochloride, Diltiazem hydrochloride, Nifedipine, Amlodipine, Felodipine, Nicardipine, Nimodipine. **Diuretics:** Carbonic anhydrase inhibitors: Acetazolamide*, Methazolamide, Dichlorphenamide. Thiazides: Chlorthiazide*, Hydrochlorothiazide, Hydroflumethiazide, Cyclothiazide, Loop diuretics: Furosemide*, Bumetanide, Ethacrynic acid. Potassium sparing Diuretics: Spironolactone, Triamterene, Amiloride. Osmotic Diuretics: Mannitol. **Anti-hypertensive**

Baldania

Agents: Timolol, Captopril, Lisinopril, Enalapril, Benazepril hydrochloride, Quinapril hydrochloride, Methyldopate hydrochloride,* Clonidine hydrochloride, Guanethidine monosulphate, Guanabenz acetate, Sodium nitroprusside, Diazoxide, Minoxidil, Reserpine, Hydralazine hydrochloride.

Unit-3

10 Hours

Anti-arrhythmic Drugs: Quinidine sulphate, Procainamide hydrochloride, Disopyramide phosphate*, Phenytoin sodium, Lidocaine hydrochloride, Tocainide hydrochloride, Mexiletine hydrochloride, Lorcaïnide hydrochloride, Amiodarone, Sotalol.

Anti-hyperlipidemic agents: Clofibrate, Lovastatin, Cholesteramine and Cholestipol. **Coagulant & Anticoagulants:** Menadione, Acetomenadione, Warfarin*, Anisindione, clopidogrel.

Drugs used in Congestive Heart Failure: Digoxin, Digitoxin, Nesiritide, Bosentan, Tezosentan.

Unit-4

8 Hours

Drugs acting on Endocrine system: Nomenclature, Stereochemistry and metabolism of steroids.

Sex hormones: Testosterone, Nandralone, Progesterones, Oestriol, Oestradiol, Oestrone, Diethyl stilbestrol. **Drugs for erectile dysfunction:** Sildenafil, Tadalafil. **Oral contraceptives:** Mifepristone, Norgestrel, Levonorgestrol. **Corticosteroids:** Cortisone, Hydrocortisone, Prednisolone, Betamethasone, Dexamethasone. **Thyroid and antithyroid drugs:** L-Thyroxine, L-Thyronine, Propylthiouracil, Methimazole.

Unit-5

7 Hours

Antidiabetic agents: Insulin and its preparations Sulfonyl ureas: Tolbutamide*, Chlorpropamide, Glipizide, Glimpiride. Biguanides: Metformin. Thiazolidinediones: Pioglitazone, Rosiglitazone. Meglitinides: Repaglinide, Nateglinide. Glucosidase inhibitors: Acarbose, Voglibose. **Local Anesthetics:** SAR of Local anesthetics.

Benzoic Acid derivatives: Cocaine, Hexylcaine, Meprylcaine, Cyclomethycaine, Piperocaine. **Amino**

Benzoic acid derivatives: Benzocaine*, Butamben, Procaine*, Butacaine, Propoxycaïne, Tetracaine, Benoxinate. **Lidocaine/Anilide derivatives:** Lignocaine, Mepivacaine, Prilocaine, Etidocaine.

Miscellaneous: Phenacaine, Dipiperodon, Dibucaine.*

Study of the development of the following classes of drugs, Classification, mechanism of action, uses of drugs mentioned in the course, Structure activity relationship of selective class of drugs as specified in the course and synthesis of drugs superscripted ()*

Tutorials will be based on above syllabus.

Teaching hours: 15 Hours

Recommended Books (Latest edition):

- Wilson and Giswold's Organic medicinal and Pharmaceutical Chemistry.
- Foye's Principles of Medicinal Chemistry.
- Burger's Medicinal Chemistry, Vol I to IV.
- Introduction to principles of drug design- Smith and Williams.
- Remington's Pharmaceutical Sciences.
- Martindale's extra pharmacopoeia.
- Organic Chemistry by I.L. Finar, Vol. II.
- The Organic Chemistry of Drug Synthesis by Lednicer, Vol. 1 to 5.
- Indian Pharmacopoeia.
- Text book of practical organic chemistry- A.I. Vogel.

Batdania

Syllabus | Semester: 5

Course code with name: **13PH0502 Pharmacology-II**

Scope: This subject is intended to impart the fundamental knowledge on various aspects (classification, mechanism of action, therapeutic effects, clinical uses, side effects and contraindications) of drugs acting on different systems of body and in addition, emphasis on the basic concepts of bioassay.

Objectives: Upon completion of the course the student shall be able to

- Understand the mechanism of drug action and its relevance in the treatment of different diseases.
- Demonstrate isolation of different organs/tissues from the laboratory animals by simulated experiments.
- Demonstrate the various receptor actions using isolated tissue preparation.
- Appreciate correlation of pharmacology with related medical sciences.

Teaching and examination scheme:

Teaching scheme (Hours/week)			Total credits	Examination scheme					Total Marks
Theory	Tutorial	Practical		CSE	IA	ESE	Term work	Viva	
3	1	4	6	10	15	75	15	35	150

Theory syllabus:

Teaching hours: 45 Hours

Unit-1

10 Hours

Pharmacology of drugs acting on cardio vascular system: Introduction to hemodynamic and electrophysiology of heart. Drugs used in congestive heart failure. Anti-hypertensive drugs. Anti-anginal drugs. Anti-arrhythmic drugs. Anti-hyperlipidemic drugs.

Unit-2

10 Hours

Pharmacology of drugs acting on cardio vascular system: Drug used in the therapy of shock. Hematinics, coagulants and anticoagulants. Fibrinolytics and anti-platelet drugs. Plasma volume expanders.

Pharmacology of drugs acting on urinary system: Diuretics, Anti-diuretics.

Unit-3

10 Hours

Autocoids and related drugs: Introduction to autocoids and classification. Histamine, 5-HT and their antagonists. Prostaglandins, Thromboxanes and Leukotrienes. Angiotensin, Bradykinin and Substance P. Non-steroidal anti-inflammatory agents. Anti-gout drugs. Antirheumatic drugs.

Unit-4

8 Hours

Pharmacology of drugs acting on endocrine system: Basic concepts in endocrine pharmacology. Anterior Pituitary hormones- analogues and their inhibitors. Thyroid hormones- analogues and their inhibitors. Hormones regulating plasma calcium level- Parathormone, Calcitonin and Vitamin-D. Insulin, Oral Hypoglycemic agents and glucagon. ACTH and corticosteroids.

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Unit-5**7 Hours**

Pharmacology of drugs acting on endocrine system: Androgens and Anabolic steroids. Estrogens, progesterone and oral contraceptives. Drugs acting on the uterus.

Bioassay: Principles and applications of bioassay. Types of bioassay. Bioassay of insulin, oxytocin, vasopressin, ACTH, d-tubocurarine, digitalis, histamine and 5-HT

Tutorials will be based on above syllabus.

Teaching hours: 15 Hours

Practical syllabus:

Teaching hours: 04 Hours/week

- Introduction to in-vitro pharmacology and physiological salt solutions.
- Effect of drugs on isolated frog heart.
- Effect of drugs on blood pressure and heart rate of dog.
- Study of diuretic activity of drugs using rats/mice.
- DRC of acetylcholine using frog rectus abdominis muscle.
- Effect of physostigmine and atropine on DRC of acetylcholine using frog rectus abdominis muscle and rat ileum respectively.

Bioassay of histamine using guinea pig ileum by matching method.

Bioassay of oxytocin using rat uterine horn by interpolation method.

Bioassay of serotonin using rat fundus strip by three point bioassay.

Bioassay of acetylcholine using rat ileum/colon by four point bioassay.

Determination of PA₂ value of prazosin using rat anococcygeus muscle (by Schild's plot method).

Determination of PD₂ value using guinea pig ileum.

Effect of spasmogens and spasmolytics using rabbit jejunum.

Anti-inflammatory activity of drugs using carrageenan induced paw-edema model.

Analgesic activity of drug using central and peripheral methods.

Note: All laboratory techniques and animal experiments are demonstrated by simulated experiments by softwares and videos.

Recommended Books (Latest edition):

- Rang H. P., Dale M. M., Ritter J. M., Flower R. J., Rang and Dale's Pharmacology, Churchill Livingstone Elsevier.
- Katzung B. G., Masters S. B., Trevor A. J., Basic and clinical pharmacology, Tata McGraw-Hill.
- Goodman and Gilman's, The Pharmacological Basis of Therapeutics.
- Marry Anne K. K., Lloyd Yee Y., Brian K. A., Robbin L.C., Joseph G. B., Wayne A. K., Bradley R.W., Applied Therapeutics, The Clinical use of Drugs, The Point Lippincott Williams & Wilkins.
- Mycek M.J, Gelnet S.B and Perper M.M. Lippincott's Illustrated Reviews Pharmacology.
- K.D.Tripathi. Essentials of Medical Pharmacology, JAYPEE Brothers Medical Publishers (P)Ltd, New Delhi.
- Sharma H. L., Sharma K. K., Principles of Pharmacology, Paras medical publisher.
- Modern Pharmacology with clinical Applications, by Charles R.Craig & Robert.
- Ghosh MN. Fundamentals of Experimental Pharmacology. Hilton & Company Kolkata.
- Kulkarni SK. Handbook of experimental pharmacology. Vallabh Prakashan.

Baldania

Syllabus | Semester: 5

Course code with name: **13PH0503 Pharmacognosy and Phytochemistry-II**

Scope: The main purpose of subject is to impart the students the knowledge of how the secondary metabolites are produced in the crude drugs, how to isolate and identify and produce them industrially. Also this subject involves the study of producing the plants and phytochemicals through plant tissue culture, drug interactions and basic principles of traditional system of medicine.

Objectives: Upon completion of the course the student shall be able to

- ☐ To know the modern extraction techniques, characterization and identification of the herbal drugs and phytoconstituents.
- ☐ To understand the preparation and development of herbal formulation.
- ☐ To understand the herbal drug interactions.
- ☐ To carry out isolation and identification of phytoconstituents.

Teaching and examination scheme:

Teaching scheme (Hours/week)			Total credits	Examination scheme					Total Marks
Theory	Tutorial	Practical		CSE	IA	ESE	Term work	Viva	
3	1	4	6	10	15	75	15	35	150

Theory syllabus:

Teaching hours: 45 Hours

Unit-1

7 Hours

Metabolic pathways in higher plants and their determination: a) Brief study of basic metabolic pathways and formation of different secondary metabolites through these pathways- Shikimic acid pathway, Acetate pathways and Amino acid pathway. b) Study of utilization of radioactive isotopes in the investigation of Biogenetic studies.

Unit-2

14 Hours

General introduction, composition, chemistry & chemical classes, biosources, therapeutic uses and commercial applications of following secondary metabolites: **Alkaloids:** Vinca, Rauwolfia, Belladonna, Opium, **Phenylpropanoids and Flavonoids:** Lignans, Tea, Ruta, **Steroids, Cardiac Glycosides & Triterpenoids:** Liquorice, Dioscorea, Digitalis, **Volatile oils:** Mentha, Clove, Cinnamon, Fennel, Coriander, **Tannins:** Catechu, Pterocarpus, **Resins:** Benzoin, Guggul, Ginger, Asafoetida, Myrrh, Colophony, **Glycosides:** Senna, Aloes, Bitter Almond, **Iridoids, other terpenoids & Naphthaquinones:** Gentian, Artemisia, taxus, carotenoids.

Unit-3

6 Hours

Isolation, Identification and Analysis of Phytoconstituents: a) Terpenoids: Menthol, Citral, Artemisin, b) Glycosides: Glycyrrhetic acid & Rutin, c) Alkaloids: Atropine, Quinine, Reserpine, Caffeine, d) Resins: Podophyllotoxin, Curcumin.

Unit-4

10 Hours

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Industrial production, estimation and utilization of the following phytoconstituents: Forskolin, Sennoside, Artemisinin, Diosgenin, Digoxin, Atropine, Podophyllotoxin, Caffeine, Taxol, Vincristine and Vinblastine.

Unit-5

8 Hours

Basics of Phytochemistry: Modern methods of extraction, application of latest techniques like Spectroscopy, chromatography and electrophoresis in the isolation, purification and identification of crude drugs.

Tutorials will be based on above syllabus.

Teaching hours: 15 Hours

Practical syllabus:

Teaching hours: 04 Hours/week

- ☐ Morphology, histology and powder characteristics & extraction & detection of: Cinchona, Cinnamon, Senna, Clove, Ephedra, Fennel and Coriander.
- ☐ Exercise involving isolation & detection of active principles:
 - a☐ Caffeine - from tea dust.
 - ☐ Diosgenin from Dioscorea
 - c☐ Atropine from Belladonna
 - d☐ Sennosides from Senna
- ☐ Separation of sugars by Paper chromatography.
- ☐ TLC of herbal extract.
- ☐ **Distillation of volatile oils and detection of phytoconstituents by TLC.**
- ☐ **Analysis of crude drugs by chemical tests: (i) Asafoetida (ii) Benzoin (iii) Colophony (iv) Aloes (v) Myrrh.**

Recommended Books (Latest edition):

- ☐ W.C.Evans, Trease and Evans Pharmacognosy, 16th edition, W.B. Saunders & Co., London,2009.
- ☐ Mohammad Ali. Pharmacognosy and Phytochemistry, CBS Publishers & Distribution, NewDelhi.
- ☐ Text book of Pharmacognosy by C.K. Kokate, Purohit, Gokhlae (2007), 37th Edition, Nirali Prakashan, New Delhi.
- ☐ Herbal drug industry by R.D. Choudhary (1996), Ist Edn, Eastern Publisher, New Delhi.
- ☐ Essentials of Pharmacognosy, Dr.SH.Ansari, IInd edition, Birla publications, New Delhi,2007.
- ☐ Herbal Cosmetics by H.Pande, Asia Pacific Business press, Inc, New Delhi.
- ☐ A.N. Kalia, Textbook of Industrial Pharmacognosy, CBS Publishers, New Delhi, 2005.
- ☐ R Endress, Plant cell Biotechnology, Springer-Verlag, Berlin, 1994.
- ☐ Pharmacognosy & Pharmacobiotechnology. James Bobbers, Marilyn KS, VE Tylor.
- ☐☐ The formulation and preparation of cosmetic, fragrances and flavours.
- ☐☐ Remington's Pharmaceutical sciences.
- ☐☐ Text Book of Biotechnology by Vyas and Dixit.
- ☐☐ Text Book of Biotechnology by R.C. Dubey.

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Syllabus | Semester: 5

Course code with name: **13PH0504 Pharmaceutical Microbiology**

Scope: Study of all categories of microorganisms especially for the production of alcohol antibiotics, vaccines, vitamins enzymes etc.

Objectives: Upon completion of the course the student shall be able to

- ☐ Understand methods of identification, cultivation and preservation of various microorganisms.
- ☐ To understand the importance and implementation of sterilization in pharmaceutical processing and industry.
- ☐ Learn sterility testing of pharmaceutical products.
- ☐ Carried out microbiological standardization of Pharmaceuticals.
- ☐ Understand the cell culture technology and its applications in pharmaceutical industries.

Teaching and examination scheme:

Teaching scheme (Hours/week)			Total credits	Examination scheme					Total Marks
Theory	Tutorial	Practical		CSE	IA	ESE	Term work	Viva	
3	1	4	6	10	15	75	15	35	150

Theory syllabus:

Teaching hours: 45 Hours

Unit-1

10 Hours

Introduction, history of microbiology, its branches, scope and its importance. Introduction to Prokaryotes and Eukaryotes : Study of ultra-structure and morphological classification of bacteria, nutritional requirements, raw materials used for culture media and physical parameters for growth, growth curve, isolation and preservation methods for pure cultures, cultivation of anaerobes, quantitative measurement of bacterial growth (total & viable count). Study of different types of phase contrast microscopy, dark field microscopy and electron microscopy.

Unit-2

10 Hours

Identification of bacteria using staining techniques (simple, Gram's & Acid fast staining) and biochemical tests (IMViC). Study of principle, procedure, merits, demerits and applications of physical, chemical gaseous, radiation and mechanical method of sterilization. Evaluation of the efficiency of sterilization methods. Equipments employed in large scale sterilization. Sterility indicators.

Unit-3

10 Hours

Study of morphology, classification, reproduction/replication and cultivation of Fungi and Viruses. Classification and mode of action of disinfectants Factors influencing disinfection, antiseptics and their evaluation. For bacteriostatic and bactericidal actions. Evaluation of bactericidal & Bacteriostatic. Sterility testing of products (solids, liquids, ophthalmic and other sterile products) according to IP, BP and USP.

Unit-4

8 Hours

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Designing of aseptic area, laminar flow equipments; study of different sources of contamination in an aseptic area and methods of prevention, clean area classification. Principles and methods of different microbiological assay. Methods for standardization of antibiotics, vitamins and amino acids. Assessment of a new antibiotic.

Unit-5

7 Hours

Types of spoilage, factors affecting the microbial spoilage of pharmaceutical products, sources and types of microbial contaminants, assessment of microbial contamination and spoilage. Preservation of pharmaceutical products using antimicrobial agents, evaluation of microbial stability of formulations. Growth of animal cells in culture, general procedure for cell culture, Primary, established and transformed cell cultures. Application of cell cultures in pharmaceutical industry and research.

Tutorials will be based on above syllabus.

Teaching hours: 15 Hours

Practical syllabus:

Teaching hours: 04 Hours/week

- Introduction and study of different equipments and processing, e.g., B.O.D. incubator, laminar flow, aseptic hood, autoclave, hot air sterilizer, deep freezer, refrigerator, microscopes used in experimental microbiology.
- Sterilization of glassware, preparation and sterilization of media.
- Sub culturing of bacteria and fungus. Nutrient stabs and slants preparations.
- Staining methods- Simple, Grams staining and acid fast staining (Demonstration with practical).
- Isolation of pure culture of micro-organisms by multiple streak plate technique and other techniques.
- Microbiological assay of antibiotics by cup plate method and other methods.
- Motility determination by Hanging drop method.
- Sterility testing of pharmaceuticals.
- Bacteriological analysis of water.
- 10. Biochemical test.

Recommended Books (Latest edition):

- W.B. Hugo and A.D. Russel: Pharmaceutical Microbiology, Blackwell Scientific publications, Oxford London.
- Prescott and Dunn., Industrial Microbiology, 4th edition, CBS Publishers & Distributors, Delhi.
- Pelczar, Chan Kreig, Microbiology, Tata McGraw Hill edn.
- Malcolm Harris, Balliere Tindall and Cox: Pharmaceutical Microbiology.
- Rose: Industrial Microbiology.
- Probisher, Hinsdill et al: Fundamentals of Microbiology, 9th ed. Japan.
- Cooper and Gunn's: Tutorial Pharmacy, CBS Publisher and Distribution.
- Pepler: Microbial Technology.
- I.P., B.P., U.S.P. latest editions.
- Ananthnarayan : Text Book of Microbiology, Orient-Longman, Chennai.
- Edward: Fundamentals of Microbiology.
- N.K.Jain: Pharmaceutical Microbiology, Vallabh Prakashan, Delhi.
- Bergeys manual of systematic bacteriology, Williams and Wilkins- A Waverly company.

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Syllabus | Semester: 5

Course code with name: **13PH0505 Pharmaceutical Biotechnology**

Scope: Biotechnology has a long promise to revolutionize the biological sciences and technology. Scientific application of biotechnology in the field of genetic engineering, medicine and fermentation technology makes the subject interesting. Biotechnology is leading to new biological revolutions in diagnosis, prevention and cure of diseases, new and cheaper pharmaceutical drugs. Biotechnology has already produced transgenic crops and animals and the future promises lot more. It is basically a research-based subject.

Objectives: Upon completion of the course the student shall be able to

- Understanding the importance of Immobilized enzymes in Pharmaceutical Industries.
- Genetic engineering applications in relation to production of pharmaceuticals.
- Importance of Monoclonal antibodies in Industries.
- Appreciate the use of microorganisms in fermentation technology.

Teaching and examination scheme:

Teaching scheme (Hours/week)			Total credits	Examination scheme					Total Marks
Theory	Tutorial	Practical		CSE	IA	ESE	Term work	Viva	
3	1	0	6	10	15	75	0	0	100

Theory syllabus:

Teaching hours: 45 Hours

Unit-1

10 Hours

a) Brief introduction to Biotechnology with reference to Pharmaceutical Sciences. b) Enzyme Biotechnology- Methods of enzyme immobilization and applications. c) Biosensors- Working and applications of biosensors in Pharmaceutical Industries. d) Brief introduction to Protein Engineering. e) **Use of microbes in industry. Production of Enzymes- General consideration - Amylase, Catalase, Peroxidase, Lipase, Protease, Penicillinase.** f) **Basic principles of genetic engineering.**

Unit-2

10 Hours

a) Study of cloning vectors, restriction endonucleases and DNA ligase. b) **Recombinant DNA technology. Application of genetic engineering in medicine. c) Application of rDNA technology and genetic engineering in the production of: i) Interferon, ii) Vaccines: hepatitis- B, iii) Hormones- Insulin. d) Brief introduction to PCR.**

Unit-3

10 Hours

Types of immunity- humoral immunity, cellular immunity: a) Structure of Immunoglobulins. Structure and Function of MHC. c) Hypersensitivity reactions, Immune stimulation and Immune suppressions. d) **General method of the preparation of bacterial vaccines, toxoids, viral vaccine, antitoxins, serum-immune blood derivatives and other products relative to immunity. e) Storage conditions and stability of official vaccines. f) Hybridoma technology- Production, Purification and Applications. g) Blood products and Plasma Substitutes.**

Unit-4

8 Hours

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a) Immuno blotting techniques- ELISA, Western blotting, Southern blotting. b) Genetic organization of Eukaryotes and Prokaryotes. c) Microbial genetics including transformation, transduction, conjugation, plasmids and transposons. d) Introduction to Microbial biotransformation and applications. e) Mutation: Types of mutation/mutants.

Unit-5

7 Hours

a) Fermentation methods and general requirements, study of media, equipments, sterilization methods, aeration process, stirring. b) Large scale production fermenter design and its various controls. c) Study of the production of - penicillins, citric acid, Vitamin B12, Glutamic acid, Griseofulvin. d) Blood Products: Collection, Processing and Storage of whole human blood, dried human plasma, plasma Substitutes.

Tutorials will be based on above syllabus.

Teaching hours: 15 Hours

Recommended Books (Latest edition):

- B.R. Glick and J.J. Pasternak: Molecular Biotechnology: Principles and Applications of Recombinant DNA: ASM Press Washington D.C.
- RA Goldshy et. al., : Kuby Immunology.
- J.W. Goding: Monoclonal Antibodies.
- J.M. Walker and E.B. Gingold: Molecular Biology and Biotechnology by Royal Society of Chemistry.
- Zaborsky: Immobilized Enzymes, CRC Press, Degraland, Ohio.
- S.B. Primrose: Molecular Biotechnology (Second Edition) Blackwell Scientific Publication.
- Stanbury F., P., Whitakar A., and Hall J., S., Principles of fermentation technology, 2nd edition, Aditya books Ltd., New Delhi.

FACULTY OF PHARMACY | B. Pharmacy

SYLLABUS | Semester-6



Subject code: 13PH0601

Subject name: Medicinal chemistry-III

Scope: This subject is designed to impart fundamental knowledge on the structure, chemistry, and therapeutic value of drugs. The subject emphasis on modern techniques of rational drug design like quantitative structure-activity relationship (QSAR), Prodrug concept, combinatorial chemistry, and Computer-aided drug design (CADD). The subject also emphasizes the chemistry, mechanism of action, metabolism, adverse effects, Structure-Activity Relationships (SAR), therapeutic uses, and synthesis of important drugs.

Objective: Upon completion of the course the student shall be able to:

- Understand the importance of drug design and different techniques of drug design.
- Understand the chemistry of drugs with respect to their biological activity.
- Know the metabolism, adverse effects and therapeutic value of drugs.
- Know the importance of SAR of drugs.

Teaching and assessment scheme:

Teaching Scheme (Hours)			Credits	Theory/ Tutorial Marks			Practical Marks		Total Marks
Theory	Tutorial	Practical		CSE	IA (I)	ESE (E)	TW	Viva (V)	
3	1	4	6	10	15	75	15	35	150

Theory syllabus:

Teaching hours: 45 Hours

Unit-1

10 Hours

Antibiotics: Historical background, Nomenclature, Stereochemistry, Structure-activity relationship, Chemical degradation classification, and important products of the following classes.

w.e.f. academic year (AY) 2020-21 and onwards

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Beta-Lactam antibiotics: Penicillin, Cephalosporins, Beta-Lactamase inhibitors, Monobactams. Aminoglycosides: Streptomycin, Neomycin, Kanamycin.

Tetracyclines: Tetracycline, Oxytetracycline, Chlortetracycline, Minocycline, Doxycycline.

Unit-2

10 Hours

Antibiotics: Historical background, Nomenclature, Stereochemistry, Structure-activity relationship, Chemical degradation classification, and important products of the following classes. Macrolide: Erythromycin, Clarithromycin, Azithromycin. Miscellaneous: Chloramphenicol*, Clindamycin. Prodrugs: Basic concepts and application of prodrugs design. Antimalarials: Etiology of malaria. Quinolines: SAR, Quinine sulfate, Chloroquine*, Amodiaquine, Primaquine phosphate, Pamaquine*, Quinacrine hydrochloride, Mefloquine. Biguanides and dihydro triazines: Cycloguanil pamoate, Proguanil. Miscellaneous: Pyrimethamine, Artesunate, Artemether, Atovaquone.

Unit-3

10 Hours

Synthetic anti-tubercular agents: Isoniazid*, Ethionamide, Ethambutol, Pyrazinamide, Para aminosalicylic acid.* Anti-tubercular antibiotics: Rifampicin, Rifabutin, Cycloserine, Streptomycin, Capreomycin sulfate. Urinary tract anti-infective agents: Quinolones: SAR of quinolones, Nalidixic Acid, Norfloxacin, Enoxacin, Ciprofloxacin*, Ofloxacin, Lomefloxacin, Sparfloxacin, Gatifloxacin, Moxifloxacin. Miscellaneous: Furazolidone, Nitrofurantoin*, Methanamine. Antiviral agents: Amantadine hydrochloride, Rimantadine hydrochloride,

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Idoxuridine trifluoride, Acyclovir*, Gancyclovir, Zidovudine, Didanosine, Zalcitabine, Lamivudine, Loviride, Delavirding, Ribavirin, Saquinavir, Indinavir, Ritonavir.

Unit-4

8 Hours

Antifungal agents: Antifungal antibiotics: Amphotericin-B, Nystatin, Natamycin, Griseofulvin Synthetic Antifungal agents: Clotrimazole, Econazole, Butoconazole, Oxiconazole Tioconazole, Miconazole*, Ketoconazole, Terconazole, Itraconazole, Fluconazole, Naftifine hydrochloride, Tolnaftate*. Anti-protozoal Agents: Metronidazole*, Tinidazole, Ornidazole, Diloxanide, Iodoquinol, Pentamidine Isethionate, Atovaquone, Eflornithine. Anthelmintics: Diethylcarbamazine citrate*, Thiabendazole, Mebendazole*, Albendazole, Niclosamide, Oxamniquine, Praziquantel, Ivermectin. Sulphonamides and Sulfones: Historical development, chemistry, classification, and SAR of Sulfonamides: Sulphamethizole, Sulfisoxazole, Sulphamethizine, Sulfacetamide*, Sulphapyridine, Sulfamethoxazole*, Sulphadiazine, Mefenide acetate, Sulfasalazine Folate reductase inhibitors: Trimethoprim*, Cotrimoxazole Sulfones: Dapsone*.

Unit-5

7 Hours

Introduction to Drug Design: Various approaches used in drug design. Physicochemical parameters used in a quantitative structure-activity relationship (QSAR) such as partition coefficient, Hammett's electronic parameter, Taft's steric parameter, and Hansch analysis Pharmacophore modeling and docking techniques. Combinatorial Chemistry: Concept and applications of Combinatorial chemistry solid phase and solution phase synthesis.

Tutorials will be based on the above syllabus.

Teaching hours: 15 Hours

Practical syllabus:

Teaching hours: 04 Hours/week

- Preparation of Sulphanilamide.
- Preparation of 7-Hydroxy, 4-methyl coumarin.
- Preparation of Chlorobutanol.
- Preparation of Triphenyl imidazole.
- Preparation of Tolbutamide.
- Preparation of Hexamine.
- Assay of Isonicotinic acid hydrazide.
- Assay of Chloroquine.
- Assay of Metronidazole.
- Assay of Dapsone.
- Assay of Chlorpheniramine maleate.
- Assay of Benzylpenicillin.
- Preparation of medicinally important compounds or intermediates by microwave irradiation technique.
- Drawing structures and reactions using chem draw®.
- Determination of physicochemical properties such as logP, clogP, MR, Molecular weight, Hydrogen bond donors and acceptors for a class of drugs course content using drug design software Drug likeliness screening (Lipinski's RO5).

Recommended References (Latest edition):

- Wilson and Giswold's Organic medicinal and Pharmaceutical Chemistry.
- Foye's Principles of Medicinal Chemistry.
- Burger's Medicinal Chemistry, Vol I to IV.
- Introduction to principles of drug design- Smith and Williams.

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- ☐☐ Remington's Pharmaceutical Sciences.
- ☐☐ Martindale's extra pharmacopoeia.
- ☐☐ Organic Chemistry by I. L. Finar, Vol. II.
- ☐☐ The Organic Chemistry of Drug Synthesis by Lednicer, Vol. 1-5.
- ☐☐ Indian Pharmacopoeia.
- ☐☐☐ Textbook of practical organic chemistry- A.I.Vogel.

Subject code: **13PH0602**

Subject name: **Pharmacology-III**

Scope: This subject is intended to impart the fundamental knowledge on various aspects (classification, mechanism of action, therapeutic effects, clinical uses, side effects, and contraindications) of drugs acting on the respiratory and gastrointestinal system, infectious diseases, immuno-pharmacology and also, emphasis on the principles of toxicology and chrono-pharmacology.

Objective: Upon completion of this course the student should be able to:

- Understand the mechanism of drug action and its relevance in the treatment of different infectious diseases.
- Comprehend the principles of toxicology and treatment of various poisonings.
- Appreciate the correlation of pharmacology with related medical sciences.

Teaching and assessment scheme:

Teaching Scheme (Hours)			Credits	Theory/ Tutorial Marks			Practical Marks		Total Marks
Theory	Tutorial	Practical		CSE	IA (I)	ESE (E)	TW	Viva (V)	
3	1	4	6	10	15	75	15	35	150

Theory syllabus:

Teaching hours: 45 Hours

Unit-1

10 Hours

Pharmacology of drugs acting on the respiratory system:

- a Anti-asthmatic drugs.
- Drugs used in the management of COPD.
- c Expectorants and antitussives.
- d Nasal decongestants.
- e Respiratory stimulants.

Pharmacology of drugs acting on the Gastrointestinal Tract.

- a Antiulcer agents.
- Drugs for constipation and diarrhoea.
- c Appetite stimulants and suppressants.
- d Digestants and carminatives.
- e Emetics and anti-emetics.

Unit-2

10 Hours

Chemotherapy:

- a General principles of chemotherapy.
- Sulfonamides and cotrimoxazole.
- c Antibiotics: Penicillins, cephalosporins, chloramphenicol, macrolides, quinolones, and fluoroquinolones, tetracycline, and aminoglycosides.

Unit-3

10 Hours

Chemotherapy:

- a Antitubercular agents.
- Antileprotic agents.
- c Antifungal agents.

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- d □ Antiviral drugs.
- e □ Anthelmintics.
- Antimalarial drugs.
- g □ Antiamoebic agents.

Unit-4

8 Hours

Chemotherapy:

Urinary tract infections and sexually transmitted diseases, Chemotherapy of malignancy.

- a □ Immunopharmacology: Immunostimulants, Immunosuppressant.
- Protein drugs, monoclonal antibodies, target drugs to antigen, biosimilars.

Unit-5

7 Hours

Principles of toxicology

- a □ Definition and basic knowledge of acute, subacute, and chronic toxicity.
- Definition and basic knowledge of genotoxicity, carcinogenicity, teratogenicity, and mutagenicity.
- c □ General principles of treatment of poisoning.
- d □ Clinical symptoms and management of barbiturates, morphine, organo-phosphorus compound and lead, mercury, and arsenic poisoning.
- e □ Chronopharmacology: Definition of rhythm and cycles. Biological clock and their significance leading to chronotherapy.

Tutorials will be based on the above syllabus.

Teaching hours: 15 Hours

Practical syllabus:

Teaching hours: 04 Hours/week

- Dose calculation in pharmacological experiments.
- Antiallergic activity by mast cell stabilization assay.
- Study of anti-ulcer activity of a drug-using pylorus ligand (SHAY) rat model and NSAIDS induced ulcer model.
- Study of the effect of drugs on gastrointestinal motility.
- Effect of agonists and antagonists on guinea-pig ileum.
- Estimation of serum biochemical parameters by using semi-autoanalyzer.
- Effect of saline purgative on frog intestine.
- Insulin hypoglycemic effect in a rabbit.
- Test for pyrogens (Rabbit method).
- Determination of acute oral toxicity (LD50) of a drug from a given data.
- Determination of acute skin irritation/corrosion of a test substance.
- Determination of acute eye irritation/corrosion of a test substance.
- Calculation of pharmacokinetic parameters from a given data.
- Biostatistics methods in experimental pharmacology (student's t-test, ANOVA).
- Biostatistics methods in experimental pharmacology (Chi-square test, Wilcoxon Signed Rank Test).

*Experiments are demonstrated by simulated experiments/videos.

Recommended References (Latest edition):

- Rang H. P., Dale M. M., Ritter J. M., Flower R. J., Rang and Dale's Pharmacology, Churchill Livingstone Elsevier.
- Katzung B. G., Masters S. B., Trevor A. J., Basic and clinical pharmacology, Tata Mc Graw-Hill.
- Goodman and Gilman's, The Pharmacological Basis of Therapeutics.

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- ☐ Marry Anne K. K., Lloyd Yee Y., Brian K. A., Robbin L.C., Joseph G. B., Wayne A. K., Bradley R.W., Applied Therapeutics, The Clinical Use of Drugs. The Point Lippincott Williams & Wilkins.
- ☐ Mycek M. J, Gelnet S. B, and Perper M.M. Lippincott's Illustrated Reviews-Pharmacology.
- ☐ K. D. Tripathi. Essentials of Medical Pharmacology, JAYPEE Brothers Medical Publishers(P) Ltd, New Delhi.
- ☐ Sharma H. L., Sharma K. K., Principles of Pharmacology, Paras medical publisher.
- ☐ Modern Pharmacology with Clinical Applications, by Charles R. Craig & Robert, Ghosh MN. Fundamentals of Experimental Pharmacology. Hilton & Company, Kolkata.
- ☐ Kulkarni SK. Handbook of experimental pharmacology. Vallabh Prakashan.
- ☐☐ N. Udupa and P.D. Gupta, Concepts in Chronopharmacology.

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Subject code: **13PH0603**

Subject name: **Herbal Drug Technology**

Scope: This subject gives the student the knowledge of basic understanding of the herbal drug industry, the quality of raw material, guidelines for quality of herbal drugs, herbal cosmetics, natural sweeteners, nutraceutical, etc. The subject also emphasizes Good Manufacturing Practices (GMP), patenting, and regulatory issues of herbal drugs.

Objective: Upon completion of this course the student should be able to:

- Understand raw material as a source of herbal drugs from cultivation to herbal drug product
- Know the WHO and ICH guidelines for the evaluation of herbal drugs.
- Know the herbal cosmetics, natural sweeteners, nutraceuticals.
- Appreciate patenting of herbal drugs, GMP.

Teaching and assessment scheme:

Teaching Scheme (Hours)			Credits	Theory/ Tutorial Marks			Practical Marks		Total Marks
Theory	Tutorial	Practical		CSE	IA (I)	ESE (E)	TW	Viva (V)	
3	1	4	6	10	15	75	15	35	150

Theory syllabus:

Teaching hours: 45 Hours

Unit-1

11 Hours

Herbs as raw materials: Definition of herb, herbal medicine, herbal medicinal product, herbal drug preparation Source of Herbs Selection, identification and authentication of herbal materials Processing of herbal raw material Biodynamic Agriculture Good agricultural practices in the cultivation of medicinal plants including Organic farming. Pest and Pestmanagement in medicinal plants: Biopesticides/Bioinsecticides. Indian Systems of Medicine a) Basic principles involved in Ayurveda, Siddha, Unani, and Homeopathy Preparation and standardization of Ayurvedic formulations viz Aristas and Asavas, Ghutika, Churna, Lehya, andBhasma.

Unit-2

7 Hours

Nutraceuticals: General aspects, Market, growth, scope, and types of products available in the market. Health benefits and role of Nutraceuticals in ailments like Diabetes, CVS diseases, Cancer, Irritable bowel syndrome, and various gastrointestinal diseases. Study of following herbs as a health food: Alfalfa, Chicory, Ginger, Fenugreek, Garlic, Honey, Amla, Ginseng, Ashwagandha, Spirulina Herbal-Drug, and Herb-Food Interactions: General introduction to interaction and classification. Study of following drugs and their possible side effects and interactions: Hypericum, kava-kava, Ginkobiloba, Ginseng, Garlic, Pepper & Ephedra.

Unit-3

10 Hours

Herbal Cosmetics: Sources and description of raw materials of herbal origin used via, fixed oils, waxes, gums colours, perfumes, protective agents, bleaching agents, antioxidants in products such as skin care, hair care, and oral hygiene products. Herbal excipients: Herbal Excipients – Significance of substances of natural origin as excipients –colorants, sweeteners, binders, diluents, viscosity builders, disintegrants, flavors & perfumes. Herbal formulations: Conventional herbal formulations like syrups, mixtures, and tablets and Novel dosage forms like phytosomes.

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Unit-4

10 Hours

Evaluation of Drugs: WHO & ICH guidelines for the assessment of herbal drugs Stability testing of herbal drugs. Patenting and Regulatory requirements of natural products: Definition of the terms: Patent, IPR, Farmers right, Breeder's right, Bioprospecting, and Biopiracy, Patenting aspects of Traditional Knowledge and Natural Products. Case study of Curcuma & Neem. Regulatory Issues: Regulations in India (ASU DTAB, ASU DCC), Regulation of manufacture of ASU drugs - Schedule Z of Drugs & Cosmetics Act for ASU drugs

Unit-5

7 Hours

General Introduction to Herbal Industry: Herbal drugs industry: Present scope and prospects. A brief account of plant-based industries and institutions involved in work on medicinal and aromatic plants in India. Schedule-T Good Manufacturing Practice of Indian systems of medicine: Components of GMP (Schedule-T) and its objectives Infrastructural requirements, working space, storage area, machinery and equipment, standard operating procedures, health and hygiene, documentation, and records.

Tutorials will be based on the above syllabus.

Teaching hours: 15 Hours

Practical syllabus:

Teaching hours: 04 Hours/week

- ☐ To perform preliminary phytochemical screening of crude drugs.
- ☐ Determination of the alcohol content of Asava and Arista.
- ☐ Evaluation of excipients of natural origin.
- ☐ Incorporation of a prepared and standardized extract in cosmetic formulations like creams, lotions, and shampoos and their evaluation.
- ☐ Incorporation of a prepared and standardized extract in formulations like syrups, mixtures, and tablets and their evaluation as per Pharmacopoeial requirements.
- ☐ Monograph analysis of herbal drugs from recent Pharmacopoeias.
- ☐ Determination of Aldehyde content.
- ☐ Determination of Phenol content.
- ☐ Determination of total alkaloids.

Recommended References (Latest edition):

- ☐ Textbook of Pharmacognosy by Trease & Evans.
- ☐ Textbook of Pharmacognosy by Tyler, Brady & Robber.
- ☐ Pharmacognosy by Kokate, Purohit, and Gokhale.
- ☐ Essential of Pharmacognosy by Dr. S. H. Ansari.
- ☐ Pharmacognosy & Phytochemistry by V. D. Rangari.
- ☐ Pharmacopoeial standards for Ayurvedic Formulation (Council of Research in Indian Medicine & Homeopathy)
- ☐ Mukherjee, P.W. Quality Control of Herbal Drugs: An Approach to Evaluation of Botanicals. Business Horizons Publishers, New Delhi, India, 2002.

Baldania

Subject code: **13PH0604**

Subject name: **Biopharmaceutics and Pharmacokinetics**

Scope: This subject is designed to impart knowledge and skills of Biopharmaceutics and pharmacokinetics and their applications in pharmaceutical development, design of dose and dosage regimen, and in solving the problems raised therein.

Objective: Upon completion of the course the student shall be able to:

- Understand the basic concepts in biopharmaceutics and pharmacokinetics and their significance.
- Use of plasma drug concentration-time data to calculate the pharmacokinetic parameters to describe the kinetics of drug absorption, distribution, metabolism, excretion, elimination.
- To understand the concepts of bioavailability and bioequivalence of drug products and their significance.
- Understand various pharmacokinetic parameters, their significance & applications.

Teaching and assessment scheme:

Teaching Scheme (Hours)			Credits	Theory/ Tutorial Marks			Practical Marks		Total Marks
Theory	Tutorial	Practical		CSE	IA (I)	ESE (E)	TW	Viva (V)	
3	1	0	4	10	15	75	00	00	100

Theory syllabus:

Teaching hours: 45 Hours

Unit-1

10 Hours

Introduction biopharmaceutics to absorption: Mechanisms of drug absorption through GIT, factors influencing drug absorption through GIT, absorption of the drug from Non per oral extra-vascular routes Distribution Tissue permeability of drugs, binding of drugs, apparent, the volume of drug distribution, plasma and tissue protein binding of drugs, factors affecting protein-drug binding. Kinetics of protein binding, Clinical significance of protein binding of drugs.

Unit-2

10 Hours

Elimination: Drug metabolism and basic understanding metabolic pathways renal excretion of drugs, factors affecting renal excretion of drugs, renal clearance, Non-renal routes of drug excretion of drugs Bioavailability and Bioequivalence: Definition and Objectives of bioavailability, absolute and relative bioavailability, measurement of bioavailability, *in-vitro* drug dissolution models, *in-vitro-in-vivo* correlations, bioequivalence studies, methods to enhance the dissolution rates and bioavailability of poorly soluble drugs.

Unit-3

10 Hours

Pharmacokinetics: Definition and introduction to Pharmacokinetics, Compartment models, Non-compartment models, physiological models, One compartment open model. (a). Intravenous Injection (Bolus) (b). Intravenous infusion and (c) Extravascular administrations. Pharmacokinetics parameters K_E , $t_{1/2}$, V_d , AUC, K_a , Cl_t , and CLR definitions methods of eliminations, understanding of their significance and Application.

Unit-4

8 Hours

Multicompartment models: Two compartment open model. IV bolus Kinetics of multiple

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dosing, steady-state drug levels, calculation of loading and maintenance doses and their significance in clinical settings.

Unit-5

7 Hours

Nonlinear Pharmacokinetics: a. Introduction, b. Factors causing Non-linearity. c. Michaelis-menton method of estimating parameters, Explanation with an example of drugs.

Tutorials will be based on the above syllabus.

Teaching hours: 15 Hours

Recommended References (Latest edition):

- ☐ Biopharmaceutics and Clinical Pharmacokinetics by, Milo Gibaldi.
- ☐ Biopharmaceutics and Pharmacokinetics; By Robert F Notari.
- ☐ Applied biopharmaceutics and pharmacokinetics, Leon Shargel and Andrew B.C.YU 4th edition, Prentice-Hall International Edition. USA.
- ☐ Biopharmaceutics and Pharmacokinetics: A Treatise, By D. M. Brahmkar and Sunil B.Jaiswal, Vallabh Prakashan Pitampura, Delhi.
- ☐ Pharmacokinetics: By Milo Gibaldi Donald, R. Merce Dekker Inc.
- ☐ Hand Book of Clinical Pharmacokinetics, By Milo Gibaldi, and Laurie Prescott by ADIS Health Science Press.
- ☐ Biopharmaceutics; By Swarbrick.
- ☐ Clinical Pharmacokinetics, Concepts, and Applications: By Malcolm Rowland and Thomas, N. Tozen, Lea and Febiger, Philadelphia, 1995.
- ☐ Dissolution, Bioavailability and Bioequivalence, By Abdou H. M, Mack, Publishing Company, Pennsylvania 1989.
- ☐ Biopharmaceutics and Clinical Pharmacokinetics-An introduction 4th edition Revised and expanded by Robert F Notari Marcel Dekker Inc, New York, and Basel, 1987.
- ☐ Remington's Pharmaceutical Sciences, By Mack Publishing Company, Pennsylvania.

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Subject code: **13PH0605**

Subject name: **Industrial Pharmacy-I**

Scope: This subject is designed to impart knowledge and skills of Biopharmaceutics and pharmacokinetics and their applications in pharmaceutical development, design of dose and dosage regimen, and in solving the problems raised therein.

Objective: Upon completion of this course the student should be able to:

- ☐ Know the various pharmaceutical dosage forms and their manufacturing Techniques.
- ☐ Know various considerations in the development of pharmaceutical dosage forms.
- ☐ Formulate solid, liquid, and semisolid dosage forms and evaluate them for their quality.

Teaching and assessment scheme:

Teaching Scheme (Hours)			Credits	Theory/ Tutorial Marks			Practical Marks		Total Marks
Theory	Tutorial	Practical		CSE	IA (I)	ESE (E)	TW	Viva (V)	
3	1	4	6	10	15	75	15	35	150

Theory syllabus:

Teaching hours: 45 Hours

Unit-1

7 Hours

Preformulation studies: Introduction to preformulation, goals and objectives, a study of physicochemical characteristics of drug substances. a. Physical properties: Physical form (crystal & amorphous), particle size, shape, flow properties, solubility profile (pK_a , pH, partition coefficient), polymorphism. b. Chemical Properties: Hydrolysis, oxidation, reduction, racemization, polymerization BCS classification of drugs & its significant. Application of preformulation considerations in the development of solid, liquid oral, and parenteral dosage forms and their impact on the stability of dosage forms.

Unit-2

10 Hours

Tablets: a. Introduction, ideal characteristics of tablets, classification of tablets. Excipients, Formulation of tablets, granulation methods, compression, and processing problems. Equipment and tablet tooling. b. Tablet coating: Types of coating, coating materials, formulation of a coating composition, methods of coating, equipment employed, and defects in the coating. c. Quality control tests: In-process and finished product tests
 Liquid orals: Formulation and manufacturing consideration of syrups and elixirs suspensions and emulsions; Filling and packaging; evaluation of liquid orals official in the pharmacopoeia.

Unit-3

8 Hours

Capsules: a. Hard gelatine capsules: Introduction, Production of hard gelatine capsule shells. Size of capsules, filling, finishing, and special techniques of formulation of hard gelatine capsules, manufacturing defects. In-process and final product quality control tests for capsules.
 b. Soft gelatine capsules: Nature of shell and capsule content, size of capsules, the importance of base adsorption and minim/gram factors, production, in-process, and final product quality control tests. Packing, storage, and stability testing of soft gelatine capsules and their applications. Pellets: Introduction, formulation requirements, pelletization process, equipment for the manufacture of pellets.

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Unit-4

10 Hours

Parenteral Products: a. Definition, types, advantages, and limitations. Preformulation factors and essential requirements, vehicles, additives, the importance of isotonicity b. Production procedure, production facilities, and controls, aseptic processing c. Formulation of injections, sterile powders, large volume parenteral, and lyophilized products. d. Containers and closures selection, filling, and sealing of ampoules, vials, and infusion fluids. Quality control tests of parenteral products. Ophthalmic Preparations: Introduction, formulation considerations; formulation of eye drops, eye ointments, and eye lotions; methods of preparation; labelling, containers; evaluation of ophthalmic preparations.

Unit-5

10 Hours

Cosmetics: Formulation and preparation of the following cosmetic preparations: lipsticks, shampoos, cold cream, and vanishing cream, toothpaste, hair dyes, and sunscreens. Pharmaceutical Aerosols: Definition, propellants, containers, valves, types of aerosol systems; formulation and manufacture of aerosols; Evaluation of aerosols; Quality control and stability studies. Packaging Materials Science: Materials used for packaging of pharmaceutical products, factors influencing the choice of containers, legal and official requirements for containers, stability aspects of packaging materials, quality control tests.

Tutorials will be based on the above syllabus.

Teaching hours: 15 Hours

Practical syllabus:

Teaching hours: 04 Hours/week

- Preformulation studies on paracetamol/aspirin/or any other drug.
- Preparation and evaluation of Paracetamol tablets.
- Preparation and evaluation of Aspirin tablets.
- Coating of tablets- film coating of tables/granules.
- Preparation and evaluation of Tetracycline capsules.
- Preparation of Calcium Gluconate injection.
- Preparation of Ascorbic Acid injection.
- Quality control test of (as per IP) marketed tablets and capsules.
- Preparation of Eye drops/ and Eye ointments.
- Preparation of Creams (cold / vanishing cream).
- Evaluation of Glass containers (as per IP).

Recommended References (Latest edition):

- Pharmaceutical dosage forms - Tablets, volume 1 -3 by H. A. Liberman, Leon Lachman & J. B. Schwartz.
- Pharmaceutical dosage form - Parenteral medication vol- 1&2 by Liberman & Lachman.
- Pharmaceutical dosage forms a disperse system Vol.-1 by Liberman & Lachman.
- Modern Pharmaceutics by Gilbert S. Banker & C. T. Rhodes, 3rd Edition.
- Remington: The Science and Practice of Pharmacy, 20th edition Pharmaceutical Science(RPS).
- Theory and Practice of Industrial Pharmacy by Liberman & Lachman.
- Pharmaceutics - The science of dosage form design by M. E. Aulton, Churchill Livingstone, Latest edition.
- Introduction to Pharmaceutical Dosage Forms by H. C. Ansel, Lea & Febiger, Philadelphia, 5th edition, 2005.
- Drug stability - Principles and practice by Cartensen & C. J. Rhodes, 3rd Edition, Marcel Dekker Series, Vol 107.

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Subject code: **13PH0701**

Subject name: **Instrumental Methods of Analysis**

Scope: This subject deals with the application of instrumental methods in qualitative and quantitative analysis of drugs. This subject is designed to impart fundamental knowledge on the principles and instrumentation of spectroscopic and chromatographic technique. This also emphasizes theoretical and practical knowledge of modern analytical instruments that are used for drug testing.

Objective: Upon completion of the course the student shall be able to

- ☐ To understand the interaction of matter with electromagnetic radiations and its applications in drug analysis
- ☐ To understand the chromatographic separation and analysis of drugs
- ☐ Perform quantitative & qualitative analysis of drugs using various analytical instruments.

Teaching and assessment scheme:

Teaching Scheme (Hours)			Credits	Theory/ Tutorial Marks			Practical Marks		Total Marks
Theory	Tutorial	Practical		CSE	IA (I)	ESE (E)	TW	Viva (V)	
3	1	4	6	10	15	75	15	35	150

Theory syllabus:

Teaching hours: 45 Hours

Unit-1

10 Hours

UV Visible spectroscopy: Electronic transitions, chromophores, auxochromes, spectral shifts, solvent effect on absorption spectra, Beer and Lambert's law, Derivation and deviations. Instrumentation: Sources of radiation, wavelength selectors, sample cells, detectors: Photo tube, Photomultiplier tube, Photovoltaic cell, Silicon Photodiode. Applications: Spectrophotometric titrations, Single-component and multi-component analysis. Fluorimetry Theory, Concepts of singlet, doublet and triplet electronic states, internal and external conversions, factors affecting fluorescence, quenching, instrumentation and applications.

Unit-2

10 Hours

IR spectroscopy Introduction: Fundamental modes of vibrations in polyatomic molecules, sample handling, factors affecting vibrations Instrumentation - Sources of radiation, wavelength selectors, detectors - Golay cell, Bolometer, Thermocouple, Thermistor, Pyroelectric detector and applications. Flame Photometry-Principle, interferences, instrumentation and applications. Atomic absorption spectroscopy- Principle, interferences, instrumentation and Applications. Nepheloturbidometry- Principle, instrumentation and applications.

Unit-3

10 Hours

Introduction to chromatography: Adsorption and partition column chromatography - Methodology, advantages, disadvantages and applications. Thin-layer chromatography - Introduction, Principle, Methodology, Rf values, advantages, disadvantages and applications. Paper chromatography-Introduction, methodology, development techniques, advantages, disadvantages and applications. Electrophoresis – Introduction, factors affecting electrophoretic mobility, Techniques of paper, gel, capillary electrophoresis, applications.

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Unit-4

8 Hours

Gas chromatography: Introduction, theory, instrumentation, derivatization, temperature programming, advantages, disadvantages and applications. High-performance liquid chromatography (HPLC)-Introduction, theory, instrumentation, advantages and applications.

Unit-5

7 Hours

Ion-exchange chromatography: Introduction, classification, ion exchange resins, properties, mechanism of the ion exchange process, factors affecting ion exchange, methodology and applications. **Gel chromatography:** Introduction, theory, instrumentation and applications. Affinity chromatography - Introduction, theory, instrumentation and applications.

Tutorials will be based on the above syllabus.

Teaching hours: 15 Hours

Practical syllabus:

Teaching hours: 04 Hours/week

- Determination of absorption maxima and effect of solvents on absorption maxima of organic compounds.
- Estimation of dextrose by colourimetry.
- Estimation of sulphanilamide by colourimetry.
- Simultaneous estimation of ibuprofen and paracetamol by UV spectroscopy.
- Assay of paracetamol by UV- Spectrophotometry.
- Estimation of quinine sulphate by fluorimetry.
- Study of quenching of fluorescence.
- Determination of sodium by flame photometry.
- Determination of potassium by flame photometry.
- Determination of chlorides and sulphates by nephelo turbidometry.
- Separation of amino acids by paper chromatography.
- Separation of sugars by thin-layer chromatography.
- Separation of plant pigments by column chromatography.
- Demonstration experiment on HPLC.
- Demonstration experiment on Gas Chromatography.

Recommended References (Latest edition):

- Instrumental Methods of Chemical Analysis by B.K Sharma.
- Organic spectroscopy by Y.R Sharma.
- Textbook of Pharmaceutical Analysis by Kenneth A. Connors.
- Vogel's Textbook of Quantitative Chemical Analysis by A.I. Vogel.
- Practical Pharmaceutical Chemistry by A.H. Beckett and J. B. Stenlake.
- Organic Chemistry by I. L. Finar.
- Organic spectroscopy by William Kemp.
- Quantitative Analysis of Drugs by D. C. Garrett.
- Quantitative Analysis of Drugs in Pharmaceutical Formulations by P. D. Sethi.
- Spectrophotometric Identification of Organic Compounds by Silverstein.

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Subject code: **13PH0702**

Subject name: **Industrial Pharmacy-II**

Scope: This course is designed to impart fundamental knowledge on pharmaceutical product development and translation from laboratory to market.

Objective: Upon completion of the course the student shall be able to

- ☐ Know the process of pilot plant and scale-up of pharmaceutical dosage forms.
- ☐ Understand the process of technology transfer from lab scale to commercial batch.
- ☐ Know different Laws and Acts that regulate the pharmaceutical industry.
- ☐ Understand the approval process and regulatory requirements for drug products.

Teaching and assessment scheme:

Teaching Scheme (Hours)			Credits	Theory/ Tutorial Marks			Practical Marks		Total Marks
Theory	Tutorial	Practical		CSE	IA (I)	ESE (E)	TW	Viva (V)	
3	1	0	4	10	15	75	00	00	100

Theory syllabus:

Teaching hours: 45 Hours

Unit-1

10 Hours

Pilot plant scales up techniques: General considerations – including the significance of personnel requirements, space requirements, raw materials, Pilot plant scale-up considerations for solids, liquid orals, semi-solids and relevant documentation, SUPAC guidelines, Introduction to platform technology.

Unit-2

10 Hours

Technology development and transfer: WHO guidelines for Technology Transfer (TT): Terminology, Technology transfer protocol, Quality risk management, Transfer from R & D to production (Process, packaging and cleaning), Granularity of TT Process (API, excipients, finished products, packaging materials) Documentation, Premises and equipment, qualification and validation, quality control, analytical method transfer, Approved regulatory bodies and agencies, Commercialization - practical aspects and problems (case studies), TT agencies in India - APCTD, NRDC, TIFAC, BCIL, TBSE / SIDBI; TT related documentation - confidentiality agreement, licensing, MoUs, legal issues.

Unit-3

10 Hours

Regulatory affairs: Introduction, Historical overview of Regulatory Affairs, Regulatory authorities, Role of Regulatory affairs department, Responsibility of Regulatory Affairs Professionals. Regulatory requirements for drug approval: Drug Development Teams, Non-Clinical Drug Development, Pharmacology, Drug Metabolism and Toxicology, General considerations of Investigational New Drug (IND) Application, Investigator's Brochure (IB) and New Drug Application (NDA), Clinical research / BE studies, Clinical Research Protocols, Biostatistics in Pharmaceutical Product Development, Data Presentation for FDA Submissions, Management of Clinical Studies.

Unit-4

8 Hours

Quality management systems: Quality management & Certifications: Concept of Quality, Total Quality Management, Quality by Design (QbD), Six Sigma concept, Out of Specifications (OOS),

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Change control, Introduction to ISO 9000 series of quality systems standards, ISO 14000, NABL, GLP

Unit-5

7 Hours

Indian Regulatory Requirements: Central Drug Standard Control Organization (CDSCO) and State Licensing Authority: Organization, Responsibilities, Certificate of Pharmaceutical Product (COPP), Regulatory requirements and approval procedures for New Drugs.

Tutorials will be based on the above syllabus.

Teaching hours: 15 Hours

Recommended References (Latest edition):

- ☐ Regulatory Affairs from Wikipedia, the free encyclopaedia modified on 7th April.
Available at https://en.wikipedia.org/wiki/Regulatory_affairs
- ☐ International Regulatory Affairs Updates, 2005.
Available at <http://www.iraup.com/about.php>
- ☐ Douglas J Pisano and David S. Mantus. Textbook of FDA Regulatory Affairs A Guide for Prescription Drugs, Medical Devices, and Biologics' Second Edition.
- ☐ Regulatory Affairs brought by learning plus, inc. Available at <http://www.cgmp.com/ra.htm>.

Baldania

Subject code: **13PH0703**

Subject name: **Pharmacy Practice**

Scope: In the changing scenario of pharmacy practice in India, for the successful practice of Hospital Pharmacy, the students are required to learn various skills like drug distribution, drug information, and therapeutic drug monitoring for improved patient care. In community pharmacy, students will be learning various skills such as dispensing of drugs, responding to minor ailments by providing suitable safe medication, patient counselling for improved patient care in the community set up.

Objective: Upon completion of the course the student shall be able to

- Know various drug distribution methods in a hospital.
- Appreciate the pharmacy stores management and inventory control.
- Monitor drug therapy of patient through medication chart review and clinical review.
- Obtain medication history interview and counsel the patients.
- Identify drug-related problems.
- Detect and assess adverse drug reactions.
- Interpret selected laboratory results (as monitoring parameters in therapeutics) of specific disease states.
- Know pharmaceutical care services.
- Do patient counselling in community pharmacy.
- Appreciate the concept of Rational drug therapy.

Teaching and assessment scheme:

Teaching Scheme (Hours)			Credits	Theory/ Tutorial Marks			Practical Marks		Total Marks
Theory	Tutorial	Practical		CSE	IA (I)	ESE (E)	TW	Viva (V)	
3	1	0	4	10	15	75	0	0	100

Theory syllabus:

Teaching hours: 45 Hours

Unit-1

10 Hours

a) Hospital and its organization: Definition, Classification of a hospital- Primary, Secondary and Tertiary hospitals, Classification based on a clinical and non-clinical basis, Organization Structure of a Hospital, and medical staffs involved in the hospital and their functions. b) Hospital pharmacy and its organization Definition, functions of hospital pharmacy, Organization structure, Location, Layout and staff requirements, and Responsibilities and functions of hospital pharmacists. c) Adverse drug reaction Classifications - Excessive pharmacological effects, secondary pharmacological effects, idiosyncrasy, allergic drug reactions, genetically determined toxicity, toxicity following the sudden withdrawal of drugs, Drug interaction- beneficial interactions, adverse interactions, and pharmacokinetic drug interactions, Methods for detecting drug interactions, spontaneous case reports and record linkage studies, and adverse drug reaction reporting and management. d) Community Pharmacy Organization and structure of retail and wholesale drug store, types and design, Legal requirements for establishment and maintenance of a drug store, Dispensing of proprietary products, maintenance of records of retail and wholesale drug store.

Unit-2

10 Hours

Baldania

a) **Drug distribution system in a hospital**: Dispensing of drugs to inpatients, types of drug distribution systems, charging policy and labelling, dispensing of drugs to ambulatory patients, and dispensing of controlled drugs. b) Hospital formulary Definition, contents of hospital formulary, Differentiation of hospital formulary and Drug list, preparation and revision, and addition and deletion of drug from hospital formulary. c) Therapeutic drug monitoring Need for Therapeutic Drug Monitoring, Factors to be considered during the Therapeutic Drug Monitoring and Indian scenario for Therapeutic Drug Monitoring. d) Medication adherence Causes of medication non-adherence, pharmacist role in the medication adherence, and monitoring of patient medication adherence. e) Patient medication history interview Need for the patient medication history interview, medication interview forms. f) Community pharmacy management Financial, materials, staff, and infrastructure requirements.

Unit-3

10 Hours

a) **Pharmacy and therapeutic committee**: Organization, functions, policies of the pharmacy and therapeutic committee in including drugs into formulary, inpatient and outpatient prescription, automatic stop order, and emergency drug list preparation. b) Drug information services Drug and Poison information centre, Sources of drug information, Computerised services, and storage and retrieval of information. c) Patient counselling Definition of patient counselling; steps involved inpatient counselling, and Special cases that require the pharmacist
d) Education and training program in the hospital Role of pharmacist in the education and training program, Internal and external training program, Services to the nursing homes/clinics, Code of ethics for community pharmacy, and Role of pharmacist in the interdepartmental communication and community health education. e) Prescribed medication order and communication skills Prescribed medication order - interpretation and legal requirements, and Communication skills- communication with prescribers and patients.

Unit-4

8 Hours

a) **Budget preparation and implementation**: Budget preparation and implementation b) Clinical Pharmacy Introduction to Clinical Pharmacy, Concept of clinical pharmacy, functions and responsibilities of a clinical pharmacist, Drug therapy monitoring - medication chart review, clinical review, pharmacist intervention, Ward round participation, Medication history and pharmaceutical care. Dosing pattern and drug therapy based on Pharmacokinetic & disease pattern. c) Over the counter (OTC) sales Introduction and sale of over the counter, and Rational use of common over the counter medications.

Unit-5

7 Hours

a) **Drug store management and inventory control**: Organisation of a drug store, types of materials stocked and storage conditions, Purchase and inventory control: principles, purchase procedure, purchase order, procurement and stocking, Economic order quantity, Reorder quantity level, and Methods used for the analysis of the drug expenditure b) Investigational use of drugs Description, principles involved, classification, control, identification, the role of a hospital pharmacist, advisory committee. c) Interpretation of Clinical Laboratory Tests Blood chemistry, haematology, and urinalysis

Tutorials will be based on the above syllabus.

Teaching hours: 15 Hours

Recommended References (Latest edition):

- Merchant S.H. and Dr J.S. Quadry. A textbook of hospital pharmacy, 4th ed. Ahmadabad: B.S. Shah Prakakshan; 2001.
- Parthasarathy G, Karin Nyfort-Hansen, Milap C Nahata. A textbook of Clinical Pharmacy Practice-essential concepts and skills, 1st ed. Chennai: Orient Longman Private Limited; 2004.
- William E. Hassan. Hospital pharmacy, 5th ed. Philadelphia: Lea & Febiger; 1986.
- Tipnis Bajaj. Hospital Pharmacy, 1st ed. Maharashtra: Career Publications; 2008.
- Scott LT. Basic skills in interpreting laboratory data, 4th ed. American Society of Health System Pharmacists Inc; 2009.
- Parmar N.S. Health Education and Community Pharmacy, 18th ed. India: CBS Publishers & Distributers; 2008.

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Journals:

- ☐ Therapeutic drug monitoring. ISSN: 0163-4356
- ☐ Journal of pharmacy practice. ISSN: 0974-8326
- ☐ American journal of health-system pharmacy. ISSN: 1535-2900 (online)
- ☐ Pharmacy times (Monthly magazine)

Subject code: **13PH0704**

Subject name: **Novel Drug Delivery Systems**

Scope: This subject is designed to impart basic knowledge in the area of novel drug delivery systems.

Objective: Upon completion of the course the student shall be able to

- ☐ To understand various approaches for the development of novel drug delivery systems.
- ☐ To understand the criteria for the selection of drugs and polymers for the development of novel drug delivery systems, their formulation and evaluation.

Teaching and assessment scheme:

Teaching Scheme (Hours)			Credits	Theory/ Tutorial Marks			Practical Marks		Total Marks
Theory	Tutorial	Practical		CSE	IA (I)	ESE (E)	TW	Viva (V)	
3	1	0	4	10	15	75	0	0	100

Theory syllabus:

Teaching hours: 45 Hours

Unit-1

10 Hours

Controlled drug delivery systems: Introduction, terminology/definitions and rationale, advantages, disadvantages, selection of drug candidates. Approaches to design controlled release formulations based on diffusion, dissolution and ion exchange principles. Physicochemical and biological properties of drugs relevant to controlled release formulations. Polymers: Introduction, classification, properties, advantages and application of polymers in the formulation of controlled release drug delivery systems.

Unit-2

10 Hours

Microencapsulation: Definition, advantages and disadvantages, microspheres/ microcapsules, microparticles, methods of microencapsulation, applications. Mucosal Drug Delivery system: Introduction, Principles of bioadhesion/ mucoadhesion, concepts, advantages and disadvantages, transmucosal permeability and formulation considerations of buccal delivery systems. Implantable Drug Delivery Systems: Introduction, advantages and disadvantages, the concept of implants and osmotic pump.

Unit-3

10 Hours

Transdermal Drug Delivery Systems: Introduction, Permeation through the skin, factors affecting permeation, permeation enhancers, basic components of TDDS, formulation approaches. Gastro retentive drug delivery systems: Introduction, advantages, disadvantages, approaches for GRDDS – Floating, high-density systems, inflatable and gastroadhesive systems and their applications. Nasopulmonary drug delivery system: Introduction to Nasal and Pulmonary routes of drug delivery, Formulation of Inhalers (dry powder and metered dose), nasal sprays, nebulizers.

Unit-4

8 Hours

Targeted drug Delivery: Concepts and approaches advantages and disadvantages, introduction to liposomes, niosomes, nanoparticles, monoclonal antibodies and their applications.

Unit-5

7 Hours

Baldania

Ocular Drug Delivery Systems: Introduction, intraocular barriers and methods to overcome –Preliminary study, ocular formulations and ocuserts Intrauterine Drug Delivery Systems: Introduction, advantages and disadvantages, development of intrauterine devices (IUDs) and applications.

Tutorials will be based on the above syllabus.

Teaching hours: 15 Hours

Recommended References (Latest edition):

- ☐ Y. W. Chien, Novel Drug Delivery Systems, 2nd edition, revised and expanded, Marcel Dekker, Inc., New York, 1992.
- ☐ Robinson, J. R., Lee V. H. L, Controlled Drug Delivery Systems, Marcel Dekker, Inc., New York,1992.
- ☐ Encyclopaedia of Controlled Delivery. Edith Mathiowitz, Published by Wiley Interscience Publication, John Wiley and Sons, Inc, New York. Chichester/Weinheim
- ☐ N.K. Jain, Controlled and Novel Drug Delivery, CBS Publishers & Distributors, New Delhi,First edition 1997 (reprint in 2001).
- ☐ S.P. Vyas and R.K. Khar, Controlled Drug Delivery -concepts and advances, Vallabh Prakashan,New Delhi, First edition 2002.

Journals

- ☐ Indian Journal of Pharmaceutical Sciences (IPA)
- ☐ Indian Drugs (IDMA)
- ☐ Journal of Controlled Release (Elsevier Sciences)
- ☐ Drug Development and Industrial Pharmacy (Marcel & Decker)
- ☐ International Journal of Pharmaceutics (Elsevier Sciences)

Baldania

Subject code: **13PH0705**

Subject name: **Quality Assurance**

Scope: This course deals with the various aspects of quality control and quality assurance aspects of pharmaceutical industries. It deals with important aspects like cGMP, QC tests, documentation, quality certifications and regulatory affairs.

Objective: Upon completion of the course the student shall be able to

- Understand the cGMP aspects in the pharmaceutical industry.
- Appreciate the importance of documentation.
- Understand the scope of quality certifications applicable to pharmaceutical industries.
- Understand the responsibilities of QA & QC departments.

Teaching and assessment scheme:

Teaching Scheme (Hours)			Credits	Theory/ Tutorial Marks			Practical Marks		Total Marks
Theory	Tutorial	Practical		CSE	IA (I)	ESE (E)	TW	Viva (V)	
3	1	0	4	10	15	75	0	0	100

Theory syllabus:

Teaching hours: 45 Hours

Unit-1

10 Hours

Quality Assurance and Quality Management concepts: Definition and concept of Quality control, Quality assurance and GMP. Total Quality Management (TQM): Definition, elements, philosophies. ICH Guidelines: purpose, participants, the process of harmonization, Brief overview of QSEM, with special emphasis on Q-series guidelines, ICH stability testing guidelines. Quality by design (QbD): Definition, overview, elements of QbD program, tools ISO 9000 & ISO14000: Overview, Benefits, Elements, steps for registration. NABL accreditation: Principles and procedures.

Unit-2

10 Hours

Organization and personnel: Personnel responsibilities, training, hygiene and personal records. Premises: Design, construction and plant layout, maintenance, sanitation, environmental control, utilities and maintenance of sterile areas, control of contamination. Equipment and raw materials: Equipment selection, purchase specifications, maintenance, purchase specifications and maintenance of stores for raw materials.

Unit-3

10 Hours

Quality Control: Quality control test for containers, rubber closures and secondary packing materials. Good Laboratory Practices: General Provisions, Organization and Personnel, Facilities, Equipment, Testing Facilities Operation, Test and Control Articles, Protocol for Conduct of a Nonclinical Laboratory Study, Records and Reports, Disqualification of Testing Facilities.

Unit-4

8 Hours

Complaints: Complaints and evaluation of complaints, Handling of return goods, recalling and waste disposal. Document maintenance in the pharmaceutical industry: Batch Formula Record, Master Formula Record, SOP, Quality audit, Quality Review and Quality documentation, Reports and documents, distribution records.

Baldania

Unit-5

7 Hours

Calibration and Validation: Introduction, definition and general principles of calibration, qualification and validation, importance and scope of validation, types of validation, validation master plan. Calibration of pH meter, Qualification of UV-Visible spectrophotometer, General principles of Analytical method Validation. Warehousing: Good warehousing practice, materials management

Tutorials will be based on the above syllabus.

Teaching hours: 15 Hours

Recommended References (Latest edition):

- ☐ Quality Assurance Guide by an organization of Pharmaceutical Products of India.
- ☐ Good Laboratory Practice Regulations, 2nd Edition, Sandy Weinberg Vol. 69.
- ☐ Quality Assurance of Pharmaceuticals- A compendium of Guidelines and Related Materials Vol. I, WHO Publications.
- ☐ A guide to Total quality management- Kushik Maitra and Sedhan K Ghosh.
- ☐ How to Practice GMP's – P P Sharma.
- ☐ ISO 9000 and Total quality management – Sadhank G. Ghosh.
- ☐ The International Pharmacopoeia – Vol. I, II, III, IV- General Methods of Analysis and Quality specification for Pharmaceutical Substances, Excipients and Dosage forms.
- ☐ Good laboratory Practices – Marcel Deckker Series.
- ☐ ICH guidelines, ISO 9000 and 14000 guidelines.

Baldania

Subject code: **13PH0706**

Subject name: **Practice School Teaching**

and assessment scheme:

Teaching Scheme (Hours)			Credits	Theory/ Tutorial Marks			Practical Marks		Total Marks
Theory	Tutorial	Practical		CSE	IA (I)	ESE (E)	TW	Viva (V)	
0	0	12	6	0	0	0	50	100	150

Guidelines:

In semester VII, every candidate shall undergo practice school for 150 hours during these semester. The student shall opt for any one of the following activity for practice school:

- Hospital training (Hospital having minimum 10-bed facilities)*
- Training in a Drug store/ CHC/ PHC*
- Training in a R & D organization/ CRO/ Manufacturing organization/ QA & QC Laboratory/ Public testing laboratory/ Drug regulatory body*
- Successfully pass MOOCs course equivalent to 6 credits through SWAYAM Platform*
- Detailed literature review on any technical topic (At least 50 references should be included in the report to be submitted)

At the end of the practice school, every student shall submit a printed report (in triplicate) on the practice school he/she attended (about 25 pages). Along with the exams of semester VII, the report submitted by the student, knowledge and skills acquired by the student through practice school shall be evaluated by the subject experts at the college level and grade point shall be awarded.

*Certificate of training should be incorporated in the report.

Bardania

Course Objective

To understand the applications of Biostatics in Pharmacy. This subject deals with descriptive statistics, Graphics, Correlation, Regression, logistic regression Probability theory, Sampling technique, Parametric tests, non-Parametric tests, ANOVA, Introduction to Design of Experiments, Phases of Clinical trials and Observational and Experimental studies, SPSS, R and MINITAB statistical software's, analyzing the statistical data using Excel.

Course Outcomes

Upon completion of the course, the student shall be able to

1. Know the operation of M.S. Excel, SPSS, R and MINITAB®, DoE (Design of Experiment).
2. Know the various statistical techniques to solve statistical problems.
3. Appreciate statistical techniques in solving the problems.

Teaching and assessment scheme

Teaching Scheme (Hours)			Credits	Theory/ Tutorial Marks			Practical Marks		Total Marks
Theory	Tutorial	Practical		CSE	IA (I)	ESE (E)	TW	Viva (V)	
3	1	0	4	10	15	75	0	0	100

Theory syllabus

Teaching hours: **45 Hours**

Unit-1

10 Hours

Introduction: Statistics, Biostatistics, Frequency distribution. Measures of central tendency: Mean, Median, Mode Pharmaceutical examples. Measures of dispersion: Dispersion, Range, standard deviation, Pharmaceutical Problems. Correlation: Definition, Karl Pearson's coefficient of correlation, Multiple correlations - Pharmaceuticals examples.

Unit-2

10 Hours

Regression: Curve fitting by the method of least squares, fitting the lines $y = a + bx$ and $x = a + by$, Multiple regression, standard error of regression - Pharmaceutical Examples. Probability: Definition of probability, Binomial distribution, Normal distribution Poisson's distribution, properties - problems Sample, Population, large sample, small sample, Null hypothesis, alternative hypothesis, sampling, the essence of sampling, types of sampling, Error-I type, Error-II type, Standard error of the mean (SEM) - Pharmaceutical examples. Parametric test: t-test (Sample, Pooled or Unpaired and Paired), ANOVA, (One way and Two way), Least Significance difference.

Unit-3

10 Hours

Non-parametric tests: Wilcoxon Rank Sum Test, Mann-Whitney U test, Kruskal-Wallis test, Friedman Test. Introduction to Research: Need for research, Need for the design of Experiments, Experiential Design Technique, plagiarism. Graphs: Histogram, Pie Chart, Cubic Graph, response surface plot, Counter Plotgraph. Designing the methodology: Sample size determination and power of a study, Report writing and presentation of data, Protocol, Cohorts studies, Observational studies, Experimental studies, Designing clinical trial, various phases.

Unit-4

8 Hours

Blocking and confounding system: for two-level factorials. Regression modelling: Hypothesis testing in Simple and Multiple regression models. Introduction to Practical components of Industrial and Clinical Trials Problems: Statistical Analysis Using Excel, SPSS, MINITAB®, DESIGN OF EXPERIMENTS, R - Online Statistical Software to Industrial and Clinical trial approach.

Unit-5

7 Hours

Design and analysis of experiments: Factorial Design: Definition, 2^2 , 2^3 design. Advantage of factorial design. Response Surface methodology: Central composite design, Historical design, Optimization Techniques.

Tutorials will be based on the above syllabus.

Teaching hours: 15

Hours Recommended references (Latest edition)

1. Pharmaceutical statistics - Practical and clinical applications, Sanford Bolton, publisher Marcel Dekker Inc. New York.
2. Fundamental of Statistics - Himalaya Publishing House- S. C. Gupta.
3. Design and Analysis of Experiments - PHI Learning Private Limited, R. Pannarselvam.
4. Design and Analysis of Experiments - Wiley Students Edition, Douglas and C. Montgomery.

Baldania

B. PHARMACY

Syllabus ♦ Semester-8

Subject name with code: **13PH0802 Social and Preventive Pharmacy**

Course Objective

The purpose of this course is to introduce to students several health issues and their challenges. This course also introduced several national health programmes. The roles of the pharmacist in these contexts are also discussed.

Course Outcomes

Upon completion of the course, the student shall be able to

1. Acquire high consciousness/realization of current issues related to health and pharmaceutical problems within the country and worldwide.
2. Have a critical way of thinking based on current healthcare development.
3. Evaluate alternative ways of solving problems related to health and pharmaceutical issues.

Teaching and assessment scheme

Teaching Scheme (Hours)			Credits	Theory/ Tutorial Marks			Practical Marks		Total Marks
Theory	Tutorial	Practical		CSE	IA (I)	ESE (E)	TW	Viva (V)	
3	1	0	4	10	15	75	0	0	100

Theory syllabus

Teaching hours: **45 Hours**

Unit-1

10 Hours

Concept of health and disease: Definition, concepts and evaluation of public health. Understanding the concept of prevention and control of disease, social causes of diseases and social problems of the sick. Social and health education: Food concerning nutrition and health, Balanced diet, Nutritional deficiencies, Vitamin deficiencies, Malnutrition and its prevention. Sociology and health: Socio-cultural factors related to health and disease, Impact of urbanization on health and disease, Poverty and health. Hygiene and health: personal hygiene and health care; avoidable habits.

Unit-2

10 Hours

Preventive medicine: General principles of prevention and control of diseases such as cholera, SARS, Ebola virus, influenza, acute respiratory infections, malaria, chicken guinea, dengue, lymphatic filariasis, pneumonia, hypertension, diabetes mellitus, cancer, drug addiction-drug substance abuse.

Unit-3

10 Hours

National health programs, its objectives, functioning and outcome of the following: HIV and AIDS control programme, TB, Integrated disease surveillance program (IDSP), National leprosy control programme, National mental health program, National programme for prevention and control of deafness, Universal immunization programme, National programme for control of blindness, Pulse polio programme.

Unit-4

8 Hours

National health intervention programme: for mother and child, National family welfare programme, National tobacco control programme, National Malaria Prevention Program, National programme for the health care for the elderly, social health programme; the role of WHO in Indian national program.

Unit-5

7 Hours

Community services: in rural, urban and school health: Functions of PHC, Improvement in rural sanitation, national urban health mission, Health promotion and education in school.

Tutorials will be based on the above syllabus.

Teaching hours: 15

Hours Recommended references (Latest edition)

1. Short Textbook of Preventive and Social Medicine, Prabhakara GN, 2nd Edition, 2010, ISBN: 9789380704104, JAYPEE Publications.
2. Textbook of Preventive and Social Medicine (Mahajan and Gupta), Edited by Roy Rabindra Nath, Saha Indranil, 4th Edition, 2013, ISBN: 9789350901878, JAYPEE Publications.
3. Review of Preventive and Social Medicine (Including Biostatistics), Jain Vivek, 6th Edition, 2014, ISBN: 9789351522331, JAYPEE Publications.
4. Essentials of Community Medicine - A Practical Approach, Hiremath Lalita D, Hiremath Dhananjay A, 2nd Edition, 2012, ISBN: 9789350250440, JAYPEE Publications.

B. PHARMACY**Syllabus ♦ Semester-8**

5. Park Textbook of Preventive and Social Medicine, K Park, 21st Edition, 2011, ISBN-14: 9788190128285, BANARSIDASS BHANOT PUBLISHERS.
6. Community Pharmacy Practice, Ramesh Adepu, BSP publishers, Hyderabad.
7. Research in Social and Administrative Pharmacy, Elsevier, Ireland.

B. PHARMACY

Syllabus ♦ Semester-8

Elective subject-1 name with code: **13PH0803 Pharma Marketing Management Course**

Objective

The pharmaceutical industry not only needs highly qualified researchers, chemists and, technical people but also requires skilled managers who can take the industry forward by managing and taking the complex decisions which are imperative for the growth of the industry. The Knowledge and Know-how of marketing management groom the people for taking a challenging role in Sales and Product management.

Course Outcomes

The course aims to provide an understanding of marketing concepts and techniques and their applications in the pharmaceutical industry.

Teaching and assessment scheme

Teaching Scheme (Hours)			Credits	Theory/ Tutorial Marks			Practical Marks		Total Marks
Theory	Tutorial	Practical		CSE	IA (I)	ESE (E)	TW	Viva (V)	
3	1	0	4	10	15	75	0	0	100

Theory syllabus

Teaching hours: **45 Hours**

Unit-1

10 Hours

Marketing: Definition, general concepts and scope of marketing; Distinction between marketing & selling; Marketing environment; Industry and competitive analysis; Analysing consumer buying behaviour; industrial buying behaviour. Pharmaceutical market: Quantitative and qualitative aspects; size and composition of the market; demographic descriptions and socio-psychological characteristics of the consumer; market segmentation & targeting. Consumer profile; Motivation and prescribing habits of the physician; patients' choice of physician and retail pharmacist. Analysing the Market; Role of market research.

Unit-2

10 Hours

Product decision: Classification, product line and product mix decisions, product life cycle, product portfolio analysis; product positioning; New product decisions; Product branding, packaging and labelling decisions, Product management in the pharmaceutical industry.

Unit-3

10 Hours

Promotion: Methods, determinants of the promotional mix, promotional budget; An overview of personal selling, advertising, direct mail, journals, sampling, retailing, medical exhibition, public relations, online promotional techniques for OTC products.

Unit-4

8 Hours

Pharmaceutical marketing channels: Designing channel, channel members, selecting the appropriate channel, conflict in channels, physical distribution management: Strategic importance, tasks in physical distribution management. Professional sales representative (PSR): Duties of PSR, the purpose of detailing, selection and training, supervising, norms for customer calls, motivating, evaluating, compensation and prospects of the PSR.

Unit-5

7 Hours

Pricing: Meaning, importance, objectives, determinants of price; pricing methods and strategies, issues in price management in the pharmaceutical industry. An overview of DPCO (Drug Price Control Order) and NPPA (National Pharmaceutical Pricing Authority). Emerging concepts in marketing: Vertical & Horizontal Marketing; Rural Marketing; Consumerism; Industrial Marketing; Global Marketing.

Tutorials will be based on the above syllabus.

Teaching hours: 15

Hours Recommended references (Latest edition)

1. Philip Kotler and Kevin Lane Keller: Marketing Management, Prentice-Hall of India, New Delhi.
2. Walker, Boyd and Larreche: Marketing Strategy- Planning and Implementation, Tata McGraw-Hill, New Delhi.
3. Dhruv Grewal and Michael Levy: Marketing, Tata McGraw-Hill.
4. Arun Kumar and N Meenakshi: Marketing Management, Vikas Publishing, India
5. Rajan Saxena: Marketing Management; Tata McGraw-Hill (India Edition).

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6. Ramaswamy, U.S & Nanakamari, S: Marketing Management: Global Perspective, Indian Context, Macmillan India, New Delhi.
7. Shanker, Ravi: Service Marketing, Excel Books, New Delhi.
8. Subba Rao Changanti, Pharmaceutical Marketing in India (GIFT – Excel series) Excel Publications.

B. PHARMACY

Syllabus ♦ Semester-8

Elective subject-2 name with code: **13PH0804 Pharmaceutical Regulatory Science**

Course Objective

This course is designed to impart fundamental knowledge on the regulatory requirements for approval of new drugs, and drug products in regulated markets of India & other countries like the US, EU, Japan, Australia, UK etc. It prepares the students to learn in detail the regulatory requirements, documentation requirements, and registration procedures for marketing the drug products.

Course Outcomes

Upon completion of the course, the student shall be able to

1. Know about the process of drug discovery and development.
2. Know the regulatory authorities and agencies governing the manufacture and sale of pharmaceuticals.
3. Know the regulatory approval process and their registration in Indian and international markets.

Teaching and assessment scheme

Teaching Scheme (Hours)			Credits	Theory/ Tutorial Marks			Practical Marks		Total Marks
Theory	Tutorial	Practical		CSE	IA (I)	ESE (E)	TW	Viva (V)	
3	1	0	4	10	15	75	0	0	100

Theory syllabus

Teaching hours: **45 Hours**

Unit-1

10 Hours

New drug discovery and development: Stages of drug discovery, drug development process, pre-clinical studies, nonclinical activities, clinical studies, Innovator and generics, Concept of generics, Generic drug product development.

Unit-2

10 Hours

Regulatory approval process: Approval processes and timelines involved in Investigational New Drug (IND), New Drug Application (NDA), Abbreviated New Drug Application (ANDA). Changes to an Approved NDA/ ANDA. Regulatory authorities and agencies: Overview of regulatory authorities of India, United States, European Union, Australia, Japan, Canada (Organization structure and types of applications).

Unit-3

10 Hours

Registration of Indian drug products in the overseas market: Procedure for export of pharmaceutical products, technical documentation, Drug Master Files (DMF), Common Technical Document (CTD), electronic Common Technical Document (eCTD), ASEAN Common Technical Document (ACTD) research.

Unit-4

8 Hours

Clinical trials: Developing clinical trial protocols, Institutional Review Board/ Independent Ethics committee - formation and working procedures, Informed consent process and procedures, GCP obligations of Investigators, sponsors & Monitors, Managing and Monitoring clinical trials, Pharmacovigilance - safety monitoring in clinical trials.

Unit-5

7 Hours

Regulatory concepts: Basic terminology, guidance, guidelines, regulations, Laws and Acts, Orange book, Federal Register, Code of Federal Regulatory, Purple book.

Tutorials will be based on the above syllabus.

Teaching hours: 15

Hours Recommended references (Latest edition)

1. Drug Regulatory Affairs by Sachin Itkar, Dr N. S. Vyawahare, Nirali Prakashan.
2. The Pharmaceutical Regulatory Process, Second Edition Edited by Ira R. Berry and Robert P. Martin, Drugs and the Pharmaceutical Sciences, Vol. 185. Informa Healthcare Publishers.
3. New Drug Approval Process: Accelerating Global Registrations by Richard A Guarino, MD, 5th edition, Drugs and the Pharmaceutical Sciences, Vol. 190.
4. Guidebook for drug regulatory submissions / Sandy Weinberg. By John Wiley & Sons. Inc.
5. FDA Regulatory Affairs: a guide for prescription drugs, medical devices, and biologics / edited by Douglas J. Pisano, David Mantus.
6. Generic Drug Product Development, Solid Oral Dosage forms, Leon Shargel and Isader Kaufer, Marcel Dekker series, Vol.143.

B. PHARMACY**Syllabus ♦ Semester-8**

7. Clinical Trials and Human Research: A Practical Guide to Regulatory Compliance by Fay A. Rozovsky and Rodney K. Adams.
8. Principles and Practices of Clinical Research, Second Edition Edited by John I. Gallin and Frederick
9. Drugs: From Discovery to Approval, Second Edition by Rick Ng.

B. PHARMACY

Syllabus ♦ Semester-8

Elective subject-3 name with code: **13PH0805 Pharmacovigilance Course**

Objective

This paper will provide an opportunity for the student to learn about the development of pharmacovigilance as a science, basic terminologies used in pharmacovigilance, a global scenario of Pharmacovigilance, train students on establishing pharmacovigilance programme in an organization, various methods that can be used to generate safety data and signal detection. This paper also develops the skills of classifying drugs, diseases and adverse drug reactions.

Course Outcomes

At the completion of this paper, it is expected that students will be able to (know, do, and appreciate):

1. Why drug safety monitoring is important?
2. History and development of pharmacovigilance.
3. A national and international scenario of pharmacovigilance.
4. Dictionaries, coding and terminologies used in pharmacovigilance.
5. Detection of new adverse drug reactions and their assessment.
6. International standards for the classification of diseases and drugs.
7. Adverse drug reaction reporting systems and communication in pharmacovigilance.
8. Methods to generate safety data during pre-clinical, clinical and post-approval phases of drugs' life cycle.
9. Drug safety evaluation in paediatrics, geriatrics, pregnancy and lactation.
10. Pharmacovigilance Program of India (PvPI) requirement for ADR reporting in India.
11. ICH guidelines for ICSR, PSUR, expedited reporting, pharmacovigilance planning.
12. CIOMS requirements for ADR reporting.
13. Writing case narratives of adverse events and their quality.

Teaching and assessment scheme

Teaching Scheme (Hours)			Credits	Theory/ Tutorial Marks			Practical Marks		Total Marks
Theory	Tutorial	Practical		CSE	IA (I)	ESE (E)	TW	Viva (V)	
3	1	0	4	10	15	75	0	0	100

Theory syllabus

Teaching hours: **45 Hours**

Unit-1

10 Hours

Introduction to pharmacovigilance: History and development of Pharmacovigilance. Importance of safety monitoring of medicine. WHO international drug monitoring programme. Pharmacovigilance program of India (PvPI). Introduction to adverse drug reactions: Definitions and classification of ADRs. Detection and reporting. Methods in causality assessment. Severity and seriousness assessment. Predictability and preventability assessment. Management of adverse drug reactions. Basic terminologies used in pharmacovigilance: terminologies of adverse medication-related events. Regulatory terminologies.

Unit-2

10 Hours

Drug and disease classification: Anatomical, therapeutic and chemical classification of drugs. International classification of diseases. Daily defined doses. International non-proprietary names for drugs. Drug dictionaries and coding in pharmacovigilance: WHO adverse reaction terminologies. MedDRA and standardised MedDRA queries. WHO drug dictionary. Eudravigilance medicinal product dictionary. Information resources in pharmacovigilance: Basic drug information resources. Specialised resources for ADRs. Establishing pharmacovigilance programme: Establishing in a hospital. Establishment & operation of drug safety department in the industry. Contract research organisations (CROs). Establishing a national programme.

Unit-3

10 Hours

Vaccine safety surveillance: Vaccine pharmacovigilance. Vaccine failure. Adverse events following immunization. Pharmacovigilance methods: passive surveillance-Spontaneous reports and case series. Stimulated reporting. Active surveillance-sentinel sites, drug event monitoring and registries. The comparative observational studies-Cross sectional study, case-control study and cohort study. Targeted clinical investigations. Communication in pharmacovigilance: Effective communication in pharmacovigilance. Communication in drug safety crisis management. Communication with regulatory agencies, business partners, healthcare facilities and media.

Unit-4

8 Hours

B. PHARMACY
Syllabus ♦ Semester-8

Safety data generation: Preclinical phase. Clinical phase. Post-approval phase (PMS). ICH guidelines for pharmacovigilance: organization and objectives of ICH. Expedited reporting. individual case safety reports. Periodic safety update planning. Good clinical practice in pharmacovigilance studies.

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Syllabus ♦ Semester-8**Unit-5****7 Hours**

Pharmacogenomics of adverse drug reactions: Genetics related ADR with example focusing PK parameters. Drug safety evaluation in special population: paediatrics. Pregnancy and lactation. Geriatrics. CIOMS: CIOMS working groups. CIOMS form. CDSCO (India) and pharmacovigilance: D&C Act and Schedule Y. Differences in Indian and global pharmacovigilance requirements.

Tutorials will be based on the above syllabus.**Teaching hours: 15****Hours Recommended references (Latest edition)**

1. Textbook of Pharmacovigilance: S K Gupta, Jaypee Brothers, Medical Publishers.
2. Practical Drug Safety from A to Z By Barton Colbert, Pierre Biron, Jones and Bartlett Publishers.
3. Mann's Pharmacovigilance: Elizabeth B. Andrews, Nicholas, Wiley Publishers.
4. Stephens' Detection of New Adverse Drug Reactions: John Talbot, Patrick Walle, Wiley Publishers.
5. An Introduction to Pharmacovigilance: Patrick Waller, Wiley Publishers.
6. Cobert's Manual of Drug Safety and Pharmacovigilance: Barton Cobert, Jones & Bartlett Publishers.
7. Textbook of Pharmacoepidemiology edited by Brian L. Strom, Stephen E Kimmel, Sean Hennessy, Wiley Publishers.
8. A Textbook of Clinical Pharmacy Practice -Essential Concepts and Skills: G. Parthasarathi, Karin NyfortHansen, Milap C. Nahata
9. National Formulary of India
10. Text Book of Medicine by Yashpal Munjal
11. Text book of Pharmacovigilance: concept and practice by GP Mohanta and PK Manna
12. http://www.who.int/dynPage.aspx?id=105825&mn1=7347&mn2=7259&mn_3=7297
13. <http://www.ich.org/>
14. <http://www.cioms.ch/>
15. <http://cdsco.nic.in/>
16. http://www.who.int/vaccine_safety/en/
17. http://www.ipc.gov.in/PvPI/pv_home.html

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Syllabus ♦ Semester-8

Elective subject-4 name with code: **13PH0806 Quality Control and Standardization of Herbals Course**

Objective

In this subject, the student learns about the various methods and guidelines for the evaluation and standardization of herbs and herbal drugs. The subject also provides an opportunity for the student to learn cGMP, GAP and GLP in the traditional system of medicines.

Course Outcomes

Upon completion of the course, the student shall be able to

1. Know WHO guidelines for quality control of herbal drugs.
2. Know Quality assurance in the herbal drug industry.
3. Know the regulatory approval process and their registration in Indian and international markets.
4. Appreciate EU and ICH guidelines for quality control of herbal drugs.

Teaching and assessment scheme

Teaching Scheme (Hours)			Credits	Theory/ Tutorial Marks			Practical Marks		Total Marks
Theory	Tutorial	Practical		CSE	IA (I)	ESE (E)	TW	Viva (V)	
3	1	0	4	10	15	75	0	0	100

Theory syllabus

Teaching hours: **45 Hours**

Unit-1

10 Hours

Basic tests for drugs: Pharmaceutical substances, Medicinal plants materials and dosage forms. WHO guidelines for quality control of herbal drugs. Evaluation of commercial crude drugs intended for use.

Unit-2

10 Hours

Quality assurance in the herbal drug industry: cGMP, GAP, GMP and GLP in traditional system of medicine. WHO Guidelines on current Good Manufacturing Practices (cGMP) for Herbal Medicines. WHO Guidelines on GACP for Medicinal Plants.

Unit-3

10 Hours

EU and ICH guidelines: for quality control of herbal drugs. Research Guidelines for Evaluating the Safety and Efficacy of Herbal Medicines

Unit-4

8 Hours

Stability testing of herbal medicines. Application of various chromatographic techniques in the standardization of herbal products. Preparation of documents for new drug application and export registration. GMP requirements and Drugs & Cosmetics Act provisions.

Unit-5

7 Hours

Regulatory requirements for herbal medicines: WHO guidelines on safety monitoring of herbal medicines in pharmacovigilance systems Comparison of various Herbal Pharmacopoeias. Role of chemical and biological markers in standardization of herbal products.

Tutorials will be based on the above syllabus.

Teaching hours: 15

Hours Recommended references (Latest edition)

1. Pharmacognosy by Trease and Evans
2. Pharmacognosy by Kokate, Purohit and Gokhale
3. Rangari, V.D., Textbook of Pharmacognosy and Phytochemistry Vol. I, Carrier Pub., 2006.
4. Agrawal, S.S., Herbal Drug Technology. Universities Press, 2002.
5. EMEA. Guidelines on Quality of Herbal Medicinal Products/Traditional Medicinal Products,
6. Mukherjee, P.W. Quality Control of Herbal Drugs: An Approach to Evaluation of Botanicals. Business Horizons Publishers, New Delhi, India, 2002.
7. Shinde M.V., Dhalwal K., Potdar K., Mahadik K. Application of quality control principles to herbal drugs. International Journal of Phytomedicine 1(2009); p. 4-8.
8. WHO, Quality Control Methods for Medicinal Plant Materials, World Health Organization, Geneva, 1998. WHO, Guidelines for the Appropriate Use of Herbal Medicines. WHO Regional Publications, Western Pacific Series No 3, WHO Regional Office for the Western Pacific, Manila, 1998.

B. PHARMACY**Syllabus ♦ Semester-8**

9. WHO, The International Pharmacopeia, Vol. 2: Quality Specifications, 3rd ed. World Health Organization, Geneva, 1981.
10. WHO, Quality Control Methods for Medicinal Plant Materials. World Health Organization, Geneva, 1999.
11. WHO, WHO Global Atlas of Traditional, Complementary and Alternative Medicine. 2 vol. set. Vol. 1 contains text and Vol. 2, maps. World Health Organization, Geneva, 2005.
12. WHO, Guidelines on Good Agricultural and Collection Practices (GACP) for Medicinal Plants. World Health Organization, Geneva, 2004.

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B. PHARMACY

Syllabus ♦ Semester-8

Elective subject-5 name with code: **13PH0807 Computer-Aided Drug Design Course**

Objective

This subject is designed to provide detailed knowledge of the rational drug design process and various techniques used in the rational drug design process.

Course Outcomes

Upon completion of the course, the student shall be able to

1. Design and discovery of lead molecules.
2. The role of drug design in the drug discovery process.
3. The concept of QSAR and docking.
4. Various strategies to develop a new drug-like molecule.
5. The design of new drug molecules using molecular modelling software.

Teaching and assessment scheme

Teaching Scheme (Hours)			Credits	Theory/ Tutorial Marks			Practical Marks		Total Marks
Theory	Tutorial	Practical		CSE	IA (I)	ESE (E)	TW	Viva (V)	
3	1	0	4	10	15	75	0	0	100

Theory syllabus

Teaching hours: **45 Hours**

Unit-1

10 Hours

Introduction to drug discovery and development: Stages of drug discovery and development. Lead discovery and Analog Based Drug Design Rational approaches to lead discovery based on traditional medicine, Random screening, Non-random screening, serendipitous drug discovery, lead discovery based on drug metabolism, lead discovery based on clinical observation. Analog Based Drug Design: Bioisosterism, Classification, Bio isosteric replacement. Any three case studies

Unit-2

10 Hours

Quantitative Structure-Activity Relationship (QSAR): SAR versus QSAR, History and development of QSAR, Types of physicochemical parameters, experimental and theoretical approaches for the determination of physicochemical parameters such as Partition coefficient, Hammett's substituent constant and Tafts steric constant. Hansch analysis, Free Wilson analysis, 3D-QSAR approaches like COMFA and COMSIA.

Unit-3

10 Hours

Molecular modelling and virtual screening techniques: Drug likeness screening, Concept of pharmacophore mapping and pharmacophore-based screening. Molecular docking: Rigid docking, flexible docking, manual docking, Docking based screening. De novo drug design.

Unit-4

8 Hours

Informatics & methods in drug design: Introduction to Bioinformatics, chemoinformatic. ADME databases, chemical, biochemical and pharmaceutical databases.

Unit-5

7 Hours

Molecular modelling: Introduction to molecular mechanics and quantum mechanics. Energy Minimization methods and Conformational Analysis, global conformational minima determination.

Tutorials will be based on the above syllabus.

Teaching hours: 15

Hours Recommended references (Latest edition)

1. Robert GCK, ed., "Drug Action at the Molecular Level" University Prak Press Baltimore.
2. Martin YC. "Quantitative Drug Design" Dekker, New York.
3. Delgado JN, Remers WA eds "Wilson & Gisvolds's Text Book of Organic Medicinal & Pharmaceutical Chemistry" Lippincott, New York.
4. Foye WO "Principles of Medicinal chemistry 'Lea & Fibiger.
5. Koro Ikovas A, Burckhalter JH. "Essentials of Medicinal Chemistry" Wiley Interscience.
6. Wolf ME, ed "The Basis of Medicinal Chemistry, Burger's Medicinal Chemistry" John Wiley & Sons.
7. Patrick Graham, L., An Introduction to Medicinal Chemistry, Oxford University Press.
8. Smith HJ, Williams H, eds, "Introduction to the Principles of Drug Design" Wright Boston.

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9. Silverman R.B. "The Organic Chemistry of Drug Design and Drug Action" Academic Press New York.

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Elective subject-6 name with code: **13PH0808 Cell and Molecular Biology**

Course Objective

Cell biology is a branch of biology that studies cell-their physiological properties, their structure, the organelles they contain, interactions with their environment, their life cycle, division, death and cell function. This is done both on a microscopic and molecular level. Cell biology research encompasses both the great diversity of single-celled organisms like bacteria and protozoa, as well as the many specialized cells in multi-cellular organisms such as humans, plants, and sponges.

Course Outcomes

Upon completion of the course, the student shall be able to

1. Summarize cell and molecular biology history.
2. Summarize cellular functioning and composition.
3. Describe the chemical foundations of cell biology.
4. Summarize the DNA properties of cell biology.
5. Describe protein structure and function.
6. Describe cellular membrane structure and function.
7. Describe basic molecular genetic mechanisms.
8. Summarize the cell cycle.

Teaching and assessment scheme

Teaching Scheme (Hours)			Credits	Theory/ Tutorial Marks			Practical Marks		Total Marks
Theory	Tutorial	Practical		CSE	IA (I)	ESE (E)	TW	Viva (V)	
3	1	0	4	10	15	75	0	0	100

Theory syllabus

Teaching hours: **45 Hours**

Unit-1

10 Hours

- a) **Cell and molecular biology:** Definitions theory and basics and Applications. b) Cell and Molecular Biology: History and Summation. c) Properties of cells and cell membrane. d) Prokaryotic versus Eukaryotic e) Cellular Reproduction f) Chemical Foundations – an Introduction and Reactions (Types).

Unit-2

10 Hours

- a) **DNA and the flow of molecular information** b) DNA Functioning c) DNA and RNA d) Types of RNA e) Transcription and Translation.

Unit-3

10 Hours

- a) **Proteins:** Defined and Amino Acids b) Protein Structure 173 c) Regularities in Protein Pathways d) Cellular Processes e) Positive Control and significance of Protein Synthesis.

Unit-4

8 Hours

- a) **Science of genetics** b) Transgenics and Genomic Analysis c) Cell Cycle analysis d) Mitosis and Meiosis e) Cellular Activities and Checkpoints.

Unit-5

7 Hours

- a) **Cell signals:** Introduction b) Receptors for Cell Signals c) Signaling Pathways: Overview d) Misregulation of Signaling Pathways e) Protein-Kinases: Functioning.

Tutorials will be based on the above syllabus.

Teaching hours: 15

Hours Recommended references (Latest edition)

1. W.B. Hugo and A.D. Russel: Pharmaceutical Microbiology, Blackwell Scientific publications, Oxford London.
2. Prescott and Dunn., Industrial Microbiology, 4th edition, CBS Publishers & Distributors, Delhi.
3. Pelczar, Chan Kreig, Microbiology, Tata McGraw Hill ed.
4. Malcolm Harris, Balliere Tindall and Cox: Pharmaceutical Microbiology.
5. Rose: Industrial Microbiology.
6. Frobisher, Hinsdill et al: Fundamentals of Microbiology, 9th ed. Japan
7. Cooper and Gunn's: Tutorial Pharmacy, CBS Publisher and Distribution.
8. Pepler: Microbial Technology.
9. Edward: Fundamentals of Microbiology.
10. N.K. Jain: Pharmaceutical Microbiology, Vallabh Prakashan, Delhi
11. Bergey's manual of systematic bacteriology, Williams and Wilkins- A Waverly company
12. B. R. Glick and J. J. Pasternak: Molecular Biotechnology: Principles and Applications of Recombinant DNA: ASM Press Washington D.C.
13. RA Goldshy et. al., Kuby Immunology.

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B. PHARMACY

Syllabus ♦ Semester-8

Elective subject-7 name with code: **13PH0809 Cosmetic Science Course**

Objective

This subject deals with cosmetic products, cosmetic excipients, skincare products and their methods of preparation and evaluations.

Course Outcomes

Upon completion of the course, the student shall be able to

1. Know the regulations about cosmetics and cosmetic excipients.
2. They will be knowing the preparations of various skincare products like creams, antiperspirants, deodorants, hair care products etc.
3. They also know about the role of herbs in sunscreens.

Teaching and assessment scheme:

Teaching Scheme (Hours)			Credits	Theory/ Tutorial Marks			Practical Marks		Total Marks
Theory	Tutorial	Practical		CSE	IA (I)	ESE (E)	TW	Viva (V)	
3	1	0	4	10	15	75	0	0	100

Theory syllabus

Teaching hours: **45 Hours**

Unit-1

10 Hours

Classification of cosmetic and cosmeceutical products: Definition of cosmetics as per Indian and EU regulations, Evolution of cosmeceuticals from cosmetics, cosmetics as quasi and OTC drugs. Cosmetic excipients: Surfactants, rheology modifiers, humectants, emollients, preservatives. Classification and application. Skin: Basic structure and function of the skin. Hair: Basic structure of the hair. Hair growth cycle. Oral cavity: Common problem associated with teeth and gums.

Unit-2

10 Hours

Principles of formulation and building blocks of skincare products: Face wash, Moisturizing cream, Cold Cream, Vanishing cream and their advantages and disadvantages. Application of these products in the formulation of cosmeceuticals. Antiperspirants & deodorants: Actives & mechanism of action. Principles of formulation and building blocks of Haircare products: Conditioning shampoo, Hair conditioner, anti-dandruff shampoo. Hair oils. Chemistry and formulation of Para-phenylene diamine based hair dye. Principles of formulation and building blocks of oral care products: Toothpaste for bleeding gums, sensitive teeth. Teeth whitening, Mouthwash.

Unit-3

10 Hours

Sun protection, classification of sunscreens and SPF: Role of herbs in cosmetics: Skin Care: Aloe and turmeric Haircare: Henna and amla. Oral care: Neem and clove. Analytical cosmetics: BIS specification and analytical methods for shampoo, skin cream and toothpaste.

Unit-4

8 Hours

Principles of cosmetic evaluation: Principles of sebumeter, corneometer. Measurement of TEWL, SkinColor, Hair tensile strength, Hair combing properties Soaps, and syndet bars. Evolution and skin benefits.

Unit-5

7 Hours

Oily and dry skin: causes lead to dry skin, skin moisturisation. Basic understanding of the terms Comedogenic, dermatitis. Cosmetic problems associated with hair and scalp: Dandruff, Hair fall causes. Cosmetic problems associated with skin: blemishes, wrinkles, acne, prickly heat and body odour. Antiperspirants and Deodorants- Actives and mechanism of action.

Tutorials will be based on the above syllabus.

Teaching hours: 15

Hours Recommended references (Latest edition)

1. Harry's Cosmeticology, Wilkinson, Moore, Seventh Edition, George Godwin.
2. Cosmetics – Formulations, Manufacturing and Quality Control, P.P. Sharma, 4th Edition, Vandana Publications Pvt. Ltd., Delhi.
3. Textbook of cosmetology by Sanju Nanda & Roop K. Khar, Tata Publishers.
4. Textbook of Cosmetics by M. Vimaladevi.

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B. PHARMACY

Syllabus ♦ Semester-8

Elective subject-8 name with code: **13PH0810 Experimental Pharmacology Course**

Objective

This subject is designed to impart the basic knowledge of preclinical studies in experimental animals including design, conduct and interpretations of results.

Course Outcomes

Upon completion of the course, the student shall be able to

1. Appreciate the applications of various commonly used laboratory animals.
2. Appreciate and demonstrate the various screening methods used in preclinical research.
3. Appreciate and demonstrate the importance of biostatistics and research methodology.
4. Design and execute a research hypothesis independently.

Teaching and assessment scheme

Teaching Scheme (Hours)			Credits	Theory/ Tutorial Marks			Practical Marks		Total Marks
Theory	Tutorial	Practical		CSE	IA (I)	ESE (E)	TW	Viva (V)	
3	1	0	4	10	15	75	0	0	100

Theory syllabus

Teaching hours: **45 Hours**

Unit-1

7 Hours

Laboratory animals: Study of CPCSEA and OECD guidelines for maintenance, breeding and conduct of experiments on laboratory animals Common lab animals: Description and applications of different species and strains of animals. Popular transgenic and mutant animals. Techniques for collection of blood and common routes of drug administration in laboratory animals, Techniques of blood collection and euthanasia.

Unit-2

3 Hours

Introduction to preclinical studies: Dose selection, calculation and conversions, preparation of drug solution/suspensions, a grouping of animals and importance of sham negative and positive control groups. The rationale for the selection of animal species and sex for the study.

Unit-3

12 Hours

Preclinical screening models for drugs acting on CNS: Analgesic, antipyretic, anti-inflammatory, general anaesthetics, sedative and hypnotics, antipsychotic, antidepressant, antiepileptic, nootropics anti Parkinsonism drugs, anti-Alzheimer drug Preclinical screening models for drugs acting on the eye and local anesthetics.

Unit-4

5 Hours

Preclinical screening models for drugs acting on ANS: Sympathomimetics, sympatholytics, parasympathomimetics, parasympatholytics, skeletal muscle relaxants.

Unit-5

13 Hours

Preclinical screening models for drugs acting on CVS: Antihypertensives, diuretics, antiarrhythmic, anti-dyslipidemic, antiaggregatory, coagulants, and anticoagulants Preclinical screening models for antiulcer, antidiabetic, anticancer and antiasthmatic activities.

Unit-6

5 Hours

Research methodology and bio-statistics: Selection of research topic, review of literature, research hypothesis and study design Pre-clinical data analysis and interpretation using Students't' test and One-way ANOVA. Graphical representation of data.

Tutorials will be based on the above syllabus.

Teaching hours: 15

Hours Recommended references (Latest edition)

1. Fundamentals of Experimental Pharmacology by M. N. Ghosh.
2. Handbook of Experimental Pharmacology by S. K. Kulkarni.
3. CPCSEA guidelines for laboratory animal facility.
4. Drug discovery and Evaluation by Vogel H.G.
5. Drug Screening Methods by Suresh Kumar Gupta and S. K. Gupta.
6. Introduction to biostatistics and research methods by PSS Sundar Rao and J Richard.

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Elective subject-9 name with code: **13PH0811 Advanced Instrumentation Techniques**

Course Objective

This subject deals with the application of instrumental methods in qualitative and quantitative analysis of drugs. This subject is designed to impart advanced knowledge on the principles and instrumentation of spectroscopic and chromatographic hyphenated techniques. This also emphasizes theoretical and practical knowledge of modern analytical instruments that are used for drug testing.

Course Outcomes

Upon completion of the course, the student shall be able to

1. Understand the advanced instrument used and its applications in drug analysis.
2. Understand the chromatographic separation and analysis of the drug.
3. Understand the calibration of various analytical instruments.
4. Know analysis of drugs using various analytical instruments.

Teaching and assessment scheme

Teaching Scheme (Hours)			Credits	Theory/ Tutorial Marks			Practical Marks		Total Marks
Theory	Tutorial	Practical		CSE	IA (I)	ESE (E)	TW	Viva (V)	
3	1	0	4	10	15	75	0	0	100

Theory syllabus

Teaching hours: **45 Hours**

Unit-1

10 Hours

Nuclear magnetic resonance spectroscopy: Principles of H-NMR and C-NMR, chemical shift, factors affecting chemical shift, coupling constant, Spin - spin coupling, relaxation, instrumentation and applications
Mass Spectrometry- Principles, Fragmentation, Ionization techniques — Electron impact, chemical ionization, MALDI, FAB, Analyzers-Time of flight and Quadrupole, instrumentation, applications.

Unit-2

10 Hours

Thermal methods of analysis: Principles, instrumentation and applications of thermogravimetric analysis (TGA), Differential Thermal Analysis (DTA), Differential Scanning Calorimetry (DSC) X-Ray Diffraction Methods: Origin of X-rays, basic aspects of crystals, Xray Crystallography, rotating crystal technique, single-crystal diffraction, powder diffraction, structural elucidation and applications.

Unit-3

10 Hours

Calibration and validation: as per ICH and USFDA guidelines Calibration of the following Instruments
 Electronic balance, UV-Visible spectrophotometer, IR spectrophotometer, Fluorimeter, Flame Photometer, HPLC and GC.

Unit-4

8 Hours

Radio immune assay: Importance, various components, Principle, different methods, Limitation and Applications of Radioimmunoassay
Extraction techniques: General principle and procedure involved in the solid-phase extraction and liquid-liquid extraction.

Unit-5

7 Hours

Hyphenated techniques: LC-MS/MS, GC-MS/MS, HPTLC-MS.

Tutorials will be based on the above syllabus.

Teaching hours: 15

Recommended references (Latest edition)

1. Instrumental Methods of Chemical Analysis by B.K Sharma.
2. Organic spectroscopy by Y.R Sharma.
3. Textbook of Pharmaceutical Analysis by Kenneth A. Connors.
4. Vogel's Textbook of Quantitative Chemical Analysis by A.I. Vogel.
5. Practical Pharmaceutical Chemistry by A.H. Beckett and J.B. Stenlake.
6. Organic Chemistry by I. L. Finar.
7. Organic spectroscopy by William Kemp.
8. Quantitative Analysis of Drugs by D. C. Garrett.
9. Quantitative Analysis of Drugs in Pharmaceutical Formulations by P. D. Sethi.
10. Spec

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Syllabus ♦ Semester-8

Elective subject-10 name with code: **13PH0812 Dietary Supplements and Nutraceuticals**

Course Objective

This subject covers a foundational topic that is important for understanding the need and requirements of dietary supplements among different groups in the population.

Course Outcomes

This module aims to provide an understanding of the concepts behind the theoretical applications of dietary supplements. By the end of the course, students should be able to:

1. Understand the need for supplements by the different groups of people to maintain a healthy life.
2. Understand the outcome of deficiencies in dietary supplements.
3. Appreciate the components in dietary supplements and their application.
4. Appreciate the regulatory and commercial aspects of dietary supplements including health claims.

Teaching and assessment scheme

Teaching Scheme (Hours)			Credits	Theory/ Tutorial Marks			Practical Marks		Total Marks
Theory	Tutorial	Practical		CSE	IA (I)	ESE (E)	TW	Viva (V)	
3	1	0	4	10	15	75	0	0	100

Theory syllabus

Teaching hours: **45 Hours**

Unit-1

7 Hours

Nutraceuticals: Definitions of Functional Foods, Nutraceuticals and Dietary supplements. Classification of Nutraceuticals, Health problems and diseases that can be prevented or cured by Nutraceuticals i.e., weight control, diabetes, cancer, heart disease, stress, osteoarthritis, hypertension etc. Public health nutrition, maternal and child nutrition, nutrition and ageing, nutrition education in the community. Source, Name of marker compounds and their chemical nature, Medicinal uses and health benefits of following used as nutraceuticals/functional foods: Spirulina, Soyabean, Ginseng, Garlic, Broccoli, Gingko, Flaxseeds.

Unit-2

15 Hours

Phytochemicals as nutraceuticals: Occurrence and characteristic features (chemical nature medicinal benefits) of following a) Carotenoids- α and β -Carotene, Lycopene, Xanthophylls, leutin b) Sulfides: Diallylsulfides, Allyl trisulfide. c) Polyphenolics: Resveratrol d) Flavonoids- Rutin, Naringin, Quercetin, Anthocyanidins, catechins, Flavones e) Prebiotics / Probiotics: Fructo-oligosaccharides, Lactobacillus f) Phytoestrogens: Isoflavones, daidzein, Geobustin, lignans g) Tocopherols h) Proteins, vitamins, minerals, cereal, vegetables and beverages as functional foods: oats, wheat bran, rice bran, seafood, coffee, tea and the like.

Unit-3

7 Hours

Introduction to free radicals: Free radicals, reactive oxygen species, production of free radicals in cells, damaging reactions of free radicals on lipids, proteins, carbohydrates, nucleic acids. b) Dietary fibres and complex carbohydrates as functional food ingredients.

Unit-4

10 Hours

Diseases: a) Free radicals in Diabetes mellitus, Inflammation, Ischemic reperfusion injury, Cancer, Atherosclerosis, Free radicals in brain metabolism and pathology, kidney damage, muscle damage. Free radicals' involvement in other disorders. Free radicals' theory of ageing. b) Antioxidants: Endogenous antioxidants - enzymatic and nonenzymatic antioxidant defence, Superoxide dismutase, Catalase, Glutathione peroxidase, Glutathione Vitamin C, Vitamin E, α - Lipoic acid, melatonin Synthetic antioxidants: Butylated hydroxy Toluene, Butylated hydroxy Anisole. c) Functional foods for chronic disease prevention.

Unit-5

6 Hours

Environmental factors: Effect of processing, storage and interactions of various environmental factors on the potential of nutraceuticals. b) Regulatory Aspects; FSSAI, FDA, FPO, MPO, AGMARK. HACCP and

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Syllabus ♦ Semester-8

GMPs on Food Safety. Adulteration of foods. c) Pharmacopeial Specifications for dietary supplements and nutraceuticals.

Tutorials will be based on the above syllabus.

Teaching hours: 15

Hours Recommended references (Latest edition)

1. Dietetics by Sri Lakshmi.
2. Role of dietary fibres and nutraceuticals in preventing diseases by K.T Agusti and P. Faizal: BS Publication.
3. Advanced Nutritional Therapies by Cooper. K.A., (1996).
4. The Food Pharmacy by Jean Carper, Simon & Schuster, UK Ltd., (1988).
5. Prescription for Nutritional Healing by James F. Balch and Phyllis A. Balch 2nd Ed., Avery Publishing Group, NY (1997).
6. G. Gibson and C. Williams Editors 2000 Functional foods Woodhead Publ. Co. London.
7. Goldberg, I. Functional Foods. 1994. Chapman and Hall, New York.
8. Labuza, T.P. 2000 Functional Foods and Dietary Supplements: Safety, Good Manufacturing Practice (GMPs) and Shelf-Life Testing in Essentials of Functional Foods M.K. Sachmidl and T.P. Labuza eds. Aspen Press.
9. Handbook of Nutraceuticals and Functional Foods, Third Edition (Modern Nutrition).
10. Shils, ME, Olson, JA, Shike, M. 1994 Modern Nutrition in Health and Disease. Eighth edition. Lea and Febiger.

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Syllabus • Semester-8

 Subject name with code: **13PH0813 Project WorkTeaching**
and assessment scheme

Teaching Scheme (Hours)			Credits	Theory/ Tutorial Marks			Practical Marks		Total Marks
Theory	Tutorial	Practical		CSE	IA (I)	ESE (E)	TW	Viva (V)	
0	0	12	6	00	00	00	50	100	150

Guidelines

All the students shall undertake a project under the supervision of a teacher and submit a report. The area of the project shall directly relate any one of the elective subjects opted by the student in semester VIII or Minor research project at R. & D organization/ CRO/ Manufacturing organization/ QA & QC Laboratory/ Public testing laboratory/ Drug regulatory body/ Hospital/ Community Pharmacy/ Help Centre or Institute. The project shall be carried out in a group not exceeding 5 in number. The project report shall be submitted in triplicate (typed & bound copy not less than 25 pages).

The students can perform the activities for project work after completion of Semester VI onwards (during the vacation/ official Holidays) but the credit of project work will be transferred in Semester VIII. Those who are doing project work during this period must complete the prescribed days or hours for project work as per the guidelines. Institute should maintain documentation regarding project work for each student with requisite evidence.



PRINCIPAL
 FACULTY OF PHARMACY
 MARAWADI UNIVERSITY
 RAJKOT - 360 003.

Course having focus on
Employability
Entrepreneurship
Skill development
during last five years in
B.Tech Computer
Engineering
(2017-2022)

- **Courses having focus on employability/ entrepreneurship/ skill development during last five years (2017-22)**



Subject Code: 01CE0101

Subject Name: Computer Programming

B.Tech. Year - I

Objective: Students are expected to learn basics of Computer Programming which will help them to apply these concepts in day to day life. The course discusses various notations that required for developing algorithm and for C language, which is used in many commercial, industrial as well as industrial applications. Keeping in view wide applications of files, a special unit of files is introduced.

Credits Earned: 4 Credits

Course Outcomes: After completion of this course, student will be able to

- Recognize importance of C language and its day to day applications.
- Analyze the various control structures that requires to use in real time applications
- How to convert real time applications into algorithms and device the program using C language notations
- Identify various basic programming principles using C language.
- Illustrate various programming syntax.
- Express and distinguish various loops in C language.
- Express programming problems logically through flow charts and algorithms.
- Prepare effective team-oriented problem solver as well as communicator with non-technical stakeholders in computer and software systems development.
- Apply fundamental principles of problem solving in software engineering.

Pre-requisite of course: NA.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	CSE	Viva (V)	Term work (TW)	
3	0	2	4	50	30	20	25	25	150

f nla



Contents:

Unit	Topics	Contact Hours
1	Introduction : Basic organization of a Computer, Languages Low level - high Number level, System - Binary - Decimal conversion problems, Flowchart, Algorithm, problem solving using flowchart and algorithm	6
2	C Programming Basics : Introduction to C Programming, Structure of 'C' program, compilation and linking processes, Constants, Variables, Data Types, C Tokens, Expression using operators in 'C', Type Conversion and Type Casting	7
3	Control Structure and Looping : Decision Making statements, Switch statement, Conditional operator, Looping - Entry and Exit control loops, concept of jump, break and continue.	6
4	Array and String : Declaration and initialization of array, Types of array, sorting and matrix operation using array, String - string operations, string array, string function	5
5	Functions and Pointers : Functions - Definition of function, Declaration of function, Call by value, Call by references, Recursion. Pointers - Definition, Initialization, pointer arithmetic, pointer and array, Chain of pointer.	8
6	Structure and Union : Need of structure data type, structure definition, structure declaration, structure within structure, difference between structure and union.	2
7	Dynamic Memory Allocation : DMA concepts, DMA functions - Malloc(), Calloc(), Realloc(), Free().	2
8	File Management : Introduction to file management and its functions.	3
9	Introduction to Data Structure using C : Introduction, Types - Linear and Non Linear Data structure	3

A. Q.



Linear – Basics of Stack, Queue and Linked List	
Total Hours	42

References:

1. Programming in ANSI C by Balaguruswamy
2. Programming With Ansi And Turbo C book : Ashok Kamthane
3. Programming in C Ansi standard, by Yashwant Kanetkar
4. Programming with C, Gottfried, McGraw-Hill.

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
20%	20%	30%	15%	10%	5%

Suggested List of Experiments:

1. Write a program to print student detail.
2. Write a program to calculate simple interest.
3. Write a program that accepts centigrade and convert it into Fahrenheit.
4. Write a program that accepts two numbers in A and B interchange value of A and B variable.
5. Write a program to demonstrate the use of the basic data types int, char and float.
6. Write a program to demonstrate the use of Arithmetic operators by getting two numbers from the user

(Handwritten signature)



7. Write a program that accepts a number from keyboard and find whether the number is ODD or EVEN using Conditional operators.
8. Write a program to demonstrate the use of increment and decrement operator.
9. Write a program to demonstrate the use of shorthand operators.
10. Write a program to demonstrate the use of sizeof() of operator.
11. Write a program to demonstrate the use of bitwise operators.
12. Write a program that accepts three numbers from the user and print maximum of them.
13. Demonstrate the use of GOTO statement.
14. Write a program to input the Name and the Salary of an Employee. Calculate and print the Name, Salary and Bonus of the Employee, where bonus= 5.3% if salary is at least Rs. 10,000 and 6.5% otherwise.
15. Admission to professional course is subject to the following conditions. Marks in Mathematics ≥ 60
Marks in
Physics ≥ 50 Marks
in Chemistry ≥ 40
Total in all three subjects ≥ 200 or total in mathematics and physics ≥ 150 Given the marks in the three subjects, Write a program to process the application to list the eligible candidates.
16. Write a program that accepts two numbers and one code (1,2,3,4) from the user. According to the code, the operations to be performed, using switch case statements as follows: (Code : 1 \rightarrow Addition, 2 \rightarrow Subtraction, 3 \rightarrow Multiplication, 4 \rightarrow Division).
17. Write a program that reads the marks for five subjects of a student. Calculate and print the grade for the student [i.e. Grade A,B,C,D and F]

f. (W)



using Else-If ladder.

18. Write a program that do sum=1+3+5+.....N terms Print value of Sum.
19. Write a program to print the Fibonacci Series[i.e 1,1,2,3,5,8,13...N terms].
20. Write a program to accept one number from the user. i) Display reverse of that number. ii) Find if it is Armstrong or not.
21. Write a program that accepts a number from the user and print prime numbers from 0 to that number.
22. Write a C program to display following different Patterns.

1	1
1 2	1 0
1 2 3	1 0 1
1 2 3 4	1 0 1 0
1 2 3 4 5	1 0 1 0 1

1	a
2 1	bc
1 2 3 2 1	def
2 3 4 3 2 1	ghij
1 2 3 4 5 4 3 2 1	klmno
1	1
AB	AB
1 2 3	2 3 4
ABCD	CDEF
1 2 3 4 5	5 6 7 8 9

23. Write a program to accept 5 numbers in an array and display it.
24. Write a program to accept 9 numbers in form of matrix and display in matrix form.

f. (N)w



25. Write a program to accept 5 numbers in array and find maximum and minimum value of it.
26. Write a program to accept 5 numbers in array and find maximum and minimum value of it.
27. Write a program to sort all elements of 1-D array in ascending and descending order.
28. Write a program to calculate and display addition of two matrix.
29. Write a program to count number of vowels in a given string.
30. Write a program to check whether entered string is palindrome or not.
31. Write a program for string concatenation without using library function.
32. Write a program to demonstrate the Library function for string.
33. Write a function which receives number as argument and return sum of digit.
34. Write a program for calculating Fibonacci series using UDF and call by value
35. Write a program to calculate Factorial using recursion in UDF.
36. Write a program to find Average, maximum and minimum of Array elements using UDF.
37. Write a program to calculate total number of positive, negative and zero value in array using UDF.
38. Write a program to swap two numbers using UDF and pointer.
39. Write a program using pointer to read in an array of integers and print its elements in reverse order.
40. Write a C program to create a structure of employees with Full Name, Last Name, City and Salary. Display it for n employees.
41. Write a program to demonstrate nested structure. (make structures for circle and rectangle)



42. Write a program to create array of structure. Make a structure for student having student_no, student_name, student_marks.
43. Write a program to create union cricketer having player_name, batting_avg, player_age. P for swapping of two values with help of UDF and call by reference.
44. Write a program to Display contents of a file on screen. Use functions (fopen, fclose, getc, putchar, eof)
45. Write a program to count number of characters in a file.

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources

1. <http://nptel.ac.in/courses/106104128/>
2. <http://nptel.ac.in/courses/106106133/>
3. <http://nptel.ac.in/courses/106104128/>
4. <http://vlab.amrita.edu/index.php>
5. <http://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-087-practical-programming-in-c-january-iap-2010/>

T. (N) [Signature]

Subject Code: 01CE0102

Subject Name: Computer Workshop

B.Tech. Year -I

Objective: Students of Computer Engineering have to work with various hardware and software not only during academia but also in company. Thus, students should get familiar with various hardware, software, operating systems and networking.

This course will provide student a much needed knowledge of computer hardware and networking, enabling them to identify and rectify the onboard computer hardware, software and network related problems. With the help of this course the student will be able to understand the hardware specifications that are required to run operating system and various application programs.

Credits Earned: 1 Credits

Course Outcomes: After completion of this course, student will be able to

- Understand the basic concept and structure of computer hardware and networking.
- Identify the existing configuration of the computers and peripherals.
- Upgrading the system as and when required.
- Apply their knowledge about computer peripherals to identify / rectify problems onboard.
- Integrate the PCs into local area network and re-install operating system and various application programs.
- Manage data backup and restore operations on computer and update application software.

Pre-requisite of course: NA

f. (M)

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE(E)	IA	CSE	Viva (V)	Term Work (TW)	
0	0	2	1	0	0	0	25	25	50

Content:

Unit	Topics	Contact Hours
1	Assembly of Computer: Introduction to hardware peripherals like RAM, ROM, keyboard, Mouse, processors, etc. Generation of processors. Working of SMPS. Study of various ports. Steps and precautions to assemble computer.	6
2	Assembly of Laptop: laptop hardware peripherals like RAM, ROM, keyboard, Mouse, processors, etc. Generation of processors. Study of various ports. Steps and precautions to assemble laptop.	4
3	Computer Network Tools: Introduction to computer network. Study of various topologies. Preparing the network cable using crimping tools and connectors. Study of various network environments.	4
4	Operating System and Software Installations: Introduction to operating system. Types of operating system (Windows and Linux). Window:- Evolution of operating system. Introduction to software. Types of software (MS office, VLC media player, Win rar), etc. Linux:- Evolution of operating system. Introduction to software. Types of software (open office, web browser, etc.) Case study of Installations step for operating system and application	6



	softwares.	
5	Internet : Introduction and evolution of internet. Study of various internet based services like Email, social network, chat, etc. Introduction to cyber security and cyber laws.	4
6	Server : Introduction to server. Difference between server and normal desktop. Evolution of servers. Study of various servers like Email, data, domain, etc.	4
	Total Hours	28

Reference Books:

1. Hardware Bible by Winn L. Rosch
2. Hardware and Software of Personal Computers by Sanjay K. Bose
3. Fundamentals of Computers by V. Rajaraman
4. Computer Studies - A first course by John Shelley and Roger Hunt
5. Computer Fundamentals, MS Office and Internet & Web Technology by Dinesh Maidasani
6. Modern Computer Hardware Course by M Lotia, P Nair, P Lotia

List of Experiments:

The practical/exercises should be properly designed and implemented with an attempt to develop different types of skills so that students are able to acquire the competency. Following is the list of experiments for guidance.

As it is laboratory course list is as per content given above

Suggested List of Student Activities:

1. Collect various types of computer hardware and prepare summary report
2. Collect various types of computer software and prepare requirement report
3. Collect specifications of similar types of hardware and software and prepare report comparing them.
4. Assemble one computer and install operating system and several software (mini - project given by faculty member)

Open Ended Problems: Apart from above experiments a group of students has to

undertake open ended problem/design problem. Few examples of the same are given below.

1. Identify the hardware and software list of the given system.
2. Install and uninstall given software step-by-step.
3. Explain step-by-step installation process for given operating system.
4. Prepare the report of need of programming language in 21st century.

Major Equipment:**Components:**

Various types of hardware including RAM, motherboards, Processor, hard disk, etc. along with various operating system like linux and windows based with software like open office, players etc.

Tools:

Screw driver, crimping, soldering iron, multi-meter, cable tester, UTP cable, Connecters, keyboard, mouse, and other USB devices.

Supplementary Resources:

1. <http://nptel.ac.in/courses/106105084/>
2. <http://nptel.ac.in/courses/106105081/>
3. <https://www.coursera.org/learn/internet-history>
4. <http://windows.microsoft.com/en-US/windows7/Create-a-system-repair-disc>
5. <http://technet.microsoft.com/library/ee532075.aspx>
6. <http://www.karbosguide.com/>
7. <https://www.youtube.com/watch?v=ZOKsmiLcSlo>
8. <https://www.youtube.com/playlist?list=PLA1DC661DCF743F70>
9. <http://study-ccna.com/>

f, (W)

Subject Code: 01EC0102
Subject Name: Digital Electronics
B.Tech. Year - I
Objective: The subject aims to prepare the students,

To understand the basic of Digital Electronic concepts required in analysis and design of digital electronic circuits and systems.

To understand the number system, logic gates, Boolean algebra, etc.

To understand Construction and operation of various digital circuits such as Adder, Subtractor, Multiplexer, Demultiplexer, Decoder, Encoder, Flip-flops, Counters, Registers and memory devices.

To devolve the capability to Simplify, Analyze and Design the Various Digital Electronic Circuits.

Credits Earned: 4 Credits
Course Outcomes: After completion of this course, student will be able to

- Perform conversion between various number systems.
- Apply knowledge of Boolean algebra and other minimization techniques for digital circuit design.
- Identify, formulate and solve a problem based on combinational and sequential circuits
- Select the appropriate hardware and software tools for combinational and sequential circuit design.
- Design various counters.
- Verify the functions of various digital integrated circuits.
- Evaluate the specifications of logic families.
- Create a course project using digital integrated circuits.

Pre-requisite of the course: Elementary knowledge of science and mathematics

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE	IA	CSE	Viva	Term work	
3	0	2	4	50	30	20	25	25	150



Contents:

Unit	Topics	Contact Hours
1	Number Systems and Codes : Analogue versus Digital, Various Number Systems and Conversion between them, Accuracy of Conversion, Floating-Point Numbers, Various Binary Codes.	6
2	Digital Arithmetic : Basic Rules of Binary Addition and Subtraction, Binary Addition and Subtraction using Complements, BCD Addition and Subtraction, Binary Multiplication and Division, Floating-Point Arithmetic.	4
3	Logic Gates and Related Devices : Positive and Negative Logic, Various Logics Gates with IEEE/ANSI symbols, Boolean equations, truth table and IC Details. Universal Gates, Gates with Open Collector/Drain output, Tristate Gates, AND-OR-INVERT Gates, Schmitt Gates, Special Output Gates, Fan-Out of Logic Gates, Buffers and Transceivers	4
4	Logic Families : Significance of Families, Characteristic Parameters, Types of Logic Families: TTL, ECL, CMOS, Bi-CMOS, NMOS and PMOS, Comparison between various logic families. Interfacing between CMOS and TTL logic families	3
5	Boolean Algebra and Simplification Techniques : Introduction, Simplification Techniques - Karnaugh Map Method and Tabulation Method	4
6	Combinational Logic Circuits : Combinational Circuits and its implementations, Arithmetic Circuits - Adders and Magnitude comparator. Multiplexer, Encoders, Demultiplexers and Decoders, Parity Generation and Checking.	8
7	Sequential Logic Circuits : R-S and D Flip-flop, Level Triggered and Edge-Triggered Flip-flops, J-K and T Flip-flop, Synchronous and Asynchronous Input, Flip-flop Timing Parameters, Binary Ripple Counter, Synchronous Counters, UP/Down Counters, Decade and BCD Counters, Presettable Counters, Decoding Counter, Cascading Counter, Designing Counter with Arbitrary Sequences, Shift Register, Shift Register Counters, IEEE/ANSI Symbols for counters and Registers.	10
	Memory Devices :	

8	Anatomy of Computer, A computer Systems, Computer Memory, RAM and ROM, Expanding Memory Capacity	3
Total Hours :		42

References:

1. Anil K. Maini, "Digital Electronics: Principles, Devices and Applications" Wiley-India Pvt. Ltd, 1st Edition, 2008
2. David J. Comer "Digital Logic & State Machine Design", 3rd Indian Edition, Oxford University Press.
3. M Morris Mano, "Digital Logic and Computer Design", 4th Edition, 2009, Pearson, LPE, R.P.Jain, "Modern Digital Electronics", McGraw-Hill, 4th ed. 2010.
4. Malvino & Leach "Digital Principles and Applications", 7th Edition, McGraw-Hill Education

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's Taxonomy is as per follows. This distribution serves as guidelines to teachers and students for effective teaching-learning process.

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
15%	20%	30%	20%	10%	5%

Suggested List of Experiments:

1. Study data sheet of various digital logic circuits and see how to test these circuits using Digital IC Tester.
2. Study of Digital IC Testers, Logic State Analyzer and Digital Pattern Generators.
3. Verify the truth tables of various Digital Logic Gates.
4. Verify the application of NAND and NOR logic gates as universal gates.
5. Implementation of Boolean Logic Functions using logic gate ICs.
6. Design and implement digital logic for given case study.
7. Measure digital logic gate specifications such as propagation delay, noise margin, fan in and fan out.
8. Implement various combinational logic circuits such as adder, subtractor, decoder, encoder, multiplexers, demultiplexer, etc.
9. Design any one code converter and implement using discrete ICs on the bread board.
10. Verify operation of various flip-flops, registers and counters using digital ICs.

Open ended problems:

1. Design and Implementation of combinational lock circuit with varying number of bits (For example 4, 8)
2. Design and Implementation of visitor counter for Shopping Mall.
3. Design and Implementation of 4 bit Arithmetic and Logic Unit with minimum 4 functions using digital integrated circuits.

f. (W)



4. Design and Implementation of a scrolling display.
5. Design and Implement a digital dice which will generate any random number from 1 to 6.

Note: A student and faculty may choose any other such problem which includes the concept used in the course.

Instructional Methods:

1. The course delivery method will depend upon the requirement of content and need of the students. The teacher in addition to conventional teaching method (Chalk and Talk) may use any of the tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc. for effective teaching.
2. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
3. Practical examination will be conducted at the end of the semester for evaluation of performance of students in laboratory.
4. Students may use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory, etc.

Supplementary Learning Resources / Open Source Software:

1. PSpices and NGSpice
2. Xcircuit
3. NPTEL website and IITs virtual laboratory

Major equipment:

1. Pattern Generators
2. Logic State Analyzers
3. Digital Storage Oscilloscopes
4. Digital Integrated Circuits Tester.

Special skill development (Self-study / Communication):

Each student group (2-3 members) has to prepare any one of the syllabus topic allotted by the faculty using PPT/functional model and submit the video of presentation as part of the laboratory term work submission.

f. (NLS)



Subject Code: 01CE0301

Subject Name: Data Structure

B.Tech. Year - II

Objective: To implement efficient algorithms and programs it is necessary to organize or structure the data. Understanding of data structures and their related applications are highly needed to build sustainable program.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, students will be able to

- Recognize the need of data structures in real time applications. (Knowledge)
- Analyse various data structures and their applications. (Analysis)
- Design and implement various techniques for searching and sorting algorithms to the small and large data sets. (Create)
- Identify appropriate data structures for the requested requirement for a given application. (Knowledge)

Pre-requisite of course: Computer Programming in C

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Introduction to Data Structures: Data Management concepts, Data types - primitive and non-primitive, Types of Data Structures, Linear & non-linear Data Structures	6

f. (M)



2	Linear Data Structures & their representation: Representation of arrays, sparse matrix and its representation, Storage Structures for arrays, Applications of arrays. Stack definitions and concepts, operations on stacks (push, pop, peep, change), Polish Expressions and their compilation and Tower of Hanoi. Representation of queue, operations on queue (insert, delete), Simple Queue, Circular Queue, Double Ended Queue, Priority queues, Applications of Queue. Linked list Understanding and their Operations, Singly Linked List, Doubly Linked List, Circular Linked List, Circular Doubly Linked, Applications of Linked List.	16
3	Nonlinear Data Structure: Tree definitions and their concepts, Representation of binary tree, Binary tree traversal methods and their examples (Inorder, postorder, preorder), Binary search trees. Method to Convert a general trees to binary tree, Threaded binary tree, Applications of Trees, Balanced tree and its mechanism, AVL tree, Weight Balanced Trees, B Tree and B+ Tree. Graphs and their understanding, Matrix representations of a given graph. Depth First Search (DFS), Breadth First Search (BFS), Minimum Spanning Trees Algorithms (Prims, Kruskal, Dijkstra), Path Matrix, Warshall's Algorithm.	16
4	Sorting & Searching techniques : Sorting Concepts and methods <ul style="list-style-type: none">• Bubble Sort,• Selection Sort• Insertion Sort• Quick Sort• Merge Sort Searching Concepts and Methods <ul style="list-style-type: none">• Sequential Search• Binary Search	8
5	Hashing and Collusion Hashing Concepts and methods. Hash Table Methods-Introduction, Hashing Functions. Collusion and its understanding. Discuss different Collision-Resolution Techniques with examples.	8
Total Hours		54

References:

1. Jean-Paul Tremblay and Paul G. Sorenson, An Introduction to Data Structures with Applications, Tata McGraw Hill
2. Tanenbaum, Data Structures using C & C++, PHI
3. Robert L. Kruse, Data Structures and Program Design in C, PHI
4. Mary E.S. Loomis, Data Management and file processing, PHI

1, No



Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
20%	20%	20%	15%	10%	15%

Suggested List of Experiments:

1. Introduction to pointers. Call by Value and Call by reference.
2. Introduction to Dynamic Memory Allocation. DMA functions malloc(), calloc(), free() etc.
3. Implement a program using array for stack that performs operations (a) PUSH (b) POP (c) PEEP (d) CHANGE (e) DISPLAY
4. Implement a program to convert infix notation to postfix notation using stack.
5. Write a program to implement QUEUE using arrays that performs following operations (a) INSERT (b) DELETE (c) DISPLAY
6. Write a program to implement Circular Queue using arrays that performs following operations. (a) INSERT (b) DELETE (c) DISPLAY
7. Write a menu driven program to implement following operations on the singly linked list.
 - (a) Insert a node at the front of the linked list.
 - (b) Insert a node at the end of the linked list.
 - (c) Insert a node such that linked list is in ascending order.(according to info. Field)
 - (d) Delete a first node of the linked list.
 - (e) Delete a node before specified position.
 - (f) Delete a node after specified position.
8. Write a program to implement stack using linked list.
9. Write a program to implement queue using linked list.
10. Write a program to implement following operations on the doubly linked list.
 - (a) Insert a node at the front of the linked list.
 - (b) Insert a node at the end of the linked list.
 - (c) Delete a last node of the linked list.
 - (d) Delete a node before specified position.

A. N. S.



11. Write a program which create binary search tree and traversal methods.
12. Write a program to implement Quick Sort.
13. Write a program to implement Merge Sort.
14. Write a program to implement Bubble Sort.
15. Write a program to implement Linear and Binary Search.

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.

Supplementary Resources:

- a. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory.
- b. <https://visualgo.net/en>
- c. <https://www.cs.usfca.edu/~galles/visualization/Algorithms.html>
- d. <https://quizlet.com>

f. (Signature)

Subject Code: 01CE0302

Subject Name: Database Management System

B.Tech. Year - II

Objective:

A major purpose of a database system is to provide users with an abstract view of the data. That is, the system hides certain details of how the data are stored and maintained. Thereby, data can be stored in complex data structures that permit efficient retrieval, yet users see a simplified and easy-to-use view of the data. The lowest level of abstraction, the physical level, describes how the data are actually stored and details the data structures. The next-higher level of abstraction, the logical level, describes what data are stored, and what relationships exist among those data. The highest level of abstraction, the view level, describes parts of the database that are relevant to each user; application programs used to access a database form part of the view level

Credits Earned: 5 Credits

Course Outcomes:

After learning the course the students should be able:

1. Evaluate business information problem and find the requirements of a problem in terms of data.
2. Understand the uses the database schema and need for normalization.
3. Design the database schema with the use of appropriate data types for storage of data in database.
4. Use different types of physical implementation of database
5. Use database for concurrent use.
6. Backup data from database.

Pre-requisite of course: NA.

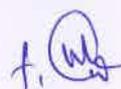
J, (W)

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Marks	Practical	Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Introductory concepts of DBMS : Introduction and applications of DBMS, Purpose of data base, Data, Independence, Database System architecture- levels, Mappings, Database, users and DBA	3
2	Relational Model : Structure of relational databases, Domains, Relations, Relational algebra – fundamental operators and syntax, relational algebra queries, tuple relational calculus	4
3	Entity-Relationship model : Basic concepts, Design process, constraints, Keys, Design issues, E-R diagrams, weak entity sets, extended E-R features – generalization, specialization, aggregation, reduction to E-R database schema	5
4	Relational Database design : Functional Dependency – definition, trivial and non-trivial FD, closure of FD set, closure of attributes, irreducible set of FD, Normalization – 1NF, 2NF, 3NF, Decomposition using FD-dependency preservation, BCNF, Multi- valued dependency, 4NF, Join dependency and 5NF	5
5	Query Processing & Query Optimization : Overview, measures of query cost, selection operation, sorting, join, evaluation of expressions, transformation of relational expressions, estimating statistics of expression results, evaluation plans, materialized views	5
6	Transaction Management : Transaction concepts, properties of transactions, serializability of transactions, testing for serializability, System recovery, Two- Phase Commit protocol, Recovery and Atomicity, Log-based recovery,	10



	concurrent executions of transactions and related problems, Locking mechanism, solution to concurrency related problems, deadlock, , two-phase locking protocol, Isolation, Intent locking	
7	Security: Introduction, Discretionary access control, Mandatory Access Control, Data Encryption	2
8	SQL Concepts Working with DDL, Creating and Managing Constraints --- Defining NOT NULL and UNIQUE constraints, PRIMARY KEY, FOREIGN KEY, and CHECK constraints, Managing constraints, Constructing DML Statements, SELECT Statements and Relational Database Technology, Using the WHERE Clause, Restricting Rows --- Logical comparisons and precedence rules, Sorting rows ,Introduction to functions – single row functions, Using Character, Number, and Date Functions, Conversion functions, NULL functions, Conditional expressions, Executing Database Joins--- Cross joins and natural joins, Join clauses, Inner versus outer joins, Self joins and hierarchical queries, Working with Group Functions, Using Complex SQL with Aggregated Data, Creating Subqueries, Creating and Managing Views-- Creating views, DML operations and views, Managing views, Working with Sequences--- Working with sequences, Indexes and synonyms, Fundamentals of Database Security--- Controlling user access, Creating and revoking object privileges, Regular expressions, Oracle Proprietary Join Syntax-- Cartesian product and the JOIN operations, NONEQUIJOINS, OUTER joins	13
9	PL/SQL Concepts : Cursors, Stored Procedures, Stored Function, Database Triggers	3
	Total Hours	50

References:

1. An introduction to Database Systems, C J Date, Addition-Wesley.
2. Database System Concepts, Abraham Silberschatz, Henry F. Korth & S. Sudarshan, McGraw Hill.
3. Understanding SQL by Martin Gruber, BPB
4. SQL- PL/SQL by Ivan bayross
5. Oracle – The complete reference – TMH /oracle press

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Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
20%	20%	30%	15%	10%	5%

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Suggested List of Experiments:

Practical -1

Create a table ACCOUNT

Column name	Data Type	Size
acc_no	varchar2	5
Name	varchar2	30
City	varchar2	20
Balance	Number	10,2
loan_taken	varchar2	5

Insert the following records.

acc_no	Name	City	Balance	loan_taken
A001	Patel Jigar	Mehsana	50000	YES
A002	Patel Ramesh	Mehsana	50000	YES
A003	Dave Hardik	Ahmedabad	75000	NO
A004	Soni Hetal	Ahmedabad	100000	NO
A005	Sony Atul	Vadodara	100000	YES

Create a Table LOAN

Column Name	Data Type	Size
loan_no	varchar2	5
acc_no	varchar2	5
loan_amt	number	10,2
interest_rate	number	5,2
loan_date	date	
remaining_loan	number	10,2

Insert the following Records.

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Loan_no	Acc_no	Loan_amt	Interest_rate	Loan_date	Remaining_loan
L001	A001	100000	7	1-jan-04	75000
L002	A002	300000	9	18-may-04	150000
L003	A005	500000	11	15-june-04	300000

Create a table INSTALLMENT

Column Name	Data Type	Size
loan_no	vchar2	5
inst_no	vchar2	5
inst_Date	Date	
Amount	Number	10,2

Insert following Records

Loan_no	Inst_no	Date	Amount
L001	I001	2-Feb-04	15000
L002	I002	18-June-04	20000
L003	I003	15-July-04	20000

Create a Table TRANSACTION

Column Name	Data Type	Size
acc_no	Vchar2	5
tr_Date	Date	
Amt	Number	10,2
type_of_tr	Char	1
mode_of_pay	Vchar2	10

Insert a Following Records

Acc_no	Date	Amt	Type_of_tr	Mode_of_pay
A001	3-may-04	10000	D	Cash
A002	5-july-04	5000	W	Cheque
A003	12-Aug-04	25000	D	Cheque
A004	15-may-04	30000	D	Cheque

A. No

A005	22-oct-04	15000	W	Cash
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List of queries

1. Display all rows and all columns of table Transaction.
2. Display all rows and selected columns of table Installment.
3. Display selected rows and selected columns of table Account.
4. Display selected rows and all columns of table loan.
5. Show the structure of the table loan, account and transaction.

PRACTICAL-2

Table: **ACCOUNT**.

1. Insert the following records if you have not inserted in PRACTIAL - 1

Acc_no	Name	City	Balance	Loan_taken
A001	Patel Jigar	Mehsana	50000	YES
A002	Patel Ramesh	Mehsana	50000	Yes
A003	Dave Hardik	Ahmedabad	75000	NO
A004	Soni Hetal	Ahmedabad	100000	NO
A005	Soni Atul	Vadodara	100000	YES

2. Change the name 'patel jigar' to 'patel hiren'.
3. Change the name and city where account number is A005. (new name = 'kothari nehal' and new city = 'patan').
4. Display only those records where loan taken status is 'YES'.
5. Add the new column (address varchar2 (20)) into table ACCOUNT.
6. Create another table ACCOUNT_TEMP (acc_no, name, balance) from table ACCOUNT.
7. Rename the table ACCOUNT to ACCOUNT_MASTER.
8. Update the column balance for all the account holders.
(Multiply the balance by 2 for each account holders)
9. Describe the structure of table ACCOUNT.
10. Delete the records whose account no is A004.

Table: **LOAN**.

1. Insert the following Records if you have not inserted in PRACTICAL-1

Loan_n o	Acc_n o	Loan_a mt	Interest_ra te	Loan_da te	Remaining_lo an
L001	A001	100000	7	1-jan-04	75000

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L002	A002	300000	9	18-may-04	150000
L003	A005	500000	11	15-june-04	300000

- for each loan holders Add 100000 Rs. Amount into the column loan_amt.
- for each loan holders Increase the interest rate 2%.
- Create another table LOAN_TEMP (loan_no, Acc_no, loan_amt, loan_date) from The table LOAN.
- Display only those records where loan holder taken a loan in month of January.
- Modify the structure of table LOAN by adding one column credit_no varchar2 (4).
- Display the Loan amount*2 of table LOAN.
- Display the records of table LOAN by date wise in ascending order.
- Display the records of table LOAN by account number wise in descending Order.
- Increase the size 5 to 7 of column acc_no.

Table: INSTALLMENT.

- Insert following Records if you have not inserted in PRACTICAL-1.

Loan_no	Inst_no	Inst_Date	Amount
L001	I001	2-Feb-04	15000
L002	I002	18-June-04	20000
L003	I003	15-July-04	20000

- Change the Inst_Date '2-Feb-04' to '3-Mar-04'.
- Reduce 5000 amount from all Installment holders.
- Add the amount 5000 where loan no is 'L003' and 'L002'.
- Change the column size of 5 to 7 where column name is Loan_no.
- Decrease the column size 5 to 4 where column name Inst_no.
- Show the structure of the Table.
- Change the amount 15000 to 5000 where loan number is L001
- Perform delete operation. (Delete only particular one record)
- Only create a structure of table installment1 from table installment.

Table: TRANSACTION.

- Insert a Following Records if you have not inserted in PRACTICAL-1.

Acc_no	Trans_Date	Amt	Type_of_tr	Mode_of_pay
--------	------------	-----	------------	-------------

A001	3-may-04	10000	D	Cash
A002	5-july-04	5000	W	Check
A003	12-Aug-04	25000	D	Check
A004	15-may-04	30000	D	Check
A005	22-oct-04	15000	W	Cash

2. Insert any duplicate value and display all the records without any duplicate rows.
3. Select all the records in descending order(account number wise).
4. Display amt, date, and type of transaction by date wise.
5. Create another table TRANSACTION_TEMP from this table.
6. Create a another table TRANS_TEMP by change the column name acc_no to account_no.
7. Delete a table TRANSACTION_TEMP.
8. Rename the table TRANSACTION to TRANS.
9. Only create a structure of table transaction1 from table transaction.
10. Display account number where type of transaction is 'D'.

PRACTICAL-3

Note: Bold and Underline column name indicates a primary key

Create a table **ACCOUNT**.

Column name	Data Type	Size	Attributes
<u>Acc no</u>	Varchar2	5	Primary key/first letter must start with 'A'
Name	Varchar2	30	NOT NULL
City	Varchar2	20	NOT NULL
Balance	Number	10,2	Balance >=500
Loan_taken	Varchar2	3	Values('NO','YES')

1. Insert the records using Practical list-1.

Create a Table **LOAN**.

Column Name	Data Type	Size	Attributes
<u>Loan no</u>	Varchar2	5	Primary Key / first letter must start with 'L'

Acc_no	Varchar2	5	Foreign key References Acc_no of account table
Loan_amt	Number	10,2	NOT NULL
Interest_rate	Number	5,2	NOT NULL
Loan_date	Date		
Remaining_loan	Number	10,2	Remaining loan < loan amount

1. Insert the records using Practical list-1.

Create a table **INSTALLMENT**.

Column Name	Data Type	Size	Attributes
<u>Loan_no</u>	Varchar2	5	Foreign key References Loan_no of Loan table
Inst_no	Varchar2	5	first letter must start with 'I'
IDate	Date		NOT NULL
Amount	Number	10,2	NOT NULL

1. Insert the records using Practical list-1.

Create a Table **TRANSACTION**.

Column Name	Data Type	Size	Attributes
<u>Acc_no</u>	Varchar2	5	Foreign key References Acc_no of account table
Trans_Date	Date		NOT NULL
Amt	Number	10,2	NOT NULL
Type_of_tr	Char	1	Values in ('D','W')
Mode_of_pay	Varchar2	10	Values in ('cash','check')

1. Insert the records using Practical list-1.

Using Operator: NOT,BETWEEN,NOT BETWEEN,IN,NOT IN

1. Retrieve specified information for the account holder who are not in 'Ahmedabad'.
2. Retrieve specified information for the account holder who are not in 'Ahmedabad' or 'Vadodara'.

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3. Retrieve those records of Account holder whose balance between is 50000 and 100000.
4. Retrieve those records of Account holder whose balance not between is 50000 and 100000.
5. Display only those records whose amount is 5000, 25000, 30000.
6. Display only those records whose amount not in 5000, 25000, 30000.
7. Display System date.
8. Find the date, 15 days after today's date.
9. Perform following operation using DUAL table.
5*5, 34+34, 1000/300, length of 'uvpce', display only month of systemdate
10. Find the date, 20 days before today's date.

Function Based Queries.

1. Find the total transaction amount of account holder from transaction table.
2. Find minimum amount of transaction.
3. Find maximum amount of transaction.
4. Count the total account holders.
5. Count only those records whose made of payment is 'cash'.
6. Count only those records whose transaction made in the month of 'MAY'.
7. Find the average value of transaction.
8. Display the result of 4 rest to 4.
9. Find the square root of 25.
10. Write the query for the following Function.
LOWER, INITCAP, UPPER, SUBSTR, LENGTH, LTRIM, RTRIM, LPAD, RPAD

CONSTRAINTS Based queries.

Create a table: **STUDENT**

Name of column	Type and Size
Rollno	Varchar2(6)
Name	Varchar2(20)

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Branch	Varchar2(6)
Address	Varchar2(20)

1. Add PRIMARY KEY (roll no) and provide constraint name PRIM_rollno.
2. Add NOT NULL constraint to name,branch for student table.
3. Add check constraint and check name is in capital letter.
4. Drop the primary key.
5. Drop the constraint.

Create a Table **REGISTER**.

Name of column	Type and Size
Rollno	Varchar2(6)
Name	Varchar2(20)

1. Provide foreign key references rollno of student table.
2. Add check constraint to check name's first letter is always capital.
3. Add NOT NULL constraint to name of register table.
4. Drop foreign key of REGISTER table.
5. Drop NOT NULL constraint.

PRACTICAL-4

NOTE: for following queries use TABLES of PRACTICAL-1

1. Display the sum of balance of account holders who's live in same city 'Mehsana' using group by clause.
2. Display the information about account where balance is less than total balance of all account holders.
3. Displays the information of account holders whose loan amount and balance both are same.
4. Display the name of city, remaining loan amount, account, date of loan and loan number of account holders.
5. Display name of account holder, installment number and installment amount Whose loan number is 'L001'.
6. Display name of account holder, city, loan amount and installment amount.

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7. Display the balance of account holders whose balance and remaining loan both are same.
8. List of all account holders' information whose balance is same as loan amount.
9. Display the amount of transaction, name of account holders, account number and mode of payment whose mode of payment is
10. Display account no, loan amount, amount of transaction.
11. List of installment information whose amount is less than average amount of transaction.
12. Display the sum of installment amount and transaction amount.
13. Display the balance and amount of transaction group by amount and balance.
14. List of installment number and account number of account holders.
15. Display loan amount, transaction amount and mode of payment where transaction date and loan taken date both are done in month of
16. Display all the information of installment and transaction where installment date and transaction date both are done in month of
17. Display the last three row of account table.
18. Display the balance, mode of payment, loan taken status whose mode of payment is 'CHEQUE' and loan taken is 'YES'.
19. Retrieve only rows 2 to 5 from account table.

PRACTICAL-5
TABLE: SALESMEN

Column Name	Data Type	Size	Attributes
SNUM	Varchar2	6	Primary key/first letter must start with 'S'
SNAME	Varchar2	20	Not null
CITY	Varchar2	15	

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COMM	Number	5,2	
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Insert the following records:

SNUM	SNAME	CITY	COMM
S1001	Piyush	London	0.12
S1002	Niraj	San jose	0.13
S1003	Miti	London	0.11
S1004	Rajesh	Barcelona	0.15
S1005	Haresh	New york	0.10
S1006	Ram	Bombay	0.10
S1007	Nehal	Delhi	0.09

TABLE: CUSTOMER

Column Name	Data Type	Size	Attributes
CNUM	Varchar2	6	Primary key/first letter must start with 'C'
CNAME	Varchar2	20	Not null
CITY	Varchar2	15	
RATING	Number	5	
SNUM	Varchar2	6	

Insert the following records

CNUM	CNAME	CITY	RATING	SNUM
C2001	Hardik	London	100	S1001
C2002	Geeta	Rome	200	S1003
C2003	Kavish	San jose	200	S1002
C2004	Dhruv	Berlin	300	S1002
C2005	Pratham	London	100	S1001
C2006	Vyomesh	San jose	300	S1007
C2007	Kirit	Rome	100	S1004

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TABLE: ORDER

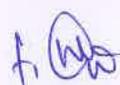
Column Name	Data Type	Size	Attributes
ONUM	Varchar2	6	Primary key/first letter must start with 'O'
AMT	Number	10,2	Not null
ODATE	Date		
CNUM	Varchar2	6	
SNUM	Varchar2	6	

Insert the following records

ONUM	AMT	ODATE	CNUM	SNUM
O3001	18.69	10-Mar-90	C2008	S1007
O3003	767.19	10-Mar-90	C2001	S1001
O3002	1900.10	03-Oct-90	C2007	S1004
O3005	5160.45	04-Oct-90	C2003	S1002
O3006	1098.16	10-Mar_90	C2008	S1007
O3009	1713.23	10-April-90	C2002	S1003
O3007	75.75	10-April-90	C2004	S1002
O3008	4723.00	10-May-90	C2006	S1001
O3010	1309.95	10-May-90	C2004	S1002
O3011	9891.88	10-June-90	C2006	S1001

Perform following queries.
SELECT

1. Display all the information of salesmen.
2. Display snum,sname,city from salesmen table.
3. Display odate,snum,onum and amt from orders.
4. Display the information of orders without duplication.



5. List of sname, city from salesmen where city is 'LONDON'.
6. List all records of customers where rating is equal to 100.
7. Write a select command that produces the order number, amount and date for all rows in the order table.
8. Produces all rows from the customer table for which the salesperson's number is S1001.
9. Display the salesperson table with the column in the following order: city, sname, snum, comm.
10. Write a select command that produces the rating followed by the name of each customer in SAN JOSE.
11. Display SNUM values of all salesmen without any repeat.

OPERATORS

12. List all customers with a rating above 200.
13. List all customers in SAN JOSE who have a rating above 200.
14. List all customers who were either located in SAN JOSE or had a rating above 200.
15. List of all customers who were either located in SAN JOSE or not rating above 200.
16. List of all customers who were not located in SAN JOSE or rating is not above 200.
17. Write a query that will give you all orders for more than \$1000.
18. Write a query that will give you the names and cities of all salesmen in LONDON with a commission above 0.10.
19. Write a query on the customers table whose output will exclude all customers with a rating ≤ 100 and they are located in ROME.

SPECIAL OPERATORS

20. Display all salesmen that were located in either BARCELONA or LONDON (use IN keyword).
21. Find all customers matched with salesmen S1001, S1007 and S1004.
22. Display all salesmen with commission between 0.10 and 0.12.

23. Select all customers whose names fall in a 'A' and 'G' alphabetical.

LIKE OPERATORS.

24. List all the customers whose names begin with 'G'.
25. List all salesmen whose sname start with letter 'P' and end letter is 'H'.

NULL OPERATORS.

26. Find all records in customer table with NULL values in the city column.
27. Write a two queries that will produce all orders taken on October 3rd or 4th, 1990
(use IN operator and Use BETWEEN operator)
28. Write a query that selects all of the customers matched with S1001 and S1002.
29. Write a query that will produce all of the customers whose names begin with a letter from A to H.
30. Write a query that selects all customers whose names begin with 'C'.
31. Write a query that selects all orders without ZEROS or NULLS in amt field..

FUNCTIONS

32. Display sum of amt, average of orders.
33. To count the numbers of salesmen without duplication in the orders tables.
34. Count the rating of customers (with NULL and without NULL).
35. Find the largest order taken by each salesperson.(hint: use group by)
36. Find the largest order taken by each salesperson on each date.
37. Find out which day had the higher total amount ordered.
38. Write a query that counts all orders for October 3rd.
39. Write a query that counts the number of different non-NULL city in the customer table.
40. Write a query that selects the first customer in alphabetical order whose name begin with 'G'.
41. write a query that selects each customers smallest order.
42. Write a query that selects the highest rating in each city.
43. Write a query that counts the number of salesmen registering orders for each day(if a salesperson has more than one order on a given day , he or she should

be counted only once)

44. Display all the information in descending orders(use column CNUM).
45. Display all the information in descending orders(use column CNUM,AMT).
46. Display sname and comm. From salesmen in descending order(in place of column name use column number).
47. Assume each salesperson has a 0.12 commission. Write a query on the orders table that will produce the order number,the salesperson number and the amount of the salesperson's commission for that order.
48. Write a query on the customers table that will find the highest rating in each city. Put the output in this form.

For the city (city) , the highest rating is: (rating).

49. Write a query that lists customers in descending order of rating. Output the rating field first, followed by the customer's name and number.
50. Write a query that totals the orders for each day and places the results in descending order.

JOIN

51. Show the names of all customers matched with the salesmen serving them.
52. Write a query that lists each order number followed by the name of the customer who made the order.
53. Write a query that gives the names of both the salesperson and the customer for each order after the order number.
54. Write a query that produces all customers serviced by salesmen with a commission above 0.12. Output the customer's name, the salesperson's name and the salesperson's rate of commission.
55. Write a query that calculates the amount of the salesperson's commission on each order by a customer with a rating above 100.

OTHERS

56. List all customer located in cities where salesperson 'PIYUSH' has customer.
57. List all salesmen who are living in same city without duplicate rows.
58. Extract all orders of 'PIYUSH'.

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59. Extract all orders of LONDON'S salesmen.
60. Find all customers whose cnum is 1000 above than the snum of 'PIYUSH'.
61. Count the no. of customers with the rating above than average Rating of 'LONDON'.
62. Produce the name and rating of all customers who have above average Rating.
63. List all salesmen with customers located in their cities.
64. Select all customers whose rating doesn't match with any rating customer of 'SAN JOSE'.
65. Create a union of two queries that shows the names, cities and ratings of all customers. Those with rating of ≥ 200 should display 'HIGH RATING' and those with < 200 should display 'LOW RATING'.
66. Find all customers with orders on 3rd october 1990 using correlate sub query.
67. Find all customers having rating greater than any customer in 'ROME'.
68. Insert a row into salesmen table with the values snum is s1008, salesmen name is 'RAKESH', city is unknown and commission is 14%.
69. Create another table London_staff having same structure as salesmen table.
70. Delete all orders from customer 'PIYUSH' from the order table.
71. Set the ratings of all the customers of PIYUSH to 400.
72. Increase the rating of all the customers in ROME by 100.
73. Double the commission of all salesmen of LONDON.
74. Set ratings for all customers in LONDON to NULL.
75. Delete all salesmen who have at least one customer with a rating of 100 from salesmen table.

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.

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- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. <https://apex.oracle.com/en/>
2. <https://ilearning.oracle.com/>
3. <https://lagunita.stanford.edu/courses/DB/2014/SelfPaced/about>

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Subject Code: 01CE0303

Subject Name: Object Oriented Design and Programming

B.Tech. Year - II

Objective: The objectives of the course are to have students identify and practice the object-oriented programming concepts and techniques, practice the use of C++ classes and class libraries, modify existing C++ classes, develop C++ classes for simple applications.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, student will be capable to

- Identify potential benefits of object oriented programming features and compare structure oriented programming and object oriented programming features. (knowledge, comprehension)
- Able to make use of classes and objects for designing programs and concept of reusability.(application)
- Able to apply various object oriented features to solve various computing problems using C++ language. (application)
- Able to analyze programs based on exception handling and using advanced features like STL for faster development. (application, analysis)
- Develop real world applications using concepts of object oriented programming. (synthesis)

Pre-requisite of course: Programming Fundamentals

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

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Contents:

Unit	Topics	Contact Hours
1	Introduction : Introduction to Object Oriented Programming, Procedural Vs. Object Oriented Programming, Principles of OOP, Access Modifiers, Basics of a Typical C++ Environment, Pre-processors Directives, C++ Program structure. Header Files and Namespaces, library files.	8
2	Programming Basics : Output using cout. Directives. Input with cin. Type bool. The setw manipulator. Type conversions.	7
3	Functions : Call and Return by reference. Overloaded function. Macro Vs. Inline functions. Default arguments, friend functions.	6
4	Object and Classes : Introduction, Structure Definitions, Accessing Members of Structures, Class Scope and Accessing Class Members. Initializing Class Objects: constructors and their types, destructors.	8
5	Operator overloading : Overloading unary operations. Overloading binary operators, data conversion, pitfalls of operators overloading and Type conversion.	8
6	Inheritance : Concept of inheritance. Derived class and based class. Derived class constructors, member function, class hierarchies, public and private inheritance.	4
7	Polymorphism : Pointers in C++, Objects and Pointers, virtual and pure virtual functions, this pointer, Implementing run time polymorphism.	5
9	Streams and Files : Concept of streams, C++ stream classes, formatted and Unformatted I/O , File stream, manipulators, C++ File stream classes, File modes, File management functions, Binary Files, random Files.	3
10	Templates & Exception Handling : What is template? Function templates and class templates, Overloading Template Functions, Inheritance and Templates, Templates and Friend Function, Overview and use of Standard Template Library, try-catch-throw, multiple catch, catch all, Re-throwing Exception.	5
	Total Hours	54

f. [Signature]

References:

1. Object Oriented Programming with C++ by E Balagurusamy, 2001, Tata McGraw-Hill
2. C++ Programming, Black Book, Steven Holzner, dreamtech
3. Object Oriented Programming in Turbo C++ by Robert Lafore, 1994, The WAITE Group Press.
4. Complete Reference C++, Herbert Schilitz, TMH

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
20%	20%	30%	15%	10%	5%

Suggested List of Experiments:

Experiment # 1 (Basic OOPC)

1. Write a Program to display WELCOME TO MEFGI and elaborate all the Statements.
2. Write a program to perform the following:
 - Accept three numbers
 - Calculate average
 - Find smallest and largest numbers
 - Display the results such as average, maximum, and minimum.
3. Write a program to make a calculator which performs following operations:
 - a. Addition
 - b. Subtraction
 - c. Multiplication
 - d. Division
 - e. Modulo
4. Write a Write program in C ++ that tells the form of Water whether it is Ice, Water or Steam. Display the menu also as under

Temperature Less than 0 = ICE

Temperature Greater than 0 & Less than 100 = Water

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Temperature Greater than 100 = STEAM

5. Write a program to reverse a string.

Experiment # 2 (Basic OOPC)

6. Write a program to perform matrix addition.
7. Write a program which takes string as an input and counts numbers of occurrences of each vowel and total vowels.
8. Write a program to find area of circle, rectangle and triangle using enum datatype.

Experiment # 3 (Function)

9. Write a CPP Program to swap two values (using call by value and call by reference).
10. Write a Function called zeroSmaller() that is passed two int argument by reference and then set the smaller of the two numbers to 0. Write a main () to call this function.
11. Write a program to evaluate following investment equation
$$V = P(1+r)^n$$

and print the tables which would give the value of V for various combination of the following values of P, r, and n:
P: 1000, 2000, 3000,, 10000
r: 0.10, 0.12, 0.13,, 0.20
n: 1, 2, 3,, 10
12. Write a function power () to raise a number m to a power n without using Math.h header file for following scenario.
 - a. The Function takes double value for m and int value for n, and returns the result correctly.
 - b. Use a default value of 2 for n to make function to calculate squares when this argument is omitted.
 - c. Take an int value for m.

In above all cases function name must be same. Write a main() that calls above 3 cases.
13. Write a program to obtain the largest of three numbers using inline function.

A. (M)

Experiment # 4 (Class)

14. Create a class that imitates part of the functionality of the base data type int. Call the class Int. The only data in this class is an int variable. Include member functions to initialize an int to 0, to initialize it to an int value, to display it, and to add two Int values. Write a program that exercises this class by creating two initialized Int values, adding these two initialized values, adding these two initialized value and placing the respond in the un-initialized value, and then display this result.
15. Define a Class "bank_account" having following data members and member functions:
- **Data members :**
 1. Name of the depositor
 2. Account number
 3. Type of account
 4. Balance amount in the account
 - **Member functions :**
 1. To assign the initial values
 2. To deposit an amount
 3. To withdraw an amount after checking the balance
 4. To display name and balance
- Write a main program to test the program for 10 customers.
16. Create two classes **DM** and **DB** which store the value of distances. DM stores distance in meters and centimeters and DB in feet and inches. Write a program that can read values for the class objects and add one object of DM with another object of DB by keeping following in mind.
- a. Use friendly function to carry out the addition.
 - b. The object that stores the results may be a DM or DB object, Depending on the unit in which the results are required.
17. Write a program to calculate number of object created for particular class.

Experiment # 5 (Class)

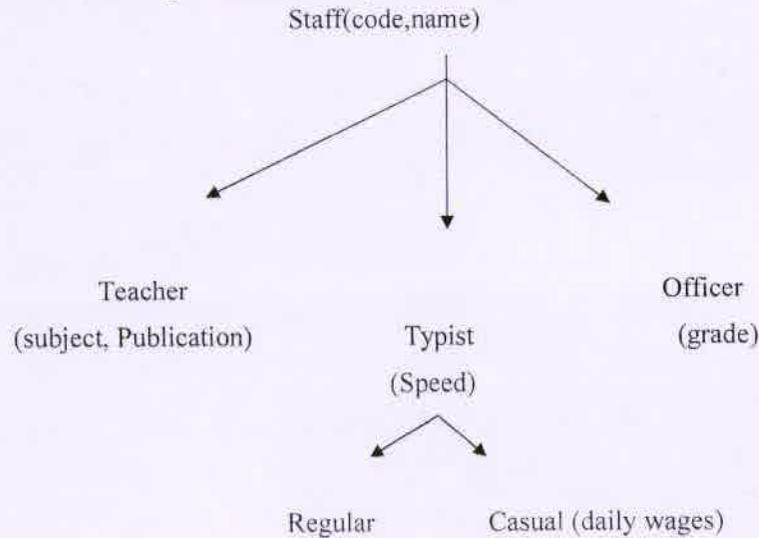
18. Define a Class "complex" having data members as **real** and **imag** and member functions as **add_comp()** & **show_comp()**. Write a C++ program to get information of 2 complex numbers and add these 2 complex numbers and display this result using **Overloaded Constructor** Concept.

A. (M) Co

19. Create a class **FLOAT** that contains one float data member. Overload all the four arithmetic operators(+, -, *, /) so that they operate on the objects of **FLOAT**.
20. Define a class **String**. Use overloaded '==' operator to compare two strings.
21. Write a program which overload cin and cout of iostream.
22. Define a circle class with radius as data member, necessary constructors and member function to compute area of circle. Class should overload the == operator to compare two circle objects whether they are equal in radius. Demonstrate its use in main().

Experiment # 6 (Inheritance)

23. Implement following class relationship and test with main class.



24. Add education details for above classes except for typist. This class will include two information namely, highest education in general studies and highest professional qualification.
25. Implement the following class using abstract class.
 - a. Shape
 - i. TwoDimensional
 1. Triangle
 2. Rectangle
 3. Circle
 - ii. ThreeDimensional
 1. Box
 2. Cone
 3. Cylinder
 4. Sphere

Experiment # 7 (Polymorphism)

26. Define two Classes "Time-12" and "Time-24" to represent time format. Write a C++ program to convert one time format to another time format using **Type Conversion** Concept.
27. Demonstrate Runtime Polymorphism by defining media class as Base class and Book and Tape as Sub Class. Keep display () function such that, It provides run time polymorphism.

Experiment # 8 (File)

28. Write a program that reads a text file and create another file that is identical except that every sequence of consecutive blank spaces is replaced by a single space.
29. Write a program that reads data from one file and copy it to other file.
30. Write a Program which stores name and mobile number in phonebook and performs following tasks:
 - a) Determine the mobile number of the specified person.
 - b) Determine the name of if a mobile number is known.
 - c) Update the mobile number, whenever there is a change.

Experiment # 9 (Standard Template Library)

31. Write a function templates for finding the minimum value contained in an array.
32. Write a class template to represent a generic vector. Include the member functions to perform the following tasks:
 - a. To create a vector
 - b. To modify the value of given element
 - c. To multiply by a scalar value.
33. A table gives a list of car models and the number of units sold in each type in a specified period. Write a program to store this table in suitable container and to display interactively the total value of a particular model sold, given the unit-cost of that model.

J. (M)

34. Write a program that accepts a shopping list of five items from the keyboard and stores them in a vector. Extend the program to accomplish the following tasks:
- To delete a specified item in the list.
 - To add an item at a specified location.
 - To add an item at the end.
 - To print the contents of the vector.
35. Write a program with the following:
- A function to read two double type numbers from keyboard
 - A function to calculate the division of these two numbers
 - A try block to throw an exception when wrong type of data is keyed in
 - A try block to detect and throw an exception if the condition "divide-by-zero" occurs
 - Appropriate catch block to handle the exception thrown.

Instructional Method:

- The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

- Open source software dev C++
- www.nptel.ac.in
- www.learncpp.com

f, [Signature]

Subject Code: 01CE0401
Subject Name: Operating System
B.Tech. Year - II

Objective: Student will understand Modern Operating System and their principles. The course will cover theory as well as practice aspects of a subject through scheduled lectures and labs, course will cover details of processes, CPU scheduling, memory management, file system, storage subsystem, and input/output management.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, student will be able to

- Understanding the role of operating system with its function and services. (Understanding)
- Compare Various Algorithm used for CPU Scheduling, Memory management and Disk Scheduling Algorithm. (Evaluate)
- Apply various concepts related with Deadlock to solve Problems. (Apply)
- Analyse Protection and Security Mechanism in Operating System. (Analyse)

Pre-requisite: Data structures like stack, queue, linked list, tree, graph, hashing, file structures, any structured programming language (like C or python).

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Operating System: Operating Systems Overview- Overview and Functions of operating systems, protection and security, distributed systems, operating Systems structures, services, system calls and their working. History	4

f. M. S.

	And generation of operating system.	
2	Process and Threads: Process and Threads - Process concepts, threads, scheduling-criteria, Algorithms, and their evaluation. Process Scheduling, Scheduling, case studies UNIX. Linux. Windows	8
3	Concurrency Control(IPC): Process synchronization, critical- section problem. classic problems of Synchronization, Software Solutions for synchronization problem. Hardware Solutions for synchronization problem. Synchronization and Their applications. [Understanding of Semaphore – Mutex – Monitor – Event Counters]	10
4	Memory Management: Memory: Swapping, contiguous memory allocation, paging, page table, segmentation, virtual memory, demand paging, page- replacement, Allocation of frames, Virtual Memory: Basics of Virtual Memory – Hardware and control structures – Locality of reference, Page fault, Working Set, Dirty page/Dirty bit – Demand paging (Concepts only) – Page Replacement policies : Least Recently used (LRU) Optimal (OPT) , Second Chance (SC), First in First Out (FIFO), Not recently used (NRU).	15
5	Principles of Deadlock: Deadlock - system model, deadlock and its characterization with example, deadlock prevention techniques with example, detection and avoidance of a deadlock, methods to get recovery form deadlock	6
6	File System Interface: File system Interface- the concept of a file, Access Methods. Directory Structure. File system mounting, file protection and sharing mechanism. File System implementation- File system structure, file/directory implementation, efficiency and performance, file allocation methods, Free-space management.	4
7	Mass Storage Structure & I/O System: Mass-storage structure- RAID structure, Disk structure, disk Attachment, disk scheduling, swap-space management. stable-storage Implementation. Overview of Mass-storage structure. Tertiary storage	4

	Structure. I/O systems- Hardware, application I/o interface, kernel I/O subsystem, Transforming I/O requests to Hardware operations. STREAMS, performance	
8	Protection & Security: Protection - Protection. Goals of Protection, Principles of Protection. Domain of protection Access Matrix, Implementation of Access Matrix. Access control, Revocation of Access Rights. Capability- Based systems, Language - Based Protection Security-Problems, Program Threats, System and Network Threats, cryptography as security tool, user authentication, implementing security defence, fire walling to protect system and networks, computer security classifications.	3
Total Hours		54

References:

1. Operating System Concepts- Abraham Silberchatz, Peter B. Galvin, Greg Gagne, 8th edition.
2. Operating Systems - Internals and Design Principles. Stallings, 6th Edition- 2009. Pearson education.
3. Operating systems- A Concept based Approach-D.M.Dhamdhare. 3rd Edition.TMH
4. Modern Operating Systems, Andrew S Tanenbaum 3rd edition PHI.
5. Principles of Operating Systems, B.L.Stuart. Cengage learning, India Edition.
6. Operating Systems. A.S. Godboie.2nd Edition, TMH

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
20%	25%	25%	15%	15%	-

A. No



Suggested List of Experiments:

1. Study of Different OS Installation and its working.
2. Study of Basic commands to understand the system and working of Linux.
3. Write a script to reverse a number and string given by user.
4. Write a script to find the smallest of three numbers as well as largest among three numbers.
5. Write script that prints names of all sub directories present in the current directory.
6. Write a script to reverse the contents of a file.
7. Write a script to check entered string or a number is palindrome or not
8. Write a menu driven shell script for Copy a file, remove a file, Move a file in Linux.
9. Shell Script to make a menu driven calculator using case in UNIX / Linux / Ubuntu.
10. Write a script to display the digits which are in odd position in a given 6 digit number in Linux
11. Write a script to translate the string from capital letters to small and small letters to capital using awk command.
12. Write a script to do the sorting of given numbers (use command line argument).
13. Write a program for process creation using C. (Use of gcc compiler).

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. <http://williamstallings.com/OS/Animation/Animations.html>
2. <http://nptel.ac.in/courses/106106144/>
3. <http://nptel.ac.in/courses/106108101/>
4. <http://codex.cs.yale.edu/avi/os-book/OS9/slide-dir>

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Subject Code: 01CE0402

Subject Name: Computer Organization and Architecture

B.Tech. Year - II

Objective: To conceptualize the basics of organizational and architectural issues of a digital computer. Further, analyse performance issues in processor and memory design of a digital computer. Also, understanding various data transfer techniques in digital computer and to analyse processor performance improvement using instruction level parallelism.

Credits Earned: 4 Credits

Course Outcomes: After completion of this course, student will be able to

- Understand and describe the basics of various architectural units of the Computer System [Knowledge]
- Apply the knowledge of combinational and sequential logical circuits to mimic a simple computer architecture [Application]
- Apply logic to create assembly language programs for different micro-operations. [Application]
- Demonstrate ALU operations and instruction level parallelism. [Application].
- Identify and differentiate various methods for I/O mechanisms [Analyze].

Pre-requisite of course: Fundamentals of Computer, Digital Logic Circuits.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
3	2	0	4	50	30	20	25	25	150

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Contents:

Unit	Topics	Contact Hours
1	Computer Data Representation & Register Transfer and Micro-operations: Basic computer data types, Complements, Fixed point representation, Floating point representation, Register Transfer language, Register Transfer, Bus and Memory Transfers (Tree-State Bus Buffers, Memory Transfer), Arithmetic Micro-Operations, Logic Micro-Operations, Shift Micro-Operations, Arithmetic logical shift unit	6
2	Basic Computer Organization and Design: Instruction codes, Computer registers, Computer instructions, Timing and Control, Instruction cycle, Memory-Reference Instructions, Input-output and interrupt, Complete computer description.	6
3	Micro programmed Control: Control Memory, Address sequencing, Micro program Example, design of control Unit	4
4	Central Processing Unit: Introduction, General Register Organization, Stack Organization, Instruction format, Addressing Modes, data transfer and manipulation, Program Control, Reduced Instruction Set Computer (RISC)	8
5	Pipeline: Flynn's taxonomy, Parallel Processing, Pipelining, Arithmetic Pipeline, Instruction, Pipeline, RISC Pipeline,	4
6	Computer Arithmetic: Introduction, Addition and subtraction, Multiplication Algorithms (Booth Multiplication Algorithm), Division Algorithms, Floating Point Arithmetic operations, Decimal Arithmetic Unit.	6
7	Input-Output Organization: Input-Output Interface, Asynchronous Data Transfer, Modes Of Transfer, Priority Interrupt, DMA, Input-Output Processor (IOP), CPU IOP Communication, Serial communication.	4
8	Memory Organization: Memory Hierarchy, Main Memory, Auxiliary Memory, Associative Memory, Cache Memory, Virtual Memory.	4
	Total Hours	42

A. M. D.



4. Design a 4-bit combinational circuit decremter using four full-adder circuits.
5. Design a digital circuit that performs the four logic operations of exclusive-OR, exclusive-NOR, NOR, and NAND. Use two selection variables. Show the logic diagram of one typical stage.
6. Register A holds the 8-bit binary 11011001. Determine the B operand and the logic microoperation to be performed in order to change the value in A to:
 - I. 01101101
 - II. 11111101
7. The 8bit registers AR, BR, CR and DR initially have the following values :
AR = 11110010 BR = 11111111
CR = 10111001 DR = 11101010

Determine the 8bit values in each register after the execution of the following sequence of micro-operations.

AR \leftarrow AR + BR
CR \leftarrow CR \wedge DR, BR \leftarrow BR + 1
AR \leftarrow AR - CR

8. An output program resides in memory starting from address 2300. It is executed after the computer recognizes an interrupt when FGO becomes a 1 (while IEN = 1).
 - I. What instruction must be placed at address 1 ?
 - II. What must be the last two instruction of the output program?
9. Explain the difference between hardwired control and microprogrammed control. Is it possible to have a hardwired control associated with a control memory?
10. Define the following: (a) microoperation; (b) microinstruction; (c) micro-program; (d) microcode.
11. Explain how the mapping from an instruction code to a microinstruction address can be done by means of a read-only memory. What is the advantage of this method?
12. Show how a 9-bit microoperation field in a microinstruction can be divided into subfields to specify 46 microoperations. How many microoperations can be specified in one microinstruction?
13. A computer has 16 registers, an ALU (Arithmetic Logic Unit) with 32 operations, and a shifter with eight operations, all connected to a common bus system.

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- a. Formulate a control word for a microoperation.
- b. Specify the number of bits in each field of the control word and give a general encoding scheme.
- c. Show the bits of the control word that specify the microoperation: $R4 \rightarrow R5 + R6$.

14. Convert the following arithmetic expressions from infix to reverse Polish notation.

- a. $A * B + C * D + E * F$
- b. $A * B + A * (B * D + C * E)$
- c. $A + B * [C * D + E * (F + G)]$
- d. $A * [B + C * (D + E)]$

$F * (G + H)$

15. Formulate a six-segment instruction pipeline for a computer. Specify the operations to be performed in each segment.
16. Explain four possible hardware schemes that can be used in an instruction pipeline in order to minimize the performance degradation caused by instruction branching.
17. Perform the arithmetic operations below with binary numbers and with negative numbers in signed-2's complement representation. Use seven bits to accommodate each number together with its sign. In each case, determine if there is an overflow by checking the carries into and out of the sign bit position.
(a) $(+35) + (+40)$ (b) $(-35) + (-40)$ (c) $(-35) - (+40)$
18. Prove that the multiplication of two n-digit numbers in base r gives a product no more than $2n$ digits in length. Show that this statement implies that no overflow can occur in the multiplication operations.
19. Design an array multiplier that multiplies two 4-bit numbers. Use AND gates and binary adders.
20. Show the hardware to be used for the addition and subtraction of two decimal numbers with negative numbers in signed-10's complement representation. Indicate how an overflow is detected. Derive the flowchart algorithm and try a few numbers to convince yourself that the algorithm produces correct results.

1. (1/10)



Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. NPTEL Lecture Series
2. <http://www.intel.com/pressroom/kits/quickreffam.htm>
3. web.stanford.edu/class/ee282/

f. No



Subject Name: Object Oriented Programming with Java

B.Tech. Year - II

Objective: Java is a computer programming language having feature like object-oriented, polymorphism, inheritance and multithreading. It comprises of large third-party library using which we can develop software.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, student will be able to

- To understand object-oriented programming concepts and implement in java. (Understand)
- To comprehend building blocks of OOPs language, inheritance, package and interfaces. (Understand)
- To identify exception handling methods. (Apply)
- To implement multithreading in object-oriented programs. (Apply)
- To develop GUI based desktop application in project-based learning. (Create)

Pre-requisite of course: NA.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Java Overview: Java Introduction, Platform Independence, JVM & JDK, Data types, Operators, If, else statement, Switch condition, while, do-while, for loop, break and continue statement.	4

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2	Array and String: Single Array & Multidimensional Array, Library Classes-String, String Buffer & Wrapper Class, Command line arguments and Various String Operations.	6
3	Classes, Objects and Methods: Class and Object, Object reference, Constructor: Constructor Overloading, Method: Method Overloading, Recursion, Passing and Returning object form Method, new operator, this and static keyword, finalize() method, Import statement, Static import, Access control, Nested class, Inner class, Anonymous inner class.	8
4	Inheritance and Interfaces in Java: Overview of Inheritance, inheritance in constructor, Inheriting Data members and Methods, Multilevel Inheritance – method overriding Handle multilevel constructors Explain super keyword, Stop Inheritance ,Explain Final keywords, Creation and Implementation of an interface, Interface reference, instance of operator, Interface inheritance, Dynamic method dispatch, Abstract class, Comparison between Abstract Class and interface, inside of System.out.println – statements.	8
5	Exception Handling in Java: Exception and Error, Use of try, catch, throw, throws and finally, Built in Exception, Custom exception, Throwable Class.	4
6	Multithreaded in Java: Introduction of Multithread programming, Thread classes and Runnable interface, Thread priority and synchronization, Thread communication and Deadlock.	6
7	JAVA File Handling: Overview of Different Stream (Byte Stream, Character stream), Readers and Writers class, File Class, File Input Stream, File Output Stream, Input Stream Reader and Output Stream Writer class, File reader and writer class, File Writer, Buffered Reader class.	6
8	Collection Classes: List Class (Abstract List), Array List class, LinkedList class, Enumeration Iterative Statement, Vector class.	4
9	Applet, AWT and Swing: MVC Architecture, Applet: Applet Fundamental, Applet Architecture, Applet Skeleton, Requesting Repainting, , Event Handling: various event handling mechanisms, Delegation Event Model, Events, Event Sources, Event Listeners, various classes related to event sources and event listeners, AWT: window fundamentals, creating frames, Adding removing various controls, Layout managers, Introduction To Swing,	10

H. N. S.



	Applications and Pluggable look and feel, Basic swing components : Text Fields, Buttons, Toggle Buttons, Checkboxes, and Radio Buttons.	
	Total Hours	56

References:

1. Java 7 Programming Black Book by Kogent Learning Solutions Inc, DreamTech press
2. Java Fundamentals A comprehensive introduction By Herbert Schildt, Dale Skrien, McGraw Hill Education.
3. Programming with Java A Primer - E. Balaguruswamy, Mc Grawhill
4. The Complete Reference, Java 2 (Fourth Edition), Herbert Schildt, - TMH.
5. Core Java Volume-I Fundamentals Horstmann & Cornell, - Pearson Education. - Eight Edition
6. Head First Java by Kathy Sierra, Bert Bates, O'Reilly publications

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
10%	20%	40%	10%	10%	10%

Suggested List of Experiments:

1. Demonstrate HelloWorld Application with Single and Multiple Main in a java program.
2. Write a console program to define and initialize a variable of type byte to 1, and then successively multiply it by 2 and display its value 8 times. Explain the reason for the last result.
3. Write a program that defines a floating-point variable initialized with a dollar value for your income and a second floating-point variable initialized with a value corresponding to a tax rate of 35 percent. Calculate and output the amount of tax you must pay with the Rs. and paisa stored as separate integer values (use two variables of type int to hold the tax, perhaps taxRs and taxPaisa).

A. N. S.



4. Write a program that calculate percentage marks of the student if marks of 6 subjects are given.
5. Write a program to display a random choice from a set of six choices for breakfast (you could use any set; for example, scrambled eggs, waffles, fruit, cereal, toast, or yogurt).
6. When testing whether an integer is a prime, it is sufficient to try to divide by integers up to the square root of the number being tested. Write a program to use this approach.
7. A lottery requires that you select six different numbers from the integers 1 to 49. Write a program to do this for you and generate five sets of entries.
8. Write a program to generate a random sequence of capital letters that does not include vowels.
9. Write an interactive program to print a string entered in a pyramid form. For instance, the string "stream" has to be displayed as follows:

```
S  
St  
S t r  
S t r e  
S t r e a  
S t r e a m
```

10. Write an interactive program to print a diamond shape. For example, if user enters the number 3, the diamond will be as follows:

```
*  
**  
***  
**  
*
```

11. Create an array of String variables and initialize the array with the names of the months from January to December. Create an array containing 12 random decimal values between 0.0 and 100.0. Display the names of each month along with the corresponding decimal value. Calculate and display the average of the 12 decimal values.
12. Write a program to accept a line and check how many consonants and vowels are there in line.
13. Write a program to find length of string and print second half of the string.
14. Write a program to find that given number or string is palindrome or not.
15. Write a program that sets up a String variable containing a paragraph of text of your choice. Extract the words from the text and sort them into alphabetical order. Display the sorted list of words. Also count the number of words that start with capital letters. You could use a simple sorting method called the bubble sort. To sort an array into ascending order the process is as follows:

f. (10)



- a. Starting with the first element in the array, compare successive elements (0 and 1, 1 and 2, 2 and 3, and so on).
 - b. If the first element of any pair is greater than the second, interchange the two elements.
 - c. Repeat the process for the whole array until no interchanges are necessary. The array elements will now be in ascending order.
16. Create a class which asks the user to enter a sentence, and it should display count of each vowel type in the sentence. The program should continue till user enters a word "quit". Display the total count of each vowel for all sentences
 17. Define a class, `mcmLength`, to represent a length measured in meters, centimeters, and millimeters, each stored as integers. Include methods to add and subtract objects, to multiply and divide an object by an integer value, to calculate an area resulting from the product of two objects, and to compare objects. Include constructors that accept three arguments—meters, centimeters, and millimeters; one integer argument in millimeters; one double argument in centimeters; and no arguments, which creates an object with the length set to zero. Check the class by creating some objects and testing the class operations.
 18. Define a class, `tkgWeight`, to represent a weight in tons, kilograms, and grams, and include a similar range of methods and constructors as the previous example. Demonstrate this class by creating and combining some class objects.
 19. Put both the previous classes in a package called `Measures`. Import this package into a program that will calculate and display the total weight of the following: 200 carpets—size: 4 meters by 2 meters 9 centimeters, that weigh 1.25 kilograms per square meter; and 60 carpets—size: 3 meters 57 centimeters by 5 meters, that weigh 1.05 kilograms per square meter.
 20. Define an abstract base class `Shape` that includes protected data members for the (x, y) position of a shape, a public method to move a shape, and a public abstract method `show()` to output a shape. Derive subclasses for lines, circles, and rectangles. You can represent a line as two points, a circle as a center and a radius, and a rectangle as two points on diagonally opposite corners. Implement the `toString()` method for each class. Test the classes by selecting ten random objects of the derived classes, and then invoking the `show()` method for each. Use the `toString()` methods in the derived classes.
 21. Define a class, `ShapeList`, which can store an arbitrary collection of any objects of subclasses of the `Shape` class.
 22. Implement the classes for shapes using an interface for the common methods, rather than inheritance from the superclass, while still keeping `Shape` as a base class.

f. (Signature)



23. Write a program that will generate exceptions of type `NullPointerException`, `NegativeArraySizeException`, and `IndexOutOfBoundsException`. Record the catching of each exception by displaying the message stored in the exception object and the stack trace record.
24. Add an exception class to the last example that will differentiate between the index-out-of-bounds error possibilities, rethrow an appropriate object of this exception class in `divide()`, and handle the exception in `main()`.
25. Write a program that calls a method that throws an exception of type `ArithmeticException` at a random iteration in a for loop. Catch the exception in the method and pass the iteration count when the exception occurred to the calling method by using an object of an exception class you define.
26. Add a finally block to the method in the previous example to output the iteration count when the method exits.
27. Write a Main method that takes the name of a text file as a command line argument and prints every line in lower case.
28. Write a `main()` method that counts the number of words in a text file whose name is accepted from standard input. Also print the size of a file.
29. Write a program using `BufferedInputStream`, `FileInputStream`, `BufferedOutputStream`, `FileOutputStream` to copy Content of one file `File1.txt` into another file `File2.txt`.
30. Create a class called `Student`. Write a student manager program to manipulate the student information from files by using `FileInputStream` and `FileOutputStream`.
31. Refine the student manager program to manipulate the student information from files by using the `BufferedReader` and `BufferedWriter`
32. Refine the student manager program to manipulate the student information from files by using the `DataInputStream` and `DataOutputStream`. Assume suitable data
33. Write a complete multi-threaded program to meet following requirements:
 - a. Two threads of same type are to be instantiated in the method `main`.
 - b. Each thread acts as a producer as well as a consumer.
 - c. A shared buffer can store only one integer information along with the source & destination of the information at a time.
 - d. The information produced is to be consumed by appropriate consumer.
 - e. Both producers produce information for both consumers.
 - f. Each thread produces 5 information.
 - g. Demonstrate kill and suspended scenario for Thread.
34. Develop an applet that draws a circle. The dimension of the applet should be 500 x 300 pixels. The circle should be centered in the applet and have a

J. N. S.



- radius of 100 pixels. Display your name centered in a circle. (using drawOval() method)
35. Draw ten red circles in a vertical column in the center of the applet.
 36. Built an applet that displays a horizontal rectangle in its center. Let the rectangle fill with color from left to right.
 37. Develop an applet that display the position of the mouse at the upper left corner of the applet when it is dragged or moved. Draw a 10x10 pixel rectangle filed with black at the current mouse position.
 38. Develop an applet that contains one button. Initialize the label on the button to "start", when the user presses the button, which changes the label between these two values each time the button is pressed.
 39. Develop an applet that uses the mouse listener, which overrides only two methods which are mousePressed and mouseReleased.
 40. Develop a Demo swing application with different component
 - a. Using JLabel and Icon - using JApplet
 - b. Using JTextField and JTextArea - using JApplet
 - c. Using JButton - using JApplet
 - d. Using JToggleButton - Application (JFrame)
 - e. Using JRadioButton and JCheckBox - Application (JFrame)
 41. Write a java application to create a Calculator using JButton and JTextField. Use Grid layout manager.

Instructional Method:

- a) The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b) The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c) Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d) Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

- a) <http://www.oracle.com/technetwork/java/javase/downloads/index.html>
- b) <http://docs.oracle.com/javase/specs/jls/se7/html/index.html>
- c) <http://docs.oracle.com/javase/tutorial/java/index.html>
- d) <http://www.javatpoint.com/>
- e) <http://www.tutorialspoint.com/java/>
- f) <http://www.learnjavaonline.org/>

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- g) <http://www.c4learn.com/javaprogramming/>
- h) <http://www.learn-java-tutorial.com/>

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Subject Code: 01GS0301

Subject Name: Engineering Management

B.Tech. Year - II

Objective:

A major purpose of Engineering Management is to enhance the knowledge of individual for management and finance and overall to understand market movement and factors influencing them.

Credits Earned: 2 Credits

Course Outcomes:

After learning the course the students should be able:

1. To understand the globe trade and market
2. Importance of Quality
3. People management
4. Support of Technology for Industries development
5. Review the financial market
6. Understanding the marketing and concepts

Pre-requisite of course: NA.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Marks	Practical	Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
2	0	0	2	50	30	20	0	0	100

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Contents:

Sr. No.	Topics	Hours	Module Weightage
1.	Introduction to Engineering Management, Leadership & Organizations Management	02	10%
2.	Global Trade & International Operations, Operations Management, Lean Systems	03	10%
3.	Intellectual Property, Legal Issues In Engineering Management, Principal Ethics For Engineering Managers	03	10%
4.	Human resource planning and management, selection, recruitment, training, retraining, skill development, competence development, promotion and career development, participative management, trade unions, and collective bargaining, Management of Physical Resources.	04	15%
5.	Plant: site selection procedures, factors affecting selection. Layout-types and relative merits and demerits, Material : Functions, objectives, planning and control including inventory models with or without storage costs, price break. Different classes of inventory. Material Requirement Planning (MRP). Project : Project Planning – Risk identification, Assessment & Response Planning	04	15%
6.	Management of Technology: Information technology and management. Role of information, management information system and decision support system, introduction to e-business, ecommerce and integration tools like enterprise resource planning (ERP).	04	12%
7.	Financial management: Introduction to standard forms of financial statements, ie., balance-sheet, profit and loss, and income statement. Fixed and current asset items. Fixed and current liability items. Funds flow statement. Financial ratios and their implications.	04	13%
8.	Quality management: Quality definition, quality planning, quality control and quality management, Total quality	03	10%

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Objective: Students are expected to learn basics of Computer Network which will help them to build LAN, MAN and WAN. The course is designed to let students demonstrate an understanding of the protocols, network metrics and applications of the Internet. Additionally, to demonstrate a basic understanding of various internetworking devices.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, student will be able to

- Describe the Importance of computer networks and analyze various performance metrics. (Analyze)
- Distinguish and relate various protocols in layered architecture of computer networks. (Analyze)
- Implement various topological and routing strategies for IP based networks. (Apply)
- Design & implement client server application using socket programming. (Create)
- Compare various devices and protocols that builds computer network. (Apply)

Pre-requisite of course: NA.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Unit	Topics	Content Hours
1	Introduction: Basic Understanding of Computer Network and Internet, Transmission	8

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1. Introduction to Cisco Packet Tracer and configuring various network devices, hosts & transmission media.
2. Configuration of DHCP Server in Packet Tracer Software and analysis of DHCP messages.
3. Configuration of HTTP Server in Packet Tracer Software and analysis of HTTP request & response messages.
4. Configuration of DNS Server with Recursive & Iterative approach in Packet Tracer Software.
5. Configuration of E-mail Server in Packet Tracer Software.
6. Study of basic network commands.
7. Study of Network devices configuration commands.
8. Echo application using Socket programming in C/Java/Python.
9. Chat application using Socket programming in C/Java/Python.
10. Configure Link State Vector Routing (e.g. OSPF) in Packet Tracer Software.
11. Configure Distance Vector Routing (e.g. RIP) in Packet Tracer Software.

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. <https://www.netacad.com/about-networking-academy/packet-tracer/>
2. <http://vlssit.iitkgp.ernet.in/ant/ant/>
3. <http://www.nptelvideos.in/2012/11/computer-networks.html>
4. <http://www.networkworld.com/blogs>
5. <https://www.tutorialspoint.com/ipv6/>

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Subject Code: 01MA0231

Subject Name: Discrete Mathematics & Graph Theory

B.Tech. Year - II

Objective: Engineering Mathematics is one of the essential tools for learning Technology, Engineering and Sciences. In this course students will come across several theorems and proofs. This course is aimed to cover a variety of different problems in Graph Theory. Theorems will be stated and proved formally using various techniques. Various graphs algorithms will also be taught along with its analysis.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, students will be able to

- Apply concept of Predicate Calculus in computer science like design of computing machines, artificial intelligence, definition of data structures for programming languages etc. (Application)
- Understand the concepts of graph theory, Lattices, and Boolean Algebra analysis of various computer science applications. (Knowledge, Comprehension)
- Apply the knowledge of Boolean algebra in computer science for its wide applicability in switching theory, building basic electronic circuits and design of digital computers. (Knowledge, Application)
- Understand the application of various type of graphs in real life problem. (Knowledge, Comprehension)
- Apply abstract concepts of graph theory in modeling and solving non-trivial problems in different field of study. (Application, Analysis)

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	2	-	5	50	30	20	25	25	150

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Contents:

Unit	Topics	Contact Hours
1	Predicate Calculus: Proposition, Logical operators and expressions, predicates, Rules of quantifiers. Rules of Inference for propositions and predicates.	10
2	Lattices: Relation, Poset, Hasse diagram, Lattice as Poset Properties of lattices, Lattice as an algebraic system, Duality	10
3	Boolean Algebra: Definition and properties of Boolean algebra, Sub-Boolean algebra Atoms and anti-atoms, Boolean expression and their equivalences Min-terms and Max-terms, values of Boolean expressions Canonical forms, Karnaugh map	10
4	Concepts of Graphs and Trees: Definition of a graph theory, incidence and degree, walks, paths, circuits, Connectedness, Eulerian and Hamiltonian graphs, Trees, basic properties of trees, Binary trees Spanning and Minimal spanning trees	10
5	Matrix representations and Graph Algorithms: Connectivity and Separability, fundamental circuits and cut sets Isomorphism of graphs: 1 and 2-isomorphism Matrix representation of graphs, adjacency and incidence matrix Graph theoretical algorithms: Dijkstra, prims and Kruskal	10
6	Planar graphs and their properties: Planarity of graphs, Planar graphs Stereographic projection and embedding on a sphere Kurtowski's two graphs, Euler's formula, Detection of planarity and elementary reduction	10
	Total Hours	60

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Recommended Textbooks:

1. Rosen Kenneth: Discrete mathematics and its applications. McGraw hill- New Delhi.
2. Stanat and McAlister: Discrete Mathematics for Computer Science, PHI
3. Narsingh Deo: Graph Theory with Applications to Engineering and Computer Science, PHI, 1974
4. B. Kolman and R.C. Busby: Discrete mathematical structures for computer science Prantice Hall, New-Delhi.
5. J.P. Tremblay and Manohar: Discrete mathematical structures with application to Computer Science, McGraw hill- New Delhi.
6. S. Malik and M. K. Sen: Discrete Mathematics, Cengage Learning India Pvt. Ltd.
7. Thomas S. Cormen, Charles E. Leiserson, Ronald L. Rivest and Clifford Stein: Introduction to Algorithms, The MIT Press.

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
30%	35%	30%	5%	0%	0%

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL Videos, e-courses, Virtual Laboratory.

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Supplementary Resources:

1. <http://mathworld.wolfram.com/>
2. <http://en.wikipedia.org/wiki/Math>

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Syllabus for Bachelor of Technology
Computer Engineering/Information Technology

Subject Code: 01MA0281

Subject Name: Statistical and Numerical Methods (CE/IT/ES/CHEMICAL)

B.Tech. Year – II

Objective:

A good Engineer has to have an excellent background of Mathematics. Numerical and statistical methods are one of the essential tools for learning Technology, Engineering and Sciences. This course lays the foundation for Numerical and statistical methods in subsequent semesters, so that students get a sound knowledge and important aspects of the course.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, student will be able to

- Understand the basic concepts of probability and distribution.
- Apply the knowledge of Numerical methods in C++, solving linear equations problems in various branch of engineering.
- Apply the concept of and Data representation and analysis in various field of engineering like image processing etc.
- Apply concept of Correlation and Regression in result analysis and Business forecasting using EXCEL.
- Understand the importance of Interpolation and curve fitting and its application to solve problems.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	2	-	5	50	30	20	25	25	150

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Contents:

Unit	Topics	Contact Hours
12	<p>Data representation and Analysis</p> <p>Revision of basic concept of statistics, Measure of central tendency and dispersion, Statistical diagram: scattered diagram, histogram, ogie curve, pai chart...etc, Use of EXCEL software to compute statistical measures and diagrammatic representation, Use of this concept in image processing</p>	10
2	<p>Regression and Correlation</p> <p>Measure of association between two variables. Types of correlation, Karl Pearson's Coefficient of correlation and its mathematical properties., Spearman's Rank correlation and its interpretations, Spearman's Rank correlation and its interpretations, Regression Analysis: Concept and difference between correlation and regression, linear regression equations, properties of regression coefficients, Use in forecasting and estimation computational through EXCEL.</p>	10
3	<p>Random variable and Probability distribution</p> <p>Revision of elementary concept of Probability, Discrete and continuous random variable, Mass, Density and cumulative distribution functions, expected values and variance of random variable, Standard probability distributions: Uniform, Binomial, Poisson, Exponential and Normal distribution.</p>	10
4	<p>Errors in Digital computations and solutions of nonlinear equations</p> <p>Concepts and definitions, Representation of numbers in computers, types of errors, Basic sources of errors, significant digits, Computer arithmetic, errors in computations with digital computer .Least squares curve fitting methods ,linear and nonlinear curve fitting.</p>	7
5	<p>Interpolation, Curve fitting</p> <p>Finite difference, Forward and backward differences, Interpolation and Extrapolation, Newton's forward interpolation formula, Newton's backward interpolation formula, Lagrange's interpolation formula and Newton's divided difference formula, Least squares curve fitting methods, linear and nonlinear curve fitting.</p>	11

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6	Numerical Integration and solution of differential equations Numerical Integration: Gaussian integration, Newton – cotes quadrature formula Composite rules: Trapezoidal rule and Simpson's rules Newton-Raphson, False position (Regula falsi) and Bisection method Solution of ODE by Euler's, Taylor's series, Picard's, Runge kutta (2 nd and 4 th order) methods.	12
Total Hours		60

Recommended Textbooks:

1. Miller and Freund's Probability and Statistics for Engineers: Richard A Johnson, Prentice Hall of India.
2. Introductory Methods of Numerical Analysis: S.S. Sastry, Prentice Hall of India.
3. Computer Oriented Numerical Methods: V. Rajaraman, Prentice Hall of India
4. Numerical methods with programs in C++: S Balachandra Rao & C K Shantha
5. Numerical Methods with programs in C and C++: Veerarajan & Ramchnadran. Tata McGraw Hill
6. A textbook of Computer based numerical and Statistical Techniques: A. K. Jaiswal & Anju Khandelwal, New Age International Publishers.

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
20%	20%	30%	15%	10%	5%

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.

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- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. <http://mathworld.wolfram.com/>
2. <http://en.wikipedia.org/wiki/Math>

Web site: <http://numericalmethods.eng.usf.edu>

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Subject Code: 01CE0304
Subject Name: Design Thinking and Problem Solving Skills
B.Tech. Year - II

Objective: The main objective of this course is to inculcate interdisciplinary engineering skills in students for taking real time engineering problem available in our society/industry and to come-up with the grass root innovation, can be helpful to all level of human beings.

Credits Earned: 1 Credit

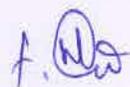
Course Outcomes: After completion of this course, student will be able to

- Understand the importance of Design Thinking. (Understand)
- Evaluate the quality of your information and your emotions; keep thinking straight. (Evaluate)
- Identify skills and personality traits of successful problem solving. (Understand)
- Apply standard problem-solving heuristics to aid in problem solving. (Apply)
- Apply problem-solving techniques to programming activities. (Apply)
- Formulate and successfully communicate the solutions to problems. (Create)

Pre-requisite of course: Not Required.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
0	0	2	1	0	0	0	25	25	50



Contents:

Units	Topics	Contact Hours
Module-1 Design Thinking Introduction	Introduction, Need of Design Thinking, Traditional Problem Solving versus Design Thinking, phases of Design Thinking, Tools for Design Thinking, Relevance of Design and Design Thinking in Engineering	3
Module-1 Team Formation, Documentation and Canvas	Team Building Domain Selection (Society/Industry project), Log Books-need, types of log book, preparation of log book, Importance of Documentation, Strategy Design	3
Module-1 Design Thinking Exercise	Formation of Team and aspects for the selection, Domain selection, Observation exercise, Design activities through Canvas, Brainstorming for the problem, Users Interview conduction, generation of records via logbooks	6
Module-2 Problem Solving Skills Introduction	Developing logical thinking. Introduction to Problem Solving in Computer Science domain, Errors in reasoning; verbal reasoning; analogy problems lateral thinking	4
Module-2 Problem Solving Techniques	Deductive and hypothetical reasoning; computational problem solving; generating, implementing, and evaluating solutions; interpersonal problem solving	4
Module-2 Problem Solving Exercise	Group Activities based assignments related to problem solving skills will be given for better understanding and development of problem solving skills	4

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Module-3	Mini project exercise based on understanding of	6
Capstone Project	modules contents	
Total Hours		30

Note: Mentors are advised to take suitable project/activity to explore the above topics and make students understand the various concepts.

References:

1. H. S. Fogler and S. E. LeBlanc, Strategies for Creative Problem Solving, 2nd edition, Pearson, Upper Saddle River, NJ, 2008.
2. A. Whimbey and J. Lochhead, Problem Solving & Comprehension, 6th edition, Lawrence Erlbaum, Mahwah, NJ, 1999.
3. M. Levine, Effective Problem Solving, 2nd edition, Prentice Hall, Upper Saddle River, NJ, 1994

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done based on continuous evaluation of students in the laboratory and classroom.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. <https://www.coursera.org/learn/uva-darden-design-thinking-innovation>

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2. http://www.cs.odu.edu/~cs381/cs381content/problem_solving/problem_solving.html
3. <https://www.cs.vt.edu/undergraduate/courses/CS2104>
4. <https://ryanstutorials.net/problem-solving-skills/>
5. <http://courses.cs.vt.edu/cs2104/Fall17Barnette/>
6. <https://www.k-state.edu/wwparent/programs/hero/hero-action.htm>
7. <http://proquest.safaribooksonline.com/book/programming/9781457169618/firstchapter>

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Subject Code: 01CE0405
Subject Name: Human Centric Design Approach
B.Tech. Year - II

Objective: This course focuses to build the empathy for the people for designing to solve the societal problem as Human-centered design. It is a creative repeatable approach for problem solving by understanding the real need of the users.

Credits Earned: 1 Credit

Course Outcomes: After completion of this course, student will be able to

- Understand the Human Centric approach for design. (Understand)
- Understand significance of the empathy and solution based on empathy. (Understand)
- Understand importance of design thinking when addressing social change. (Understand)
- Generate the innovative ideas and will convert in new solutions. (Create)
- Build a possible prototype solutions. (Create)

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
-	-	2	1	00	00	00	25	25	50

Contents:

Unit	Topics	Contact Hours
1	Phase :1 Introduction to Human Centred Design Introduction to Human-Centered Design, Design Principles, the Diamond Model, The Human-Centered Design Process, Systems Thinking, Psychology behind Design, History of Design/History of Innovation. Activity: Mini Design Challenge.	4

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2	Phase:2 Inspiration Phase Defining and Visualizing Challenges, Team formation, Key Assumptions. Activity: Choose Your Design Problem, Plan Your Research build Interview Guide Activity: Conduct activity with canvas for this phase	4
3	Phase:3 Ideation Phase <ul style="list-style-type: none"> • A business case developed; • High-level requirements are elicited; and, • A Project Overview Statement (POS) • Share Stories and Learning from User Research • Ideation Methods to Select Ideas Activity: Conduct activity with canvas for this phase	4
4	Phase:4 Prototype Phase What is Prototype, Types of Prototyping- Low-Fidelity Prototyping, High-Fidelity Prototyping, Guidelines for Prototyping Discussion: Determine What to Prototype Activity: Brainstorm, Selecting Best Ideas, checking viability, Creating a Storyboard, Start Prototyping, Test Prototype and Get Feedback.	8
5	Phase-5- Implementation Phase <ul style="list-style-type: none"> • Activity: Create an Action Plan • Activity: Create a Pitch • Activity: Share Your Solution • Reflection • Discussion: Moving Forward 	8
Total Hours		28

Note: Faculty are advised to take suitable project/activity to explore the above topics and make students understand the various concepts.

References:

1. Gray, Dave, Sunni Brown and James Macanufo (2010). Game Storming: A Playbook for Innovators, Rulebreakers, and Changemakers, O'Reilly Media, Inc.
2. Maul, June (2011). Developing A Business Case: Expert Solutions to Everyday Challenges, Harvard Business Review Press. Project Management Institute, (2013).
3. A Norman, D.A. (1988). The Design of Everyday Things. New York: Basic Books.

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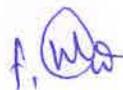
4. Stickdorn, M & Schneider, J (2011). This is Service Design Thinking. John Wiley & Sons: New Jersey
5. Stickdorn, Marc and Jakob Schneider. (2012). This is Service Design Thinking: Basics, Tools and Cases. Wiley Publishing.
6. Dubberly, Hugh and Shelley Evenson. (2010). Designing for Service: Creating an Experience Advantage. Wiley Online Library.

Instructional Method:

- The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and classroom.
- Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory.

Supplementary Resources:

1. IDEO Workshop: Part 1 Observations (video)
https://www.youtube.com/watch?v=-UULGI_gBLA
2. Dubberly, Hugh and Shelley Evenson. (2009). Designing for Service: Creating an Experience Advantage Design at Stanford University
3. Greenberg, S., Carpendale, S., Marquardt, N., & Buxton, W. (2012). Sketching User Experiences: The Workbook. Amsterdam: Elsevier/Morgan Kaufmann.
4. Moggridge, B. (2007). Designing Interactions. Cambridge, MA: The M.I.T. Press.
5. Stickdorn, Marc and Jakob Schneider. (2012). This is Service Design Thinking Creativity.
6. http://www.ted.com/themes/the_creative_spark.html
7. http://www.usaid.gov/sites/default/files/documents/1868/USAID_eBook.pdf
8. Kelley, David (2013). "How to Build Your Creative Confidence." Ted Talk. Retrieved from
9. http://www.ted.com/talks/david_kelley_how_to_build_your_creative_confidence?language=en





10. Osborn, Alex F. (1979). Applied Imagination: Principles and Procedures of Creative Problem Solving
11. <https://www.interaction-design.org/literature/article/stage-3-in-the-design-thinking-process-ideate>
12. <https://www.qaiglobalinstitute.com/product/design-thinking-ideation-phase/>
13. <http://www.designkit.org/human-centered-design>

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Subject Code: 01CE0501

Subject Name: Microprocessor Fundamentals & Programming

B.Tech. Year - V

Objective: The objective of the course is to expose to the students to the architecture and instruction set of typical 8-bit microprocessor. It also deals with Assembly Language Programming using a macro-assembler. Input-output techniques and important programmable support chips used in microprocessor-based systems are discussed in detail.

Credits Earned: 4 Credits

Course Outcomes: After completion of this course, students will be able to

- To relate the architecture of 8085 8-bit Microprocessor with the processor they are already using in their laptop. (Understand)
- To classify and understand the function of each pin 8085 Microprocessor. (Understand)
- To Write, Debug & Simulate assembly language program of 8085 microprocessors. (Apply)
- To design and implement Memory interfacing in 8085 Microprocessor. (Apply)
- To apply the concept of Assembly language, time delay into 8085 microprocessors and its peripheral. (Apply)
- To relate knowledge, gain in this course to understand the structure and operation of advanced processor. (Understand)

Pre-requisite of course: Digital Electronics

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
3	0	2	4	50	30	20	25	25	150

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Contents:

Unit	Topics	Contact Hours
1	Introduction: Introduction to Microprocessors, microcomputer and single chip microcomputer, Components of Microprocessor: Registers, ALU and control & timing, CPU, I/O devices, clock, memory, bussed architecture, tri-state logic, address bus, data bus and control bus.	4
2	Architecture of 8085 Microprocessor: Microprocessor Architecture, Pin Functions, De-multiplexing of Buses Memory and I/O operation, Generation of Control Signals, Instruction Cycle, Machine Cycles, T-States.	6
3	Instruction Set: Assembly Language Programming Basics, Classification of Instructions, 8085 Instruction Set, Instruction and data Formats, Addressing Modes.	7
4	Assembly Language Programming: Looping, counting and indexing using data transfer, arithmetic, logical and branch instructions. Stack & Subroutines, Time Delay routines, Code Conversion, BCD Arithmetic and 16-Bit Data operations.	7
5	Interfacing of Memory & I/O with 8085 microprocessors: Memory mapped I/O and I/O mapped I/O. Address decoding, interfacing of memory chips with 8085. Interfacing of I/O devices with 8085.	5
6	Interrupt of 8085up: Concept of Interrupt mechanism, Hardware and Software interrupt of 8085, 8259 Programmable Interrupt Controller - Internal structure, pin diagram and modes of operation.	4
7	Programmable Peripheral devices: 8255 Programmable Peripheral Interface, 8254 Programmable Interval Timer, ADC and DAC chips and their interfacing.	5
8	Advanced Microprocessors: RISC and CISC Architecture, Intel advanced microprocessors, ARM and SUN SPARC,	4
	Total Hours	42

References:

1. Gaonkar R. S., "Microprocessor Architecture, Programming and Applications".
2. Sunil Mathur, "Microprocessor 8085 and Its Interfacing", PHI Learning Pvt. Ltd.

A. M. S.



3. Hall D. V., "Microprocessor and Interfacing-Programming and Hardware", Tata McGraw-Hill Publishing Company Limited.
4. Muhammad Ali Mazidi, ARM Assembly Language Programming & Architecture.
5. Short K. L., "Microprocessors and Programmed Logic", Pearson Education.

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
20%	20%	30%	15%	10%	5%

List of Experiments:

1.
 - i. Introduction to 8085 microprocessors.
 - ii. Study of DYNA-85 trainer kit.
2. To perform **Data Transfer (Copy) Operations:**
 - i. Write the data 41h into register C and copy it to Accumulator
 - ii. Load Register H with 34h and Register L with ABh.
 - iii. Copy 32h in all the Registers.
 - iv. Load accumulator with the content of memory whose address is 2500h using three different techniques.
 - v. Exchange the content of memory location 2000h and 2500h using direct addressing and indirect addressing.
3. To perform **Arithmetic Operations:**
 - i. Load Register B and C with 55h and 66h. Add Register B, C and store the result in Register D.
 - ii. Add/Subtract two 16 bit numbers.
 - iii. Add the content of memory location 2500h, 2501h and store the result at memory locations 2503h and 2504H.
 - iv. Transfer the array (3 byte) of data starting from 2500h to 2600h by memory pointer without LDA and STA.
4. To perform **Logical Operations:**
 - i. Assume register B holds 93h and the accumulator holds. 15h. illustrate the result of instruction ORA B, XRA B and CMA.

1, (M)



- ii. Load the data byte 8EH in register D and F7H in register E. Mask the higher order bits (D7-D4) from both the data bytes, Exclusive OR the lower order bits (D3-D0) and display the answer at an output port.
 - iii. Write a program to shift an eight bit data four bits right. Assume data is in register C.
 - iv. Program to shift a 16-bit data 1 bit left. Assume data is in the HL register.
5. To perform **Branch Operations**:
- i. WAP to multiply two 8-bit numbers stored in Register A & Register B.
 - ii. WAP to divide two 8-bit numbers.
 - iii. WAP to find out largest/smallest number from given array stored at 5 consecutive memory locations starting from 2000H and store the result to memory location 2500h.
 - iv. WAP to sort given 10 numbers stored from memory location 2200 in ascending/descending order.
 - v. WAP to search the given byte in the list of 50 numbers stored in the consecutive memory locations starting at 2000H and store the result at the memory locations 2200H and 2201H. Assume byte is in the C register. If byte is not found, store 00 at 2200H and 2201H.
 - vi. Find the square of the given numbers from memory location 6100H and store the result to memory location 7000H & 7001H.
6. To perform **Timing and Delay Operations**:
- i. WAP to count continuously in hexadecimal from FFH to 00H with 0.5 us clock period. Use register C to set up a 1ms delay between each count and display number at one of the o/p port.
 - ii. WAP to generate continuous square wave with a period of 400us. Assume the system clock period is 325.5ns and use bit D0 to output for the square wave. (LED blinking)
 - iii. WAP to generate a rectangular wave with on period of 200 us and off period of 400 us. Use bit D0 of Register A to output for the rectangular wave.
 - iv. Design up/down counter to count from 0 to 9 and 9 to 0 continuously with a 1.5 sec delay between each count. Display output at one of the output port.
7. To perform **Stack Operations**:
- i. WAP to meet the following specification.
 - A) Initialize the stack pointer register at 2597H
 - B) Clear the memory location starting from 2592H to 259FH.
 - C) Load register pairs B, D, and H with data 0237H, 1242H and 4087H respectively.
 - D) Push the content of the register pairs B, D, H on the stack.

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- E) Execute the program and verify the memory location from 2590H to 259FH.
ii. WAP to alter the content of flag register using stack related instructions.
8. To perform **Subroutine** Operations:
i. WAP to convert given hex number in corresponding ASCII number.
ii. WAP to convert given ASCII number in corresponding HEX number.
iii. WAP to find out square of a number using look up table.
iv. WAP to calculate the factorial of a number between 0 to 8.
v. WAP to convert the binary to BCD equivalent.
9. To Study 8255 Programmable Peripheral Interface.
10. To Study 8259 Programmable Interrupt Controller.

Advance Experiment List

1. Write a program to perform addition of two 16-bit numbers using 8086 Microprocessor.
2. Design a program for Digital Clock with format HH:MM:SS (Address and data field) using inbuilt routines of monitor program of your system.

Instructional Method:

- a) The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b) The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c) Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d) Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

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Supplementary Resources:

Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory.

- a) Open source simulator for 8085 microprocessors (Jubin's Java 8085 simulator)
- b) www.nptel.ac.in
- c) www.intel.com

f. (WA)

Subject Code: 01CE0502
Subject Name: Advanced Java Programming
B.Tech. Year - III

Objective: This course develops programming ability of students to create dynamic web applications using server side technology with Java Database Connectivity. Students can learn networking and remote method invocation using Java API. Different Java frameworks like Spring, Java Server Faces and Hibernate will increase ability of students in web application development.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, student will be able to

- Describe the components of J2EE Architecture, MVC Framework and Multi-tier Application and Various Network Protocol. (Understand)
- To make use of Servlet and JSP API in the process of enterprise application deployment. (Apply)
- Implement components such as Session, Filters, JSTL, Beans. (Apply)
- Distinguish Application Server, Web Container, JDBC and ORM tools.(Analyze)
- Design and Development of web application having collaboration of Servlets, JSPs, JSF, Spring and Hibernate base upon the requirement. (Create)

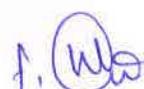
Pre-requisite of course: Core Java

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Sr. No.	Content	Contact Hours
1	Advance Networking Networking Basics, Introduction of Socket, Types of Socket, Socket API, TCP-IP: Client/Server Sockets, URL,UDP: Datagrams, java.net package classes: Socket, ServerSocket, InetAddress, URL, URLConnection, RMI Architecture, Client Server Application using RMI.	6



2	JDBC Programming JDBC Architecture, Types of JDBC Drivers, Introduction to major JDBC Classes and Interface, Creating simple JDBC Application, Types of Statement (Statement Interface, PreparedStatement, CallableStatement), Exploring ResultSet Operations, Batch Updates in JDBC, Creating CRUD Application, Using Rowsets Objects, Managing Database Transaction.	8
3	J2EE and Web Development J2EE Architecture Types, J2EE Containers, Types of Servers in J2EE Application, HTTP Protocols and API, Request Processing in Web Application, Web Application Structure, Web Containers and Web Architecture Models.	2
4	Servlet API and Overview Servlet Introduction, Servlet Life Cycle(SLC), Types of Servlet, Servlet Configuration with Deployment Descriptor, Working with ServletContext and ServletConfig Object, Attributes in Servlet, Response and Redirection using Request Dispatcher and using sendRedirect Method, Filter API, Manipulating Responses using Filter API, Session Tracking: using Cookies, HttpSession, Hidden Form Fields and URL Rewriting, Types of Servlet Event: ContextLevel and SessionLevel.	8
5	Java Server Pages Introduction to JSP , Comparison with Servlet, JSP Architecture, JSP: Life Cycle, Scripting Elements, Directives, Action Tags, Implicit Objects, Expression Language(EL), JSP Standard Tag Libraries(JSTL), Custom Tag, Session Management, Exception Handling, CRUD Application.	10
6	Hibernate Introduction to Hibernate, Exploring Architecture of Hibernate, Object Relation Mapping(ORM) with Hibernate, Hibernate Annotation, Hibernate Query Language (HQL), CRUD Operation using Hibernate API.	6
7	Java Web Frameworks: Spring MVC Spring: Introduction, Architecture, Spring MVC Module, Life Cycle of Bean Factory, Explore: Constructor Injection, Dependency Injection, Inner Beans, Aliases in Bean, Bean Scopes, Spring Annotations, Spring AOP Module, Spring DAO, Database Transaction Management, CRUD Operation using DAO and Spring API.	10
8	Java Server Faces Features of JSF, JSF: Architecture, Request processing Life cycle, Elements, Expression Language (EL), Standard Component, Facelets Tag, Converter Tag, Validation Tag, Database Access, PrimeFaces.	6
		56 hrs

f, (W)

References:

1. Black Book "Java server programming" J2EE, 1st ed., Dream Tech Publishers, 2008. 3. Kathy walrath"
2. Complete Reference J2EE by James Keogh mcgraw publication
3. Professional Java Server Programming by Subrahmanyam Allamaraju, Cedric Buest Wiley Publication
4. SCWCD, Matthew Scarpino, Hanumant Deshmukh, Jignesh Malavie, Manning publication
5. Core Java, Volume II: Advanced Features by Cay Horstmann and Gary Cornell Pearson Publication
6. Java Persistence with Hibernate by Christian Bauer, Gavin King
7. Spring in Action 3rd edition , Craig walls, Manning Publication
8. Hibernate 2nd edition, Jeff Linwood and Dave Minter, Beginning Après publication
9. Java Server Faces in Action, Kito D. Mann, Manning Publication
10. JDBC™ API Tutorial and Reference, Third Edition, Maydene Fisher, Jon Ellis, Jonathan Bruce, Addison Wesley
11. Beginning JSP, JSF and Tomcat, Giulio Zambon, Apress
12. JSF2.0 CookBook, Anghel Leonard, PACKT publication

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process.

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
10%	20%	50%	10%	0%	10%

Suggested List of Experiments:
Experiment# 1 Java Networking

Sr. No.	Practical Name
1	Write an application which will retrieve IP address for given website.
2	Write an application which will retrieve the content of the given URL with different web-page related information.
3	Write a two - way network based chat application. It will use TCP/IP protocol and it will do communication in serial manner.
4	Write an application which will retrieve file from server machine and save that file on client machine. File name will be provided by client.
5	Write a client program to send any string from its standard input to the server

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	program. The server program reads the string, finds number of characters and digits and sends it back to client program. Use connection-oriented communication.
6	Write a client program to send any string from its standard input to the server program. The server program reads the string, finds number of characters and digits and sends it back to client program. Use connection-less communication.

Experiment# 2 JDBC Programming

Sr. No.	Practical Name
1	Write down Five Basic steps to establish JDBC connection from Java Application. Also mention sample code for each step.
2	Write a JDBC application which will interact with Database and perform the following task. 1) Create Student Table with RollNo, Name, and Address field and insert few records. 2) Using Statement Object display the content of Record. 3) Using Statement Object Insert Two Record. 4) Using Statement Object Update One Record. 5) Using Statement Object Delete One Record. 6) Using Statement Object display the content of Record.
3	Write a JDBC application which will interact with Database and perform the following task. 1) Create Student Table with RollNo, Name, and Address field and insert few records. 2) Using PreparedStatement Object display the content of Record. 3) Using PreparedStatement Object Insert Two Record. 4) Using PreparedStatement Object Update One Record. 5) Using PreparedStatement Object Delete One Record. 6) Using PreparedStatement Object display the content of Record.
4	Write a JDBC application which will interact with Database and perform the following task. 1) Create a store procedure which will insert one record into employee table. 2) Create a store procedure which will retrieve salary for given employee id. 3) Write a java application which will call the above procedure and display appropriate information on screen.
5	Design a JDBC application which will demonstrate Scrollable ResultSet functionality.
6	Design a JDBC application which will demonstrate Updatable ResultSet functionality.
7	Design a JDBC application which will demonstrate Transaction management functionality.

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Experiment# 3 Servlet

Sr. No.	Practical Name
1	Write down the Program for testing the Servlet and study deployment descriptor.
2	Write down the program for testing the include action for servlet collaboration.
3	Write down the program for testing the forward action for servlet collaboration.
4	Create login form and perform state management using Cookies, HttpSession and URL Rewriting.
5	Create Servlet file which contains following functions: 1. Connect 2. Create Database 3. Create Table 4. Insert Records into respective table 5. Update records of particular table of database 6. Delete Records from table. 7. Delete table and also database.
6	Write down the Program in which error is handled by the deployment descriptor file (web.xml).
7	Implement Authentication filter using filter API.
8	Write down the Program for testing the servlet context interface.

Experiment# 4 JSP

Sr. No.	Practical Name
1	Write down the Program which displays the simple JSP file.
2	Write down the program in which input the two numbers in an html file and then display the addition in JSP file.
3	Write down the program in which display the error by common file for all general pages.
4	Perform Database Access through JSP.
5	Write down the Program for testing the include action tag in jsp.
6	Write down the Program for testing the forward action tag.
7	Write down a program which demonstrates the core tag of JSTL.
8	Write down a program which demonstrates the Format tag of JSTL.
9	Write down a program which demonstrates the Function tag of JSTL.
10	Write down a program which demonstrates the SQL tag of JSTL.
11	Write down a program which demonstrates the XML tag of JSTL.
12	Write down a program which demonstrates the Tag Handler with appropriate output.
13	Create database of student subject-wise data and retrieve all data using JSP and generate xml structure along with DTD and XML Schema definition.

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Experiment# 5 Hibernate Framework

Sr. No.	Practical Name
1	Study and implement Hibernate.
2	Study and Implement Hibernate Annotations.
3	Use Hibernate Query Language to insert, update and delete records in database.

Experiment# 6 Spring Framework

Sr. No.	Practical Name
1	Study and Implement MVC using Spring Framework
2	Inject Service using Aspect Oriented Programming.
3	Using Spring Template manages Database and Transaction.

Experiment# 7 JSF

Sr. No.	Practical Name
1	Use JSF Standard Components and Facelets Tags.
2	Implement JSF Converter Tag and Validation Tags.

Instructional Method:

- The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

- <http://www.oracle.com/technetwork/java/javase/downloads/index.html>
- <https://docs.oracle.com/javaee/6/tutorial/doc/>
- <https://javaee.github.io/tutorial/>
- <http://docs.oracle.com/javase/tutorial/java/index.html>
- <https://spring.io/guides>

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Subject Code: 01CE0503

Subject Name: Design and Analysis of Algorithm

B.Tech. Year - III

Objective: Obtaining efficient algorithm is very important in modern computer engineering as the world wants applications to be time and space and energy efficient. This course enables to understand and analyse efficient algorithms for various applications.

Credits Earned: 5 Credits

Course Outcomes:

- Learn and understand asymptotic notations for performance of different algorithms. (Understand)
- Derive and solve recurrences describing the performance of divide-and-conquer algorithms (Evaluate)
- Design optimal solution by applying various methods like Dynamic Programming and Greedy Method. (Application)
- Summarize the certain graph algorithms and their analysis.(Application)
- Apply pattern matching algorithms (Application)
- Differentiate polynomial and non-polynomial problems. (Analysis)

Pre-requisite of course: Data Structure and proficiency in programming language, knowledge of Mathematical functions like logarithms, graphs etc.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Sr No	Course content	Total Hrs
1	Introduction to Design and Analysis of Algorithms: What is an algorithm, Mathematics for Algorithmic Sets, Functions and Relations, Vectors and Matrices, Linear Inequalities and Linear	02

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	Equations.	
2	Analysis of Algorithm: The efficient algorithm, Average, Best and worst case analysis, Amortized analysis, Asymptotic Notations (Big Oh, Big Theta, Big Omega), Master Method, Sorting Algorithms and analysis: Bubble sort, Selection sort, Insertion sort, Shell sort, Heap sort, Sorting in linear time: Bucket sort, Radix sort and Counting sort	08
3	Divide and Conquer: Introduction, Recurrence and different methods to solve recurrence, Multiplying large Integers Problem, Problem Solving using divide and conquer algorithm - Binary Search, Max-Min problem, Sorting (Merge Sort, Quick Sort), Matrix Multiplication, Exponential.	08
4	Dynamic Programming: Introduction, Elements of Dynamic Programming, The Principle of Optimality, Problem Solving using Dynamic Programming - Calculating the Binomial Coefficient, Making Change Problem, Assembly Line-Scheduling, Knapsack problem, Matrix chain multiplication, Longest Common Subsequence.	08
5	Greedy Algorithm General Characteristics of greedy algorithms, Elements of greedy strategy, Problem solving using - Activity selection problem, Fractional Knapsack Problem, Job Scheduling Problem.	06
6	Graph Algorithms Representation of Undirected & Directed Graph, Traversing Graphs, Depth First Search, Breadth First Search, Topological sort, Strongly Connected components. Single pair shortest path and Minimum Spanning trees (Kruskal's algorithm, Prim's algorithm) using greedy approach, All Points Shortest path using Dynamic Programming.	08
7	Backtracking and Branch and Bound: Introduction, The Eight queens problem, Knapsack problem, Travelling Salesman problem, Minimax principle.	05
8	String Matching: Introduction, The naive string matching algorithm, The Rabin-Karp algorithm, String Matching with finite automata, The Knuth-Morris-Pratt algorithm.	05
9	Introduction to NP-Completeness: The class P and NP, Polynomial reduction, 2-CNF Satisfiability, 3-CNF Satisfiability, NP-Completeness Problem, NP-Hard Problems. Travelling Salesman problem, Hamiltonian problem.	06
	Total	56 hrs

A. [Signature]

References:

1. Introduction to Algorithms, Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest and Clifford Stein, PHI.
2. Fundamental of Algorithms by Gills Brassard, Paul Bratley, PHI.
3. Introduction to Design and Analysis of Algorithms, Anany Levitin, Pearson.
4. Foundations of Algorithms, Shailesh R Sathe, Penram
5. Design and Analysis of Algorithms, Dave and Dave, Pearson.

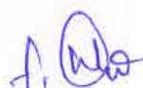
Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
0%	20%	40%	20%	20%	0%

Suggested List of Experiments:

1. Implementation and Time analysis of sorting algorithms.
Bubble sort, Selection sort, Insertion sort, Merge sort and Quicksort
2. Implementation and Time analysis of linear and binary search algorithm.
3. Implementation of max-heap sort algorithm
4. Implementation and Time analysis of factorial program using iterative and recursive method
5. Implementation of a knapsack problem using dynamic programming.
6. Implementation of chain matrix multiplication using dynamic programming.
7. Implementation of making a change problem using dynamic programming
8. Implementation of a knapsack problem using greedy algorithm
9. Implementation of Graph and Searching (DFS and BFS).
10. Implement prim's algorithm.
11. Implement Kruskal's algorithm.
12. Implement LCS problem.
13. To implement following string matching algorithms and analyze time complexities: a. Naïve b. Rabin Karp c. Knuth Morris Pratt
14. Write a program for Floyd-Warshal algorithm.
15. Write a program for travelling salesman problem.





16. Write a program for Hamiltonian cycle problem.
17. To implement Huffman coding and analyze its time complexity.
18. Write a program for Strassen's Matrix Multiplication.

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.

Supplementary Resources:

Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory.

1. <http://www.personal.kent.edu/~rmuhamma/Algorithms/algorithm.html>
2. <http://nptel.ac.in/courses/106101060/>
3. <http://www.comp.nus.edu.sg/~cs5234/Links/Course-Links.htm>
4. <https://www.coursera.org/learn/algorithm-design-analysis>
5. <http://apps.topcoder.com/wiki/di...>
6. <http://www.geeksforgeeks.org>,
7. <http://www.algolist.net>
8. <http://www.cprogramming.com>
9. <http://www.codingunit.com>

1, (No)

Subject Code: 01CE0504
Subject Name: Theory of Automata and Formal Languages
B.Tech. Year - III

Objective: This subject will introduce students to the algorithms, formal languages and grammars, automata theory, decidability, complexity, and computability. It helps students to understand and conduct mathematical proofs for computation and algorithms.

Credits Earned: 3 Credits
Course Outcomes: After completion of this course, students will be able to

- Gain the knowledge of basic kinds of finite automata and their capabilities. (Knowledge)
- To understanding of regular and context-free languages (Comprehension)
- To understand the time and space complexity for p and np problems. (Comprehension)
- To apply proved results using proof by induction, proof by contradiction, proof by construction, proof by case exhaustion. (Application)
- Gain the knowledge of describe and change language to regular expressions and grammars. (Application)
- Constructing the Turing machine for Recursive languages. (Analysis)

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
3	0	0	3	50	30	20	0	0	100

Contents:

Unit	Topics	Contact Hours
1	Preliminaries: Set theory, propositions, predicate logic, relation, one-to-one function, onto function, bijection function, Direct proof, proof by contradiction, proof by contrapositive, Principle of mathematical induction, Recursive Definition	4

f. (M)



2	Regular Languages: Symbol, Alphabet, String, Language, Regular expression and Language, Pumping Lemna.	3
3	Finite State Machine: Basics of Automata theory, Finite automata, Deterministic and Non-Deterministic Automata, λ - Transition Finite automata, Conversion NFA - λ to NFA, Conversion NFA to DFA, Conversion RE (Regular Expression) to Non-Deterministic Finite Automata, Subset Algorithm to convert Non DFA to DFA, Finite automata minimization, Moore and Mealey machine and their Conversion.	9
4	Context Free Grammar (CFG): Context free language, Chomsky normal forms, Greibach normal forms, derivation - derivation tree with their relation, Ambiguous and unambiguous CFG, Algebraic expression, Closure properties of Context Free Language.	8
5	Push Down Automata (PDA): Introduction about PDA, equivalence between CFG and PDA, Deterministic PDA, Pumping Lemna for Context Free Language, Acceptance of Empty and Final state.	6
6	Turing machine and REL: Basics of Turing machine, Language acceptor, Turing machine variations, Church Turing thesis, Universal Turing machine, Looping vs Halting, Recursively and Enumerable Languages.	6
7	Computability: Partial function, Primitive recursive functions, undecidable problem, Class P and NP, Np Completeness.	6
	Total Hours	42

References:

1. Martin, John C., Introduction to Languages and the Theory of Computation, 3rd ed., Tata Mcgraw Hill Education Private Limited
2. Moret, Bernard M., Theory of Computation, Pearson Education
3. Lewis, Harry R, Elements of The Theory of Computation, Phi Learning pvt Ltd.
4. Greenlaw, Raymond Hoover, H. James, Fundamentals of the Theory of Computation: Principles and Practice, Morgan Kaufmann Publishers
5. Sipser, Michael, Theory of Computation, Cenagage Learning India Private Limited

J. (W)



Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process.

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
12%	33%	38%	12%	5%	0%

Instructional Method:

- a) The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, also need to use ICT tools and facilities.
- b) The internal evaluation will be done on the basis of continuous evaluation of students in the class-room.

Supplementary Resources:

Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory.

- a) <http://nptel.ac.in>

A. W.

Subject Code: 01CE0507

Subject Name: Image Processing

B. Tech. Year - III

Objective: To study fundamental concepts of digital image processing. To understand and learn image processing operations and algorithms. To expose students to current trends in field of digital image processing.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, students will be able to

- To Review the formation of digital image and its various formats.[Understand]
- Compare various filtering techniques in spatial domain and frequency domain.[Analyze]
- Implement various algorithms on core image processing on MATLAB software[Apply]
- Correlate color domain image processing technique with gray level.[Analyze]
- Create Matlab program to apply morphological operators and Image Segmentation.[Create]

Pre-requisite of course: Knowledge of Mathematics

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

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Contents:

Unit	Topics	Hours
1	Introduction To Digital Image Processing: Fundamentals Of Elements Of Digital Image, Image As Data, Pixels, Components Of Digital Image, Types Of Image Representation, Measures Of Image, Application Of Digital Image Processing	06
2	Matlab Basics: Data Types, Operators, Matrices, File, I/O, Image Processing Toolbox	06
3	Image Enhancement: - Spatial Domain & Frequency Domain	09
4	Image Filtering Techniques: Low Pass Filters - Smoothing, High Pass Filters - Edge Detection, Sharpening	07
5	Image Degradation/Restoration: Noise Models, Model Of Image Degradation/Restoration Process, Noise Reduction, Inverse Filtering, M Minimum Mean Square Error (Weiner) Filtering.	07
6	Color Image Fundamentals: Color Models, Representation of Color in Images, Color Image Processing., Basics Of Color Image Processing Smoothing And Sharpening	06
7	Image Morphology: Different Morphological Algorithm, Morphological Measures	06
8	Image Segmentation: Thresholding, Histogram Based Segmentation, Clustering, Region Growing Method, Point, Line and Edge Detection	09
	Total Hours	56

Text Book:

1. Pearson Education - Rafael C. Gonzalez and Richard E. Woods - Digital Image Processing

References Books:

1. PHI - Anil K Jain - Fundamentals of Digital Image Processing
2. Gonzalez & Woods - Digital Image Processing Using Matlab

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3. Bhabatosh Chanda and Dwijesh Majumder - Digital Image Processing

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Remember	Understand	Application	Analyse	Evaluation	Create
10 %	25%	30%	25%	0%	10%

List of experiments:

1. Study of matlab image processing toolkit and various commands on matlab.
2. Point processing in spatial domain
 - a. Negation of an image
 - b. Thresholding of an image
 - c. Contrast Stretching of an image
3. Write a program for histogram equalization.
4. Write a program to apply various filtering techniques in matlab.
 - a. Low pass filtering
 - b. High pass filtering
 - c. Median filtering
5. Write a program for image segmentation
 - a. Local thresholding
 - b. Global thresholding
6. Write a program for color image processing
 - a. Color approximation
 - b. Quantization
7. Write a program, for Image restoration
 - a. Facial Images
 - b. Texture Images
8. Write a program for edge detection.
9. Write a program for smoothening and sharpening for 8-bit color image.
10. Write a program to implement morphological operations.

Instructional Method:

- a) The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, also need to use ICT tools and facilities.
- b) The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.

- c) Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.

Supplementary Resources

1. <https://nptel.ac.in/courses/117105079>
2. <https://spoken-tutorial.org/scilab>
3. <https://in.mathworks.com>
4. <https://www.tutorialspoint.com/dip/>

Open Ended Problems :

1. Image In-painting Techniques
2. Image Mosaicing
3. Medical image segmentation

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Subject Code: 01CE0601
Subject Name: Compiler Design
B.Tech. Year - III

Objective: The purposive of this course is intended to teach the students about the basic techniques, theory and tools underlie the practice and act of Compiler Construction.

Prerequisite: Programming fundamentals, Data Structure and Theory of Computation

Credits Earned: 4

Course Outcomes: After completion of this course, students will be able to

- Construct syntax tree, three address code and assembly code. (Create)
- Apply first and follow to generate LL(1) Parser. (Apply)
- Differentiate top-down and bottom-up parsing, validate SLR, CLR, LALR parsers. (Analyze)
- Construct DAG from three address code. (Create)
- Apply Code optimization techniques on three address code. (Apply)

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
3	0	2	4	50	30	20	25	25	150

Contents:

Unit	Topics	Content Hours
1	Introduction to Compiler Translators-Compilation and Compiler, Interpreter and Assembler, overview of linker and loader -The Phases of Compiler-Errors Encountered in Different Phases -Compiler Construction Tools - Programming Language basics, pass structure.	5

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2	Scanner Role of Lexical Analyzer-Lexical Errors-Tokens-Regular Expressions-A Language for Specifying Lexical Analyzer-Defining relations and conversion process between Finite Automata and Regular Expression-Minimization of DFA-Introduction to LEX- Design of Lexical Analyzer for a sample Language.	7
3	Parsing Top-down Parsing, Predictive parsing, non-recursive predictive parsing, First and Follow set, LL(1) grammar, error handling for LL(1), Bottom-up parsing, handle pruning, shift reduce parsing, operator precedence parser, LR(0) parser, SLR(1) Parser, Canonical LR(1) Parser, LALR(1) Parser, error detection and recovery in LR Parser, Parser generators (Yacc & Lex)	10
4	Intermediate Code Generation Introduction, Intermediate Languages, Types of intermediate forms, Three Address Statements, Syntax Directed Translation Attributes and Mechanism, Directed Acyclic Graph, Static Single Assignment	5
5	Memory Management Introduction, Importance of Memory Management, organization for storage purpose, static allocation, stack allocation, dynamic allocation, different methods of parameter passing, activation record, symbol table	5
6	Code Optimization Introduction of Code Optimization, Advantage of code optimization, Types of Code Optimization, Block and Loop Optimization, Global Data Flow Analysis	5
7	Code Generation Issues, flow graph, basic block, basic block optimization, register allocation, simple code generator, directed acyclic graph representation, code generation from directed acyclic graph, peephole optimization, generators of code generator, dynamic code generation algorithm.	5
Total Hours		42

Reference Books:

1. Aho, Lam, Sethi, and Ullman, Compilers: Principles, Techniques and Tools, Second Edition, Pearson, 2014
2. D. M. Dhamdhere: System Programming, Mc Graw Hill Publication
3. Dick Grune, Henri E. Bal, Jacob, Langendoen: Modern Compiler Design, Wiley India Publication

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Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	17%	33%	19%	16%	10%

Suggested List of Experiments:

1. WAP to remove Left Recursion from the grammar.
2. WAP to remove Left Factoring from the grammar.
3. WAP to verify that the given input is valid identifier or keyword.
4. WAP to compute FIRST and FOLLOW Set of the given grammar.
5. WAP to implement Operator precedence parser.
6. Prepare report for Lex, Flex and Yet Another Compiler Compiler Tool.
7. WAP with the help of Lex and Yacc file to implement Calculator which performs basic operations like addition, subtraction, multiplication and division.
8. WALEXP to count words, characters, lines, Vowels and consonants from given input.
9. WALEXP to generate string which is ending with zeros.
10. WALEXP to check given string is simple or compound string.
11. WALEXP to count the total number of printf and scanf statement in given C file. Also convert it into readf and writeout respectively to another file.
12. WALEXP to check given number is positive negative or zero.
13. WALEXP Program to print HTML tags of given file.
14. WA YACC Program to generate Calculator.

Supplementary Resources:

1. <http://nptel.ac.in>

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Objective: .Net Technologies are blend of technologies supported by Microsoft .Net Framework, that allows user to create various applications. Students will be able to work with various technologies provided by Microsoft .NET platform.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, student will be able to

- To Review the components of .Net Framework[Understand]
- To practice Console based C# application. [Apply]
- To practice desktop application using C# Win-form application[Apply]
- To practice basic database application using ADO.net technology[Apply]
- To Design and develop basic applications using WPF.[Create]

Pre-requisite of course: Object oriented concepts, Programming fundamentals

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Introduction To .Net Architecture: Introduction to .NET Framework Architecture, Program Execution in .NET, CLR structure, Assemblies, Creating strong named assemblies, putting dll in GAC, Garbage Collection, DLL Hell, Side by Side Execution, Debugging.	6
2	Basics of C#: Basic datatypes, declaring variables and constants Type Conversion , Boxing and Unboxing , Array , Structure String	6

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	Manipulation , String Builder, Decision making statements, Conditional Loops, Switch Case.	
3	Object Oriented Programming in C#: Creating Class , Declaring variables and methods ,Access Modifiers, Constructors ,Abstract Class, Partial Class , Inheritance , method overloading ,method overriding, Anonymous method , Properties , Indexers, Exception Handling	7
4	Advance C#: Attributes,Reflection,Delegates,Events,Threading,Collections,FileIO	8
5	Building GUI with C#: Working with C# windows applications, Working with common form controls. Visual Inheritance, Creating MDI Form, Event Handling	8
6	Creating Advanced GUI using C# Printing in C#, Working with Graphics GDI+, Creating custom control from scratch, Dialog Boxes	6
7	Playing with data using ADO.net Overview of ADO.Net framework, working with SQLserver database, Managed Provider, Dataset , working with data source, Connected and disconnected architecture, Binding data with Datagrid ,Binding data with Crystal Report,	7
8	WPF: Introduction to WPF, XAML, Introduction to Expression Blend:Layouts, WPF controls	8
	Total Hours	56

References:

1. Pro C# 7 With .NET and .NET Core Apress Edition, Troelsen, Andrew, Japikse, Philip
2. Professional C# .Net Christian Nagel, Wrox Publication
3. C# The Basics Vijay Mukhi, BPB Publications
4. PRO XAML with C# Application Development Strategies (covers WPF, Windows 8.1, and Windows Phone 8.1) by James, Buddy, Lalonde, Lori Apress Edition.
5. The Complete Reference C# by Herbert Schildt McGraw Hill Publication

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Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
10%	20%	60%	0%	0%	10%

Instructional Method:

- The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

- <http://www.c-sharpcorner.com>
- <http://www.csharp-help.com/index.html>
- <http://www.codeproject.com>
- <http://telerikacademy.com>
- <https://msdn.microsoft.com>

Tutorial List:

- 1) Write a C# console program to know whether a number is even or odd.
 - 2) Write a C# console program that implements basic calculation functions (Addition, Subtraction, Multiplication, Division) using switch case.
 - 3) Write a C# console program to implement following pattern
- *

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- 4) Create a console application based on the assigned definition to implement basic OOP concepts like abstract class, inheritance, interface ,constructors ,properties ,method overloading and method overriding.
- 5) Create a console application to implement advance concept like Reflection,Delegates, Attributes, Indexer.
- 6) Create a console application to demonstrate multithreaded application.
- 7) Create a console application that implements all Collection classes.
- 8) Create a console application that reads a content from user and store it in file using FILEIO.
- 9) Create a console application that list all the files in given folder which are having read only permission.
- 10) Create a windows application to implement fully functional notepad.
- 11) Create a windows application that implements MDI form and dialog boxes.
- 12) Implement the tutorial4 definition in windows form using ADO.net, Grid view control, and Crystal report
- 13) Create a WPF project to implement multiform desktop application.
- 14) Create a WPF project to implement a Calculator

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Objective: Objective of this course that provides students basic knowledge and skills in the fundamental theory and practical of Cyber Security.

Credits Earned: 05 Credits

Course Outcomes

- Understanding the basic technical, social and law suits aspect of Cyber Security (Remember)
- Integrate the ethical hacking process and scripting. (Create)
- The students can use basic security tools to enhance cyber security. (Analyse)
- Understand the security management methods and auditing. (Evaluation)
- Apply the security principles to system design. (Apply)

Pre-requisite of course: NA.

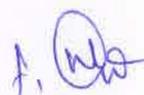
Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

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Contents:

Unit	Topics	Contact Hours
1	Introduction: Introduction to Cyber Security, Importance and challenges in Cyber Security, Cyberspace, Cyber threats, Cyberwarfare, CIA Triad, Cyber Terrorism, Cyber Security of Critical Infrastructure, Cybersecurity - Organizational Implications.	11
2	Hackers and Cyber Crimes: Types of Hackers, Hackers and Crackers, Cyber-Attacks and Vulnerabilities, Malware threats, Sniffing, Gaining Access, Escalating Privileges, Executing Applications, Hiding Files, Covering Tracks, Worms, Trojans, Viruses, Backdoors.	11
3	Ethical Hacking and Social Engineering: Ethical Hacking Concepts and Scopes, Threats and Attack Vectors, Information Assurance, Threat Modelling, Enterprise Information Security Architecture, Vulnerability Assessment and Penetration Testing, Types of Social Engineering, Insider Attack, Preventing Insider Threats, Social Engineering Targets and Defence Strategies.	12
4	Cyber Forensics and Auditing: Introduction to Cyber Forensics, Computer Equipment and associated storage media, Role of forensics Investigator, Forensics Investigation Process, Collecting Network based Evidence, Writing Computer Forensics Reports, Auditing, Plan an audit against a set of audit criteria, Information Security Management System Management. Introduction to ISO 27001:2013.	11
5	Cyber Ethics and Laws:	11





	Introduction to Cyber Laws, E-Commerce and E-Governance, Certifying Authority and Controller, Offences under IT Act, Computer Offences and its penalty under IT Act 2000, Intellectual Property Rights in Cyberspace.	
	Total Hours	56

References:

1. Donaldson, S., Siegel, S., Williams, C.K., Aslam, A., Enterprise Cybersecurity -How to Build a Successful Cyberdefense Program Against Advanced Threats, A-press
2. Nina Godbole, SumitBelapure, Cyber Security, Willey
3. Hacking the Hacker, Roger Grimes, Wiley
4. Cyber Law By Bare Act, Govt Of india, It Act 2000.

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation				
Remember	Apply	Analyse	Evaluate	Create
20%	25%	20%	15%	20%

Suggested List of Experiments:

1. Install VM Workstation in Ubuntu and set up windows and kali.
2. Set up nginx and provide password credentials with Secure Socket Layer.
3. Write a program to sniff packet sent over the local network.
4. To perform DNS Pharming attack using any method on computers in a LAN Environment.
5. Implement system hacking using tools.
6. Create virus with python script and implement attack and analyse the effect of various viruses.
7. Sniffing Website Credentials using Social Engineering Toolkit.
8. Study and Audit Marwadi University IT Infrastructure.

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Subject Code: 01CE0606
Subject Name: Design Engineering and Project Management
B.Tech. Year - III

Objective: The main objective of this course is to put on the engineering problem solving procedure to solve basic engineering design and analysis problems. using various techniques. This course is also designed with aim to demonstrate planning, execution and testing of various Projects.

Credits Earned: 1 Credit

Course Outcomes: After completion of this course, student will be able to

1. Understand the importance of Design Engineering.
2. Identify various Design Engineering approaches.
3. Apply various methodologies to design the product and in testing the product.
4. Understand various Project Management Processes.
5. Demonstrate effective project execution and control techniques that result in successful projects.

Pre-requisite of course: Not Required.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
0	0	2	1	0	0	0	25	25	50

Contents:

Units	Topics	Contact Hours
Module-1 Design Engineering Introduction	Design and its objectives, Design Constraints, Design functions, Role of Science Engineering and Technology in design Engineering as Business Proposition: How to Initiate Creative design? Initiating the thinking process for	6

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	designing a product of daily use. Need Identification, problem Statement, Market survey-customer requirement, Design Attributes and objectives: Ideation: Brainstorming approach arriving at solution, closing on to Design Need.	
Module-2 Design Engineering Methodology	System level Design, Detailed Design, Design for performance, safety and reliability, (2) Design for Ergonomics and Aesthetics, (3) Design for Manufacturing & Assembly (DFMA), (4) Design for cost & Environment, (5) Modelling and Analysis of their design (6) Prototyping (7) Engineering Economics of Design, (8) Design for Use, Reuse and Sustainability and (9) Test the prototype. And additionally, students will also learn topic like (10) Ethics in Design.	6
Module-3 Project Management	PM Foundations, Project management processes, Project execution, Project closing, Global issues in PM, Product-based planning, PM documents	14
Total Hours		28

Note: Mentors are advised to take suitable project/activity to explore the above topics and make students understand the various concepts.

References:

1. Designing for Growth: a design thinking tool kit for managers, Jeanne Liedtka and Tim Ogilvie, Columbia Business School Publishing
2. Eva Dijksterhuis, Gilbert Silvius, "The Design thinking approach to projects", PM World Journal Vol. V, Issue VI, June 2016, pp. 1-15
3. Guide to the Project Management Body of Knowledge (PMBOK® Guide), Fifth Edition, Project Management Institute, Inc.

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4. Wysocki, Robert K. (2014a). Effective Project Management: Traditional, Agile, Extreme, 7th Edition, John Wiley & Sons, Inc.
5. Wysocki, Robert K. (2014b). Effective Complex Project Management: An Adaptive Agile Framework for Delivering Business Value, J. Ross Publishing.

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done based on continuous evaluation of students in the laboratory and classroom.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources

1. <http://nptel.ac.in/syllabus/107106009/>

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Subject Code: 01CR0601

Subject Name: Business Benchmark

B.Tech. Year - III

Objective: This an upper-intermediate qualification that shows students have a level of English that is adequate for practical everyday use in a business environment.

Credits Earned: 1 Credit

Course Outcomes: This an upper-intermediate level qualification, after successful completion of this course students will be able to:

- **Interpret** and contribute to discussions in business meetings. (Understand)
- **Infer** extracts from business publications and **summarize** the information required. (Analyse)
- **Prepare** a presentation using creative thinking tools on relevant topic. (Create)
- Independently **compose** written short pieces of business correspondence reports or proposals. (Create)

Pre-requisite of course: NA.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
1	0	0	1	00	00	00	50	50	100

Contents:

Unit	Topics	Contact Hours
1	The working day Changing places, job swapping at work. Discussion on how to describe jobs. Understanding job titles names of company department.	1

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2	Getting the right job Reading through job satisfaction at Sony Mobile and advice on job applications for how to make web entries and writing a short email. Discussion on format of emails and letters. Language work on past simple regular and irregular verbs. Using comparatives and superlatives	2
3	Making Contact A quiz on telephone with phone answering tips. Short talk on what is important when making a business telephone call. Language work on present passive and modal verbs for obligation. Present simple and continuous: time expressions and state verbs, asking questions, expressing likes and introducing reasons.	1
4	Launching a product Reading through a Drink Me Chai success story. How to launch and promote new products. How to write a marketing report. Language work on Present Continuous for future, will and am going to forms and the differences between them.	2
5	Starting a business Setting up an international franchise. Writing the letter of enquiry. Language work on perfect tense and simple past tense & Past continuous and using prepositions in time phrase.	2
6	Making arrangements and transport How to make travel arrangements. Writing a letter responding to an invitation. Discussion on what factors are important while on a business trip.	1
7	Business Meetings Study on survey of meetings. Writing an email about giving instructions and business trip. Discussion on how meeting should be conducted. Language work on using collocations describing reasons for meetings and referencing. Using modals to showcase responsibility and ability.	1
8	Social media and business Ways of using social media. Writing an email arranging a meeting and introducing a company. Discussion on how to use social media. Making recommendations and using passive to express opinions and ideas.	1
9	Job applications Writing your CV. Writing a letter inviting a candidate for interview and letter giving the result of an application. Headings for CVs and describing application procedure.	2
10	Communication with customers How to train for customer communication skills. Discussion on the best methods for communicating different things. Expressing result. Adjective &	1



	Noun collocations.	
	Total Hours	14

References:

- a) Cambridge English-Business Benchmark upper intermediate

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
20%	20%	20%	10%	10%	20%

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Subject Code: 01IT0503
Subject Name: Advanced Computer Network
B.Tech. Year - III

Objective: Introduction of primary networking concepts and technologies is prime objective of this course. This course specifically make student able to develop the skills required to plan and implement small networks across a variety of networking applications.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, student will be able to

- Describe concepts of scaling networks and wireless LAN (Analyze)
- Implement OSPF operations, configuration and troubleshoot (Apply)
- Implement EIGRP operations, configuration and troubleshoot (Apply)
- Implement PPP operations, configuration and troubleshoot (Apply)
- Design ACL for IPv4 and IPv6 with advance configuration (Create)

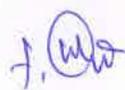
Pre-requisite of course: Basics of Computer Networks.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Introduction to Scaling Networks Introduction to Scaling Networks, Implementing a network design, selecting network devices, LAN redundancy, spanning tree concepts, variety of spanning tree protocols, spanning tree configuration, first hop redundancy protocol (FHRP), Link aggregation concepts and configuration	6
2	Wireless LAN Wireless concepts, Wireless LAN operations, Wireless LAN security, Wireless LAN configurations	6





3	OSPF Advanced Single-Area OSPF concepts and configuration, Advanced Single-Area OSPF implementation and troubleshooting, Multiarea OSPF operations, Multiarea OSPF configuration	6
4	EIGRP Characteristics of EIGRP, EIGRP configuration for IPv4, EIGRP operations, EIGRP configuration for IPv6, Advanced EIGRP configurations, EIGRP troubleshooting	8
5	Connecting Networks WAN concepts, Overview and selection of WAN technologies, Concepts of point-to-point connections, Serial Point-to-Point Overview, PPP Operation and Implementation, PPP troubleshooting	6
6	Branch Connections Remote Access Connections, PPPoE, VPNs, GRE, eBGP	5
7	ACL Standard ACL Operation and Configuration, Extended IPv4 ACLs, IPv6 ACLs, Troubleshoot ACLs	5
8	Network Security and Monitoring LAN Security, SNMP, Switch Port Analyzer (SPAN), QoS Overview, QoS Mechanisms	7
9	Network Evolution Internet of Things, Cloud and Virtualization, Network Programming	7
	Total Hours	56

References:

1. CCENT/CCNA ICND1 100-105 Official Cert Guide, 1st Edition by Wendell Odom, Cisco publication
2. CCNA Routing and Switching ICND2 200-105 Official Cert Guide 1st Edition by Wendell Odom, Cisco publication
3. CCENT ICND1 Study Guide: Exam 100-105 3rd Edition by Todd Lammle, Cisco publication

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

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Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
5%	10%	30%	25%	15%	15%

Suggested List of Experiments:

1. Configuring VLANs Instructions and Configuration of Trunks.
2. Configuring VLANs, VTP (VLAN Trunking Protocol) and DTP (Dynamic Trunking Protocol) in network topology.
3. Configuring STP (Spanning Tree Protocol) in network topology.
4. Configuring PVST+ (Per VLAN Spanning Tree) in network topology.
5. Configuring EtherChannel in network topology.
6. Configuring Basic EIGRP with IPv4.
7. Configuring OSPFv2 in a Single Area.
8. Configuring PAP and CHAP Authentication.

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. <http://www.ciscopress.com/store/scaling-networks-companion-guide-9781587133282>
2. <https://www.netacad.com/courses/ccna/>
3. <https://learningnetwork.cisco.com/community/connections>
4. https://www.cisco.com/c/en/us/td/docs/net_mgmt/cisco_network_assistant/version5_0/quick/guide/English/gsg_en/install.html

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Subject Code: 01IT0601

Subject Name: Software Engineering

B.Tech. Year - III

Objective: To understand and apply various software project management techniques based on Software Engineering guidelines and Principles.

Credits Earned: 4 Credits

Course Outcomes: After completion of this course, student will be able to

- Understand various software engineering principles and their application (Understand)
- Demonstrate use of various Agile methodologies for software development (Apply)
- Apply various modelling techniques for designing system requirement (Apply)
- Identify different types of risk and evaluate its impact on software system (Evaluate)
- Distinguish different testing strategies and Create test cases. (Create)

Prerequisite: Object Oriented Programming fundamental.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
3	0	2	4	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours

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1	Introduction: Software engineering, Dual role of software, Software Crisis history ,Various Myths Associated with Software, Different Software Process Models, The Linear Sequential Model, The Prototyping Model, The RAD Model, Evolutionary Process Models, Component-Based Development, Process, Product and Process.	4
2	Agile Development: SDLC: Agile Method, Manifesto, Various Agile Modeling Techniques, Scrum, Scrum Reference Card, LSS (Large Scale Scrum), XP, ASD, Crystal.	4
3	Project Management Concepts, Requirement Engineering & Metrics: The Management Spectrum, 4P's (The People, The Project, The Product), The W5HH Principle. Basic concept of Requirement (Functional & Non Functional), Requirement Modeling and Analysis. Software Process and Project Metrics, Measures, Metrics, and Indicators, Metrics in the Process and Project Domains, Software Measurement, Metrics for Software Quality.	5
4	Project Planning Scheduling & Tracking: Software Scope, Feasibility Analysis, Empirical Estimation Models, Defining a Task Set for the Software Project, Defining a Task Network, Scheduling	3
5	Risk Analysis And Management: Reactive versus Proactive Risk Strategies, Risk Management Process, Risk Identification, Risk Projection, Risk Refinement, RMMM Plans, Safety Risks and Hazards.	4
6	Software Quality & Configuration Management: Quality Concepts and Software Quality Assurance, Quality principles and Attributes, Quality Audits. Software Reviews, Formal Technical Reviews, The SQA Plan, Software Reliability, The Quality Standards: ISO 9000, CMM, Six Sigma for SE, Software Versioning and Change Control.	5
7	Software Analysis and Design Modeling: The Elements of the Analysis Model, Data Modeling, Functional Modeling and Information Flow, Behavioral Modeling, Software Design and Software Engineering, The Golden Rules, Design Principles and Design Concepts (Abstraction, Refinement, Modularity, Software Architecture, Control Hierarchy, Structural Partitioning, Data Structure, Software Procedure ,Information Hiding), Effective Modular Design (Functional Independence, Cohesion, Coupling), Design Documentation.	8
8	Software Coding & Testing: Coding standards & Coding Guidelines, Code Review, Abstraction, Refinement, Modularity, Software Architecture, Control Hierarchy, Software Testing Techniques, Software Testing	5

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	Fundamentals, White Box Testing Techniques in detail, Black Box Testing Techniques in detail.	
9	Advance Topics: Clean Room Software Engineering, Web Engineering, Re-Engineering, Computer Aided Software Engineering, Software as a Service, SaaS Architecture, Emergency Trends in Software Engineering, Client/Server Software Engineering.	4
	Total Hours	42

Reference Books:

1. Roger S. Pressman, Software engineering- A practitioner's Approach, McGraw-Hill International Editions
2. Ian Sommerville, Software engineering, Pearson education Asia
3. Pankaj Jalote, Software Engineering – A Precise Approach Wiley
4. Software Engineering Fundamentals by Ali Behhforoz & Frederick Hudson OXFORD
5. Rajib Mall, Fundamentals of software Engineering, Prentice Hall of India.
6. Engineering Software as a Service and Agile Software Approach, Armando Fox and David Patterson
7. John M Nicolas, Project Management for Business, Engineering and Technology, Elsevier.
8. Nageswara Rao Pusuluri, Software Testing Concepts and Tools, DreamTech
9. Sanjay Mohapatra, Software Project Management, Cengage Learning

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process.

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
10%	20%	10%	30%	20%	10%

A. No



Suggested List of Experiments:

1. Introduction to GIT and account creation on GIT.
2. Introduction to Team Foundation server tool.
3. Study of Various Testing Tool:

Win Runner 8.0: Checkpoints in Winrunner, Data Driven and Batch Testing.

Load Runner 8.0: VuserScript Creation, Execution and Result using Load Runner.

Test Director 8.0: Site Administrator, Understanding Test Director.

4. Prepare SRS document for considering any specific Social Project in detail

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in may be using following teaching approaches : black board, or use of any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Practical examination/Viva will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. <http://nptel.ac.in/courses/106101061/>
2. <https://www.joelonsoftware.com/>
3. <http://www.codesimplicity.com/>
4. <http://www.sparxsystems.com/products/ea/index.html>
5. URL:<http://www.smartdraw.com>
6. URL:<http://viu.eng.rpi.edu>
7. www.en.wikipedia.org/wiki/Software_engineering
8. www.win.tue.nl
9. www.rspa.com/spi
10. www.onesmartclick.com/engineering/software-engineering.html
11. www.sei.cmu.edu
12. <https://www.edx.org/school/uc-berkeleyx>

f. (u)la

Objective: The increasing use of Internet and WWW encourages everyone to use web-based solutions for their requirements. Web technology refers to the methods by which End-user devices like computers/mobiles communicate with each other. This communication involves the use of web publishing languages like HTML, CSS, JavaScript and PHP. This subject will attempt to give you a basic understanding of various aspects of web technologies.

Credits Earned: 4 Credits

Course Outcomes: End of this course will help to understand following aspects.

- To understand and compare the fundamentals of Web hosting and domain name services. (Analysis)
- To understand various non-browser specific web design principles. (Knowledge)
- To understand the need and be able to develop HTML/XHTML and CSS pages with valid structure as well as content. (Synthesis)
- To understand and be able to develop JavaScript/jQuery code to access the DOM structure of web document and object properties. (Synthesis)
- To develop dynamic web pages with usage of server-side scripting PHP and MySQL. (Synthesis)

Pre-requisite of course: Programming Fundamentals

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
3	0	2	4	50	30	20	25	25	150

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Contents:

Unit	Topics	Contact Hours
1	Introduction and Web Design: Introduction to Internet, WWW and Web 2.0, Web protocols and Web servers, Web Design Principles and Web site structure	4
2	HTML and CSS: Basics of HTML, HTML Tags and attributes, Meta tags, Character entities, hyperlink, lists, tables, images, forms, divs, XHTML Basics of CSS, CSS properties for manipulating texts, background, colors, Gradients, Shadow Effects, borders, margins, paddings, transformations, transitions and animations, etc., CSS box modal and CSS Flex, Positioning systems of CSS, CSS media queries.	10
3	JavaScript and jQuery: Basics of JavaScript and Client-side scripting language, JavaScript syntaxes for variables, functions, branches and repetitions. JavaScript alert, prompt and confirm. Objects in JavaScript, Access/Manipulate web browser elements using DOM Structure, forms and validations, JavaScript events, Basics of jQuery, jQuery syntaxes, jQuery selectors, events, effects, Access/Manipulate web browser elements using jQuery	13
4	PHP and MySQL: Introduction to PHP and its syntax, combining PHP and HTML, understanding PHP code blocks like Arrays, Strings, Functions, looping and branching, file handling, processing forms on server side, cookies and sessions. Introduction to PHP MyAdmin, connection to MySQL server from PHP, execution of MySQL queries from PHP, receiving data from database server and processing it on webserver using PHP.	17
	Total Hours	44

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References:

1. Black Book, HTML 5, Dreamtech Press
2. Black Book, Web Technologies, Dreamtech Press
3. Ralph Moseley and M. T. Savaliya, Developing Web Applications, Wiley-India
4. Cody Lindley, jQuery Cookbook, O'Reilly Media
5. Ryan Benedetti, Ronan Cranley, Head First jQuery - A Brain-Friendly Guide, O'Reilly Media

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process.

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
10%	10%	30%	10%	10%	30%

List of Experiments:

Practical List should be designed in such a way that it covers entire syllabus and results in a semester mini project.

Suggested Practical List:

1. Design Wireframes for your semester project based on Web Design Principles (Tools like, www.cacoo.com www.gliffy.com)
2. Formatting web pages with CSS (Inline CSS, Document level CSS and External CSS) [Create semester project website's home page]
3. Formatting web pages with CSS [Create semester project website's inner pages]
4. Browser interaction and form validations (Web browser environments, forms and validations, image sliders) [Image slider plugins of jQuery, Client-side validation of Registration & Login page to be created in semester project website]
5. Introduction to PHP (Starting to script on server side, Arrays, function, validations) [Server-side validations for Registration and Login page of semester project website]
6. Advanced PHP (Management of sessions and cookies) [Implement Admin login/logout functionality and cookie wherever required]
7. PHP with MySQL connectivity (Forms, Advance PHP and database handling) [Semester Project]

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Instructional Method:

- a) The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, also need to use ICT tools and facilities.
- b) The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c) Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.

Supplementary Resources:

Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory.

- a) <http://nptel.ac.in>
- b) <http://www.w3schools.com/>
- c) <http://getbootstrap.com/>

A. (Ula)

Subject Code: 01CE0701
Subject Name: Mobile Computing
B.Tech. Year - IV

Objective: Students taking this course will develop an understanding of the ways that mobile technologies can be used for teaching and learning. They will also consider the impact of mobile computing on the field of education.

Credits Earned: 4 Credits

Course Outcomes: After completion of this course, student will be able

- To understand concepts of Mobile Communication. (Understand)
- To analyse next generation Mobile Communication System. (Analyze)
- To understand network and transport layers of Mobile Communication. (Understand)
- Analyze various protocols of all layers for mobile and ad hoc wireless communication networks. (Analyze)
- To understand IP and TCP layers of Mobile Communication. (Understand)

Pre-requisite of course: Fundamental of Networking.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
3	0	2	4	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Detailed Introduction of Mobile Computing: History, Types, Benefits, Application, Evolution, Security Concern regarding Mobile Computing, Different Propagation Modes, Wireless Architecture and its types, needs of mobile user,	04

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2	The cellular concept: Cellular system, Hexagonal geometry cell and concept of frequency reuse, Channel Assignment Strategies Distance to frequency reuse ratio	04
3	Telecommunication System: GSM: - Channel allocation ,call routing Architecture, PLMN interface, addresses and identifiers, network aspects, frequency allocation, authentication and security, Handoffs Technique. GPRS: network operation, data services, Applications, Billing and charging	10
4	Mobile IP: Need of mobile IP, IP packet delivery, Agent Discovery, Registration, Tunnelling and encapsulation, Route optimization, IP Handoff	06
5	Mobile Transport Layer: Overview of Traditional TCP and implications of mobility control. Improvement of TCP: Indirect TCP, Snoop TCP, Mobile TCP, Fast Retransmit/fast recovery, Time-out freezing, Selective retransmission, Transaction-oriented TCP.	06
6.	Wireless Application Protocol: Introduction of WAP, WAP applications, WAP Architecture, WAP Protocol Stack, Challenges in WAP	04
7	Mobile Ad Hoc wireless networks: Introduction, Benefits, Difference, Routing protocols for ad hoc wireless networks: DSDV and AODV	04
8	Introduction to 4G: Introduction, features and challenges, Applications of 4G, 4G network architecture	04
Total Hours		42

References:

1. Mobile Computing Technology, Applications and service creation ,Asoke K Telukder, Roopa R Yavagal by TMH.
2. Mobile Computing, Raj Kamal by Oxford
3. Wireless Communications & Networks, Second Edition, William Stallings by Pearson
4. Mobile Computing Theory and Practice-Kumkum Garg-Pearson
5. TCP/IP Protocol Suite by Behrouz A Forouzan, Third Edition, TMH

f. (N/A)



Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
20%	20%	20%	15%	10%	15%

Suggested List of Experiments:

1. Cisco Certification on Mobility Fundamentals.
2. Cisco Certification on Intro to Packet Tracer Mobile.
3. Cisco Certification on Get Connected.
4. Cisco Certification on NDG Linux Unhatched

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. <http://www.wirelessdevnet.com/>
2. <http://www.protocols.com/>
3. <https://developer.apple.com/>
4. <https://www.udemy.com>
5. <http://nptel.ac.in>

A. W. S.

Subject Code: 01CE0702
Subject Name: Artificial Intelligence
B.Tech. Year - IV
Objective:

With the approach of the World Wide Web expanding, the field of AI and its strategies are being utilized in numerous territories which influence human life specifically. Different practices for encoding data in PC frameworks, for example, Predicate Logic, Production rules, Semantic systems discover use in true issues. The fields of AI, for example, Game Playing, Natural Language Processing, and Connectionist Models are likewise basic. Graduates should realize some programming language just as the nuts and bolts for AI and its procedures.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, students will be able to

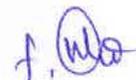
- Assess critically the techniques presented and to apply them to real world problems(Analyze)
- Mindful of the significant difficulties confronting AI and the multifaceted nature of run of the mill issues inside the field(remember)
- Comprehend the significant zones and difficulties of AI(Understanding)
- Apply fundamental AI calculations to take care of issues(Apply)
- Get a learning of utilizations in various zones of registering including the web and human communication(Evaluate)

Pre-requisite of course:

- Knowledge of Programming Techniques
- Data structures, such as balanced binary trees
- Mathematics

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150





Contents

Unit	Topics	Contact Hours
1	Introduction What is Artificial Intelligence , Artificial Intelligence Problems, AI Techniques, The Level Of The Model, Criteria For Success	2
2	Heuristic search State spaces and search, Problem Decomposition-Goal trees and rule based system, Problem characteristics, Generate and Test, Heuristic Search Methods - Hill climbing ,Local Maxima , Beam search, peak to peak methods , variable neighborhood Methods.	8
3	Finding Optimal Path Brute Force, Branch and Bound, Best First Search- OR Graphs, Algorithm A*, Admissibility of A*, Iterative Deepening A*, Algorithm AO*, Pruning the CLOSED List, Pruning the OPEN List, Divide and conquer Beam stack search.	6
4	Structured Knowledge representation The Schema, Frames, Inheritance in taxonomies, Conceptual Graphs, Using Predicate logic- representing facts in logic, functions and predicates, Agents , Facets of knowledge, Resolution in propositional logic and predicate logic, Question Answering, forward and backward ,conceptual Graphs, chaining Unification.	5
5	Game Playing Board Games, Game playing Algorithm, Mini Max , Alpha-Beta Cut-off and pruning, Refinements, other Gaming , Iterative deepening, The Blocks World.	7
6	Machine Learning: Computational learning tasks for predictions, learning as function approximation, generalization concept, Introduction to applications and advanced models, Linear models and Nearest- Neighbors - learning algorithms and properties, regularization, model validation, Neural Networks (MLP and deep models, SOM).	6
7	Statistical Reasoning Probabilistic graphical models, Principles of learning processes: elements of statistical learning theory, Probability And Bays' Theorem, Certainty Factors And Rule-Base Systems, Fuzzy Logic. Weak Slot-and-Filler, Strong Slot-and-Filler Structures, Semantic Nets, Frames, Conceptual Dependency, Scripts, CYC	8

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8	Introduction to Prologs Introduction To Prolog: Syntax and Numeric Function, Basic List Manipulation Functions In Prolog, Functions, Predicates and Conditional, Input, Output and Local Variables, Iteration and Recursion, Property Lists and Arrays, Miscellaneous Topics, LISP and Other AI Programming Languages	10
Total Hours		52

References:

1. "Artificial Intelligence" -By Elaine Rich And Kevin Knight (2nd Edition) Tata Mcgraw-Hill
2. Artificial Intelligence: A Modern Approach, Stuart Russel, Peter Norvig, PHI Introduction to Prolog Programming By Carl Townsend.
3. "PROLOG Programming For Artificial Intelligence" -By Ivan Bratko(Addison-Wesley)
4. "Programming with PROLOG" -By Klocksinn and Mellish.
5. Allen B. Downey - (Think Python) Python for software design- How to think like a computer scientist, Cambridge University press, 2009 .

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
30%	30%	10%	20%	10%	0%

Suggested List of Experiments:

- 1) Write a program to implement Tic-Tac-Toe game problem
- 2) Write a program to implement BFS (for 8 puzzle problem or Water Jug problem or any AI search problem)
- 3) Write a program to implement DFS (for 8 puzzle problem or Water Jug problem or any AI search problem)
- 4) Write a program to implement Single Player Game (Using Heuristic Function)
- 5) Write a program to Implement A* Algorithm
- 6) Write a program to Implement AO* Algorithm

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Computer Engineering

- 7) Write a program to solve N-Queens problem using Prolog.
- 8) Write a program for the following task:
Create a suitable database and then find the following
 - Students who are living in Rajkot
 - Age Greater Than 15
 - Students who has more than 60%
- 9) Write a program to solve 8 puzzle problem using Prolog.
- 10) Write a program to check whether given value is character or digit
- 11) Write a program to generate random number with respect to entered digit.
- 12) Write a program to implement login system.
- 13) Write a program to implement login system recursively
- 14) Write a program to solve travelling salesman problem using Prolog.
- 15) Write a program to display the element of give list.
- 16) Write a program for the family tree
- 17) Write a program to check given element is in the list or not.
- 18) Convert following Prolog predicates into Semantic Net
cat(tom).
cat(cat1).
mat(mat1).
sat_on (cat1,mat1).
bird (bird1).
caught (tom,bird1).
like (X,cream) :- cat(X).
mammal(X) :- cat (X).
has(X,fur) :- mammal(X).
animal (X) :- mammal(X).
animal(X) :- bird (X).
owns (john,tom).
is_coloured (tom,ginger).
- 19) Write a program to print the last element of the list
- 20) Write a program to print the sum of the elements of the given list
- 21) Write the Conceptual Dependency for following statements.
 - (a) John gives Mary a book
 - (b) John gave Mary the book yesterday
- 22) Write a programme for File.
- 23) Monkey Banana problem.

Instructional Method:

- The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.

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- Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. <http://www.nptel.iitm.ac.in/video.php?subjectId=106105077>
2. Website for search strategy implementation in python
<http://code.google.com/p/aima-python/>
3. <http://www.journals.elsevier.com/artificial-intelligence/>
4. <https://www.technologyreview.com/s/534871/our-fear-of-artificial-intelligence/>
5. <http://www.sanfoundry.com/artificial-intelligence-mcqs-inductive-logic-unification-lifting-1/>

A, (M)

Subject Code: 01CE0703

Subject Name: iOS Programming

B.Tech. Year - IV

Objective: Apple Inc. has developed an operating system to power its iPhone, iPad, and iPod Touch which is called iPhone OS (iOS). It is one of the most popular mobile OS. iOS is being maintained by Apple Inc. and versions of iOS are released annually and made available for all iOS devices.

iOS Programming makes use of Swift programming language and XCode IDE. Swift is a programming language developed by Apple for macOS, iOS, watchOS and tvOS. XCode is the IDE used to design and develop applications for the apple devices.

Credits Earned: 5 Credits

Course Outcomes: End of this course will help to understand following aspects.

- To be able to design iOS application. (Apply)
- To be able to develop an application using Swift Programming language (Create)
- To be able to develop multi-screen application using XCode (Create)
- To understand the need and be able to use Different UI Controllers. (Understand)
- To be able to debug an application using XCode debugger. (Analyse)

Pre-requisite of course: Basics of programming language, Concepts of OOP and Database

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

A. N. D.



Contents:

Unit	Topics	Contact Hours
1	Fundamentals: Overview of iOS and X-CODE: Installation, Create and manage project using XCode, Introduction to iPhone Architecture, Introduction to SWIFT, Developer Technology Overview: The Apple Developer Tool, Swift, Cocoa Touch, Model-View-Controller, Interface Builder, Overview of latest iOS features.	8
2	Swift Basics: Object oriented programming with swift, File structure in Swift, Swift Programming Basics: Data types, Constants, Variables, Operators, Decision making and Branching, Arrays, Functions, Enumerations. Introduction to iOS Playground.	10
3	iPhone Application Development: Exploring the iOS Framework with XCode, Cocoa Fundamentals, Tracking the iOS Application Life cycle, Understanding Interface Builder, Creating User Interface, Customizing the Interface Appearance using Layout, Views, Outlets and Actions, View Controllers and UI Controllers like Labels, Buttons, Sliders, Different Views, Gestures, etc. Connecting the code with Accelerometer, Location service, 3D touch, Push notifications Understand the MVC Design pattern, MVC in XCode, Using Application Templates, User Input and Output: Handling Keyboard Input, Implementing Alert, Sounds and Vibrations, Using XCode debugger.	20
4	Database Management and Web Services: Parsing JSON data, Parsing XML data, SQLite databases, Web Service APIs calls.	12
5	Submit App to Apple Store: Create Apple developer account, Submit App to Apple Store.	3
	Total Hours	53

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References:

1. iOS 10 Programming Fundamentals with Swift by Matt Neuburg - O'Reilly Media Pub
2. Building iPhone and iPad Electronic Projects - Mike Westerfield - O'Reilly Media Pub.
3. Head First iPhone and iPad Development, 2nd Edition - Dan Pilone, Tracey Pilone - O'Reilly Media
4. Beginning iPhone and iPad Web Apps - Chris Apers, Daniel Paterson - Apress Pub

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching learning process.

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
15%	23%	15%	15%	13%	19%

List of Experiments:

Practical List should be designed in such a way that it covers entire syllabus and results in a semester mini project.

Suggested Practical List:

1. Installation of x-code on MAC.
2. Write a swift program to check the palindrome string.
3. Write a swift program for basic calculator.
4. Create an application to demonstrate different UI controllers.
5. Create an application which can play audio and video files.
6. Develop an application in which user can insert, update and delete the record in database.
7. Develop an application for signing-up user with details like: Username, Password, Gender, Birth-date, Country, Image etc. fields.
8. Develop an application to fetch user data using API service and display on the screen.

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Instructional Method:

- a) The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, also need to use ICT tools and facilities.
- b) The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c) Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.

Supplementary Resources:

Students can use supplementary resources such as online videos, e-courses, etc.

- a) <https://developer.apple.com>
- b) <https://developer.apple.com/xcode/>
- c) <http://www.tutorialspoint.com/swift/>

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Subject Code: 01CE0704
Subject Name: Android Programming
B.Tech. Year - VII

Objective: This course facilitates classroom and laboratory learning, letting students develop competence and confidence in android programming and understand the entire Android Apps Development Cycle, as well as it would also enable the students to independently create Android Applications

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, student will be able to

- Demonstrate the Understanding of fundamental of Android Programming. (Understand)
- Build their ability to develop software with reasonable complexity on mobile platform. (Apply)
- Discover the life cycles of Activities, Applications, intents and fragments. (Evaluate)
- Design the Android apps by using Java Concepts. (Create)

Pre-requisite of course: Java or object-oriented programming experience.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Basic of Android Programming: Introduction to Android OS, Setting up the Android Application Development Environment, Creating, Testing and Debugging Applications, Android Stack, Android applications structure, Activity life cycle, Understanding implicit and explicit intents.	8

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2	User Interface in Android: Adaptive and responsive user interfaces, User Input Controls, Menus, Screen Navigation, RecyclerView, Drawables, Themes and Styles, Fragments Fragment Life Cycle, Introduction to Material Design, Testing the user interface.	12
3	Background tasks: AsyncTask, AsyncTaskLoader, Connecting App to Internet, Broadcast receivers, Services, Notifications, Alarm managers.	8
4	Sensor, Location and Maps: Sensor Basic, Motion and Position Sensors, Location services, Google maps API, Google Places API	8
5	Working with data in Android: Shared Preferences, App Setting, SQLite primer, Store data using SQLite database, Content Providers, Content Resolver, Loader	8
6	Performance Improvement of App: Performance Parameters, Profiling Tools, Rendering and Layout, Garbage Collection and Memory Leaks, Best Practices.	7
7	Publishing Your App: Preparing for publishing, Signing and preparing the graphics, Publishing to the Android Market	5
Total Hours		56

References:

1. Android: A Programming Guide by J.F. DiMarzio
2. Hello, Android: Introducing Google's Mobile Development Platform by Ed Burnett
3. Programming android by Zigurd Mednieks
4. Android User Interface Design: Turning Ideas and Sketches into Beautifully Designed Apps by Ian G. Clifton
5. Android Developer Fundamental Course by Google.
6. Advance Android Developer Course by Google.

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

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Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
20%	20%	20%	15%	10%	15%

Suggested List of Experiments:

1. Install Android Studio with Specific Latest SDK in your System.
2. Develop an android app which displays "Hello World" message.
3. Develop an android app which displays a form to get following information from user. 1) Username 2) Password 3) Email Address 4) Phone Number 5) Country
Form should be followed by a Button with label "Submit". When user clicks the button, a message should be displayed to user describing the information entered.
Utilize suitable UI controls (i.e. widgets). [When user enters country in Auto Complete TextView, list of states should be displayed in Spinner automatically.
4. Create sample application that demonstrates activity life cycle's all methods.
5. Using Android, Create a login Activity. It asks "username" and "password" from user. If username and password are valid, it displays Welcome message using new activity
6. "Happy Birth Day" App using TextView and ImageView
7. Create "Hello Toast" App by implementing a click handler method for the button to display a message on the screen when the user clicks. Use Linear Layout for creating view.
8. Create the MP3 player like application with service
9. The Simple Calculator app has two edit texts and four buttons. When you enter two numbers and click a button, the app performs the calculation for that button and displays the result.
10. Devolpe one App. Which Contains Specific User Interface and design Interface.

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.

f. (M)



- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. <https://developer.android.com/index.html>
2. <https://www.udemy.com>
3. <http://nptel.ac.in/>
4. <https://www.tutorialspoint.com/android/index.htm>
5. <https://www.raywenderlich.com/category/android>
6. <https://in.udacity.com/course/new-android-fundamentals--ud851>

f. (W)

Subject Code: 01CE0705
Subject Name: Programming with Python
B.Tech. Year - IV

Objective: Python is next generation multi-purpose programming language, that allows different users to create applications of various domains. Students will be able to learn primary fundamentals of python programming and potential of python is to achieve modern computing requirements.

Credits Earned: 05
Course Outcomes: After completion of this course, student will be able to

- Apply various fundamentals for problem solving using python. (Application)
- Implement modular programming and differentiate mutability of various datatypes. (Analyze)
- Create object-oriented solution by applying various concept like polymorphism, inheritance and package with python programming. (Create)
- Implement multithreading and manage security in Linux operating system. (Create)

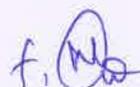
Pre-requisite of course: Object oriented concepts, Programming fundamentals

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Basics of Python: Python Installation and Working of it, get familiar with python variables and data types, Operator understanding and its usage, detail study of python blocks,	8





2	Structure Types and mutability: Hands on with conditional blocks using if, else and elif, Hands on examples and study of looping with range, list and dictionaries. hands on to organize python code with function, modular approach in python.	10
3	Exception, Testing and Debugging: Handling if exceptions to handle the code cracks, handling and helping file operations, coding with the exceptional handling and testing Anonymous method, Properties, Indexers, Exception Handling	10
4	Classes and OOP Concepts: Procedural and Object-Oriented Programming, Classes and working with instances, Method overloading, Polymorphism, importing internal module as well as external modules in the code Packages understanding and their usage, hands on with Lambda function in python coding with the use of functions, modules and external packages	14
5	Algorithm and Data Structure: Stack, Queue, Tree, ordered list, Introduction to Recursion, Divide and Conquer Strategy, Greedy Strategy, Graph Algorithms.	10
6	Advance Topics: Regular Expression, Multi thread Programming, Security	4
Total Hours		56

References:

1. Starting Out with Python (2009) Pearson , Tonny Gaddis
2. Beginning Pyhton Wrox Publication Peter Norton, Alex Samuel
3. Python Algorithms Apress, Magnus Liet Hetland,
4. Python Object Oriented Programming PACKT Press, Dusty Phillips
5. Python for Unix and Linux System Administration O'Relly, Noad Gift

A. (W)



Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
10%	10%	40%	15%	15%	10%

List of Experiments:

- 1) Implement a Python program to Calculate GCD of two numbers.
- 2) Implement a Python Program to Calculate the square root of a number by Newton's Method.
- 4) Implement a Python Program to find the largest number from a list of numbers.
- 5) Implement a Python Program to perform Search
 1. Implement a Python Program to perform Liner search
 2. Implement a Python Program to perform Binary search
- 6) Implement a Python Program to perform insertion sort.
- 7) Implement a Python Program to perform selection sort.
- 8) Implement a Python program to multiply matrices.
- 9) Implement a Python program to Calculate the most frequent words in a text from a file.
- 10) Implement function overloading with different function signatures.
- 11) Implement concept of class, instances and inheritance.
- 12) Implement internal and external library.
- 13) Solve algorithmic problems by program using different problem-solving strategies.
- 14) Search content using regular expression library in python.
- 15) Implement Matrix multiplication using multi-threading in python.
- 16) Perform Linux administration task using python.

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.

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- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. <http://www.w3schools.com>
2. <http://docs.python.org>
3. <http://www.tutorialspoint.com>
4. <http://www.learnpython.org>

f. (M)

Subject Code: 01CE0706
Subject Name: Advanced .NET Technologies
B.Tech. Year - IV

Objective: The objective is to study web development technology and tools provided by Microsoft .NET platform. Students are expected to learn how to design and develop web application along with database connectivity using Microsoft .NET Technology.

Credits Earned: 5 Credits

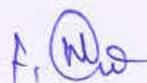
Course Outcomes: After completion of this course, student will be able to

- Understand web concepts and features of ASP.NET (Understand)
- Create applications with strong object oriented principles (Create)
- Implement web applications using various ASP.NET controls (Apply)
- Create enhanced backend/data layer quickly using LINQ (Create)
- Implement web applications using ASP.NET MVC (Apply)
- Develop cross platform mobile applications using Xamarin (Apply)
-

Pre-requisite of course: C#.NET, Object oriented concepts, .NET Technologies, Programming fundamentals

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150



Contents:

Unit	Topics	Contact Hours
1	.NET Framework, Web and ASP.NET: CLR, .NET Framework Class Library, Web Server, HTTP/HTTPS Protocol, ASP.NET Benefits, ASP.NET Page Layout, Life Cycle	4
2	ASP.NET Controls HTML Server Controls, Web Server Controls, Validation Controls	8
3	HttpRequest and HttpResponse State Management Master Page and Theme	6
4	Introduction To LINQ: Understanding Extension Methods. What is LINQ and How it works? ADO v/s LINQ Understanding and Implementing IEnumerable<T> Writing basic query in C# Project. Using LINQPad for LINQ queries. Working with Data - Using Entity Framework, Using Code First approach	8
5	Advance Operations Using LINQ: Operations in Detail - Order By, Order by descending, Select One, Select Many, Group By, Distinct, Except, Intersect. Join Operations LINQ and Databases - IQueryable<T>, LINQ to Entities.	7
6	Getting Started with ASP.NET MVC	8

A. (M)



	What is MVC Architecture? What is ASP.NET MVC? Learning Model, View, Controller. Advantages of MVC Web Apps. Configurations	
7	Web Apps With ASP.NET MVC Building Web Form using web form elements. Building Restful Services with ASP.NET Web API.	6
8	Mobile Apps With Xamrin.net Getting Started, Setting up Development Environment. Understanding Xamring.Android. Working with interactive layer (Activity, Intent, List View, Adapters, Toolbar, Android Navigation), Using Xamrin.Forms.	9
	Total Hours	56

References:

- Professional ASP.NET 4.5 in C# and VB, Wrox Publication, Jason N. Gaylord, Christian Wenz, Pranav Rastogi, Todd Miranda, Scott Hanselman, Scott Hunter
- Pro ASP.NET 4.5 in C#, Apress Publication, Freeman, Adam, MacDonald, Matthew, Szpuszta, Mario
- ASP.NET: The Complete Reference, McGraw-Hill, Matthew MacDonald
- Programming Microsoft® LINQ in Microsoft .NET Framework 4 - Marco Russo and Paolo Pialorsi
- Xamarin Mobile Application Development: Cross-Platform C# and Xamarin.Forms - by Dan Hermes
- Pro ASP.NET MVC 5 Platform - by Adam Freeman

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

A. Wla



Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
0%	10%	40%	10%	10%	30%

Instructional Method:

1. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
2. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
3. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
4. Students will use supplementary resources such as online videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. <https://www.asp.net/>
2. https://www.tutorialspoint.com/asp.net_mvc/
3. <http://www.codeproject.com>
4. <http://telerikacademy.com>
5. <https://msdn.microsoft.com>
6. <https://university.xamarin.com/>

Suggested Practical List:

1. Implement Login and Registration Form using various ASP.NET Server Controls
2. Implement validation in Registration Form using ASP.NET Validation controls.
3. Implement various State Management techniques in Login System
4. Implement an ASP.NET website using Master and Theme.
5. Create / Write LINQ Queries for following operations Using the sample db (e.g. Northwind db) LINQ: Operations – Order By, Order by descending, Select One, Select Many, Group By, Distinct, Except, Intersect.
6. Create / Write LINQ Queries for following operations Using the sample db (e.g. Northwind db) LINQ: Operations – all Join Operations

F. MS



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University

Syllabus for Bachelor of Technology

Computer Engineering

7. Create ASP.NET MVC App that does basic CRUD (create / read / update / delete operations)
8. Create XAMRIN App to use various XAMRIN controls to demonstrate Mobile app frontend interaction.

A. W.

Subject Code: 01CE0707

Subject Name: Data Mining & Information Retrieval

B.Tech. Year - IV

Objective: The course is designed for a section level investigation of data mining and information retrieval methods. It is about how to discover significant data and therefore separate important patterns from it. The fundamental speculations and scientific models of data mining and information retrieval are covered in the syllabus.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, student will be able to

- Analyze various data warehousing techniques used in industry. (Analysis)
- Apply different indexing techniques on real data set. (Apply)
- Apply and demonstrate different classification methods on real and synthetic data set. (Apply)
- Discover knowledge using various Data Mining methods for any system/application. (Create)

Pre-requisite of course: Database Management Systems, Data Structures.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

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Contents:

Unit	Topics	Contact Hours
1	Introduction Introduction to Information Retrieval and Data Mining include Correlation, Association Rules, Knowledge Discovery from Databases, Classification, and Clustering.	08
2	Indexing Basic concepts of Indexing. Principles theory of Indexing. Content Analysis: Meaning, Purpose, Applications in real life. Characteristics of Indexing, Languages used for Indexing, Types of Indexing, Criteria for evaluation of Information Retrieval Systems.	10
3	Retrieval methods Types of Information retrieval. Search processes, Strategies of Search methods, Boolean Logic, Query Preparation.	08
4	Data warehousing What is OLAP, Dimensional Modeling (facts, dimensions), Cube, Schema, defining Schema's Star Schema, Snow-flakes Schema and Fact Constellation, ETL Process.	08
5	Classification methods Decision tree(ID3,C4.5,CART), Bayesian Classification, Rule based, Neural Network, Lazy and Eager Learners, Performance Parameters of classification algorithms.	12
6	Prediction methods Linear and nonlinear regression, Logistic Regression Use of open source data mining tool – WEKA, XLMiner , MOA.	08
	Total Hours	54

References:

1. "Introduction to information retrieval", Christopher D. Manning, Prabhakar Raghavan, and Hinrich Schutze, Cambridge University Press. 2008
2. J. Han ,M kamber , "Data mining concepts and techniques", Morgan Kaufmann.
3. M . Dunham "Data Mining : Introductory and Advance Topics" Pearson Education.
4. "F. Wilfrid Lancaster. Information retrieval systems: Characteristics, testing and evaluation. 2nd ed. New York: Wiley, 1979.

A. (Signature)

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
0%	10%	50%	20%	0%	20%

Suggested List of Experiments:

1. Explore and compare various data mining tools.
2. Weka Installation.
3. Preprocessing on real and synthetic datasets.
4. Apply classification technique to find association rules.
5. Demonstration of various classification algorithms.
6. Performance measurement of various classification algorithms.
7. Apply K-mean method of clustering to discover similar objects of real time datasets.
8. Demonstration of various IR techniques.
9. Performance evaluation of various IR techniques.
10. Mini Project based on learning of this subject.

Instructional Method:

- a) The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b) The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c) Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d) Students will use supplementary resources such as online videos, NPTEL videos, e courses, Virtual Laboratory as suggested by subject faculty.

f. r. W. D.

Objective: The purpose of this course is to teach the students about the basic techniques, theory and computational models of Fuzzy and Soft computing. This subject focuses on how to apply several neural network algorithms over real-time problems to get optimized outcome.

Credits Earned: 5

Course Outcomes:

- Recognize and depict soft computing methods and their roles to build intelligent systems. (Knowledge)
- Apply fuzzy principles and thinking to deal with vulnerability and tackle realtime issues. (Apply)
- Apply genetic algorithms to generate optimized results for a particular problem. (Apply)
- Apply neural networks to design classification problems. (Apply)
- Evaluate and compare solutions by various soft computing approaches for a given problem. (Evaluate)

Prerequisite: Data Structure, Algorithms

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

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Contents:

Unit	Topics	Content Hours
1	Introduction: Introduction to Neural Network, Fuzzy Logic, Genetic Algorithm, Hybrid System.	4
2	Elementary and Advance Search Techniques: State Space Search, Blind Search, Heuristic Search(Hill Climbing, A/A* Algorithm, Min-Max Search, Constraint Satisfaction), Genetic Algorithm, Multi-Objective Genetic Algorithm.	6
3	Fuzzy Set Theory: Fuzzy Sets, Basic Definition and Terminology, Set-theoretic Operations, Member Function Formulation and Parameterization, Fuzzy Rules and Fuzzy Reasoning, Extension Principle and Fuzzy Relations, Fuzzy If-Then Rules, Fuzzy Reasoning, Fuzzy Inference Systems, Mamdani Fuzzy Models, Sugeno Fuzzy Models, Tsukamoto Fuzzy Models, Input Space Partitioning and Fuzzy Modelling.	10
4	Optimization: Derivative-based Optimization, Descent Methods, The Method of Steepest Descent, Classical Newton's Method, Step Size Determination, Derivative-free Optimization, Genetic Algorithms, Simulated Annealing, Random Search, Downhill Simplex Search.	10
5	Neural Networks: Supervised Learning Neural Networks, Perceptrons, Adaline, Back propagation Multilayer Perceptrons, Radial Basis Function Networks, Unsupervised Learning Neural Networks, Competitive Learning Networks, Kohonen Self-Organizing Networks, Learning Vector Quantization, Hebbian Learning, Hop-field networks.	10
6	Neuro Fuzzy Modelling: Adaptive Neuro-Fuzzy Inference Systems, Architecture, Hybrid Learning Algorithm, Learning Methods that Cross-fertilize ANFIS and RBFN, Coactive Neuro Fuzzy Modeling, Framework Neuron Functions for Adaptive Networks, Neuro Fuzzy Spectrum. Introduction to Neuro Fuzzy Control.	10
	Total Hours	50

f. [Signature]

Reference Books:

1. Neuro-Fuzzy and Soft Computing, J.S.R.Jang, C.T.Sun and E.Mizutani, PHI/Pearson Education.
2. Fuzzy Logic with Engineering Applications, Timothy J.Ross, McGraw-Hill, 1997.
3. Genetic Algorithms: Search, Optimization and Machine Learning, Davis E.Goldberg, Addison Wesley, N.Y.,1989.
4. Neural Networks: A Comprehensive Foundation, Simon Haykin. Prentice Hall
5. Neural Network Design, M. T. Hagan, H. B. Demuth, Mark Beale, Thomson Learning, Vikash PublishingHouse.
6. Neural Networks, Fuzzy Logic and Genetic Algorithms, S. Rajasekaran and G.A.V.Pai, PHI, 2003.

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
30%	30%	10%	20%	10%	0%

Suggested List of Experiments:

1. Explain in brief about Neural Network, Fuzzy Logic, Genetic Algorithm and Hybrid System.
2. Study and Analysis of Fuzzy Vs Crisp Logic.
3. Study and Analysis of Genetic Algorithm Life Cycle.
4. Write a program to implement BFS
5. Write a program to implement DFS
6. Write a program to implement Single Player Game (Using Heuristic Function)
7. Write a program to Implement A* Algorithm.
8. Write a program for Back Propagation Algorithm.
9. Implementation of Fuzzy Operations.
10. Implementation of Unsupervised Learning Algorithm.
11. Study of research paper on Soft Computing.

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Subject Code: 01CE0801

Subject Name: Natural Language Processing

B.Tech. Year - VIII

Objective: Natural language processing deals with written text. Students will learn how to process written text from basic of fundamental knowledge starts with Finite automata, Regular expression and probabilistic model with n-grams. Recognizing Speech and parsing with grammar. This course also covers basis of semantic analysis and discourse analysis and drives it to machine translation. This NLP course will boost student knowledge to research level where they can conduct new level of research. It really helpful for undergraduate students.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, student will be able to

- Learn and Understand Natural Language Processing (Comprehension).
- Probabilistic model of defining language and techniques.(Application)
- Applying Hidden Markov model and Speech Recognition.(Application)
- Application of context free grammar and language parsing.(Application)
- Implement probabilistic and language parsing.(Application)
- Differentiation of semantic and discourse in terms of NLP.(Analyse)

Pre-requisite of course: Data Structure, Theory of Computation, Compiler Design.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

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Contents:

Unit	Topics	Contact Hours
1	Introduction of NLP: Knowledge in Speech and Language processing, ambiguity and models and algorithm, language and understanding, brief history.	1
2	Regular Expressions and Automata: Regular Expressions, patterns, FA, Formal Language, NFSAs, Regular Language and FSAs.	4
3	Morphology and Finite-State Transducers: Inflection, Derivational Morphology, Finite-State Morphological Parsing, The Lexicon and Morphotactics, Morphological Parsing with Finite-State Transducers, Combining FST Lexicon and Rules, Lexicon-free FSTs: The Porter Stemmer, Human Morphological Processing	4
4	Computational Phonology and Text-to-Speech: Speech Sounds and Phonetic Transcription, The Phoneme and Phonological Rules, Phonological Rules and Transducers, Advanced Issues in Computational Phonology, Machine Learning of Phonological Rules, Mapping Text to Phones for TTS, Prosody in TTS	4
5	Probabilistic Models of Pronunciation and Spelling: Dealing with Spelling Errors, Spelling Error Patterns, Detecting Non-Word Errors, Probabilistic Models, Applying the Bayesian method to spelling, Minimum Edit Distance, English Pronunciation Variation, The Bayesian method for pronunciation and Weighted Automata, Pronunciation in Humans	5
6	N-grams: Counting Words in Corpora, Simple (Unsmoothed) N-grams, Smoothing, Backoff, Deleted Interpolation, N-grams for Spelling and Pronunciation, Entropy	3
7	HMMs and Speech Recognition: Speech Recognition Architecture, Overview of Hidden Markov Models, The Viterbi Algorithm Revisited, Advanced Methods for Decoding, Acoustic Processing of Speech, Computing Acoustic Probabilities, Training a Speech Recognizer, Waveform Generation for Speech Synthesis, Human Speech Recognition	4
8	Word Classes and Part-of-Speech Tagging: Tagsets for English, Part of Speech Tagging, Rule-based Part-of-speech Tagging, Stochastic Part-of-speech Tagging, Transformation-Based	4

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	Tagging	
9	Context-Free Grammars for English: Context-Free Rules and Trees, Sentence-Level Constructions, The Noun Phrase, Coordination, Agreement and The Verb Phrase and Subcategorization, Auxiliaries, Spoken Language Syntax, Grammar Equivalence & Normal Form, Finite State & Context-Free Grammars, Grammars & Human Processing	4
10	Parsing with Context-Free Grammars: Parsing as Search, A Basic Top-down Parser, The Earley Algorithm, Finite-State Parsing Methods	2
11	Features and Unification: Feature Structures, Unification of Feature Structures, Features Structures in the Grammar, Implementing Unification, Parsing with Unification Constraints, Types and Inheritance	2
12	Lexicalized and Probabilistic Parsing: Probabilistic Context-Free Grammars, Problems with PCFGs, Probabilistic Lexicalized CFGs, Dependency Grammars, Human Parsing	3
13	Language and Complexity: The Chomsky Hierarchy, How to tell if a language isn't regular, Natural Language Context-Free or not, Complexity and Human Processing	3
14	Representing Meaning: Computational Desiderata for Representations, Meaning Structure of Language, First Order Predicate Calculus, Some Linguistically Relevant Concepts, Alternative Approaches to Meaning	3
15	Semantic Analysis: Syntax-Driven Semantic Analysis, Attachments for a Fragment of English, Integrating Semantic Analysis into the Earley Parser, Idioms and Compositionality, Robust Semantic Analysis	3
16	Lexical Semantics: Relations Among Lexemes and Their Senses, WordNet: A Database of Lexical Relations, The Internal Structure of Words, Creativity and the Lexicon	3
17	Word Sense Disambiguation and Information Retrieval: Selection Restriction-Based Disambiguation, Robust Word Sense Disambiguation, Information Retrieval, Other Information Retrieval Tasks	2

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18	Discourse and Machine Translation: Reference Resolution, Text Coherence, Discourse Structure, Psycholinguistic Studies of Reference and Coherence, Language Similarities and Differences, Direct Translation, Using Statistical Techniques	3
Total Hours		57

References:

1. Daniel Jurafsky and James H.Martin Speech and Language Processing(2nd Edition),Prentice Hall:2 edition,2008.
2. Foundations of Statistical Natural Language Processing by Christopher D.Manning and Hinrich Schuetze,MIT press, 1999
3. Steven Bird,Ewan Klein and Edward Loper Natural Language Processing with Python,O'Reilly Media;1 edition,2009
4. Roland R.Hausser, Foundations of Computational Linguistics:Human-Computer Communication in Natural Language, Paperback,MIT press, 2011.

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process.

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
10%	20%	35%	15%	10%	10%

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.

A. (Signature)



- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. <https://blog.algorithmia.com/introduction-natural-language-processing-nlp/>
2. <https://www.udacity.com/course/natural-language-processing-nanodegree--nd892>
3. <https://www.coursera.org/learn/language-processing>
4. <https://towardsdatascience.com/a-practitioners-guide-to-natural-language-processing-part-i-processing-understanding-text-9f4abfd13e72>
5. <https://www.edx.org/course/natural-language-processing>

Practical Resources:

Any 10 practical related to text parsing, tokenization and semantic word fetching related. which is up to faculties, faculties can plan further practical based upon his/her knowledge.

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Subject Code: 01CE0802
Subject Name: Big Data and Analytics
B.Tech. Year - IV

Objective: Big data is an extremely useful area in the era of computing techniques as it aids in finding useful pattern from large datasets. Large datasets are so huge that they cannot be processed with traditional technologies. We require special computing system which can handle large data and tandem it with other important aspects like parallel processing, data failure and data pre-processing.

Credits Earned: 5 Credits

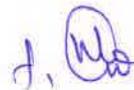
Course Outcomes: After completion of this course, student will be able to

- Gain Understanding about Big Data Technology and its Tools. (Understand)
- Understand and apply extracting useful pattern from large datasets. (Apply)
- Implementation of Big data mining techniques using different software. (Create)
- Understand how data analytics and data science maps to current industry.(Analyze)
- Understanding and implementing Algorithms in an optimized way using various Big Data Tools. (Apply)

Pre-requisite of course: Basic Programming Knowledge, Data Mining.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150



Contents:

Unit	Topics	Contact Hours
1	Introduction to Big Data Introduction-Distributed file System, What is Big Data? Difference between traditional Distributed file system and Big Data Software, Big Data Analytics, Big data Applications.	4
2	Introduction to Hadoop: How Hadoop works? Hadoop Architecture, Explanation of Hadoop EcoSystem, Hadoop Basic commands.	7
3	Hadoop Input and Output: Data Integrity in Hadoop, Data Compression and Data Serialization in Hadoop, Avro, How Avro works?	7
4	Hadoop MapReduce: Mapper, Reducer, MapReduce YARN, Job Scheduling, Sorting and Shuffling in MapReduce, MapReduce Input Formats, MapReduce Output Formats, How to code in MapReduce program , analyze data using MapReduce.	10
5	Hadoop Ecosystem/Environment: Pig, Hive, Hbase, ZooKeeper Pig Latin Structures, Statements, Functions, User-Defined Function in Pig, Loading, Storing and Sorting Data in Pig, HiveQL, Tables in Hive, Querying Data, User-Defined Function in Hive, Introduction to HBase, HBASE vs RDBMS, What is ZooKeeper, Zookeeper Services, Build Application with ZooKeeper.	12
6	Apache Spark: Introduction to Apache Spark, pySpark, RDD, Working with Key-value pair, Loading and saving data in spark, Learning about Machine Learning Library in Spark.	7
7	NoSql: Introduction to NoSql, NoSql vs SQL, NewSql, Introduction to MongoDB, MongoDB Create-Drop Databases, Create-Drop Collection, CRUD operation in documents, MongoDB indexing, Aggregation, replication, sharding, Connect Java Application with MongoDB.	5
Total Hours		52

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References:

1. Tom White, "HADOOP: The definitive Guide", O Reilly 2012.
2. BIG Data and Analytics , Sima Acharya, Subhashini Chhellappan, Willey
3. MongoDB in Action, Kyle Banker,Piter Bakkum , Shaun Verch, Dream tech Press
4. Learning Spark: Lightning-Fast Big Data Analysis Paperback by Holden Karau

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process.

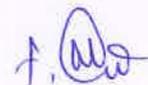
Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
0%	20%	40%	20%	0%	20%

Suggested List of Experiments:

1. Installation and use of Hadoop in ubuntu.
2. Run HDFS commands in hadoop environment.
3. Implementation of a MapReduce Algorithm.
4. Hive Installation.
5. Run Hive related commands on given data.
6. UDF creation in Hive to truncate blank space.
7. Install HBASE and Apply various table queries.
8. Install MongoDB and execute basic commands in MongoDB Shell.
9. Connect MongoDB with java.
10. Install Scala and program in interactive mode and script mode.
11. Run a job on Apache spark.

Instructional Method:

- a) The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.





Computer Engineering

- b) The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c) Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d) Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

- a) <http://www.bigdatauniversity.com/>
- b) <http://hadoop.apache.org/>
- c) <https://spark.apache.org/documentation.html>
- d) <http://www.prajval.in/edudetail/18>
- e) <https://www.tutorialspoint.com/mongodb/index.htm>

A. N. S.

Subject Code: 01CE0803
Subject Name: Cloud Computing
B. Tech. Year: IV

Objective:

This course is intended to analyze the basics of cloud computing, and make aware students with diversified technologies working for cloud architecture. Course will be focusing on architecture, service models, privacy & security in cloud.

Credits Earned: 5 credits

Course Outcomes:

After the completion of this course, student will be able to

- Understand and analyze the architecture of Cloud (Analyze).
- Identify and apply deployment and management options of AWS Cloud Architecture (Apply).
- Design architectures to decouple infrastructure and reduce interdependencies (Create).
- Formulate policy based scenarios in Cloud simulators (Create).

Prerequisite of course: Operating System , Computer Networks

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

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Contents:

Units	Topics	Hours
1	Introduction of Cloud Computing: What is Cloud Computing?, How it works?, Types of Cloud, Goals & Challenges, Leveraging Cloud Computing, Cloud Economics and Total Cost of Ownership	06
2	Cloud Service Models Software as a Service (SaaS): Introduction, Challenges in SaaS Model, SaaS Integration Services, Advantages and Disadvantages. Infrastructure As a Services (IaaS): Introduction, Virtual Machines, VM Migration Services, Advantages and Disadvantages. Platform As a service (PaaS): Introduction, Integration of Private and Public Cloud, Advantages and Disadvantages.	06
3	Virtualization and Abstraction: What is Virtualization and how abstraction is provided in cloud? Advantages and Disadvantages, Types of Hypervisor, and Load balancing.	06
4	Amazon Web Services Getting started with AWS, AWS Compute, Storage, and Networking, AWS Security, Identity, and Access Management, AWS Database Options, AWS Elasticity and Management Tools	10
5	Architecting on AWS Introduction to System Design: AWS Essentials Review and System Design for High Availability, Automation and Serverless Architectures: Event-Driven Scaling, Well-Architected Best Practices: Security, Reliability, Performance Efficiency, Cost Optimization and Deployment and Implementation: Design Patterns and Sample Architectures	12
6	Cloud Security Tools and technologies to secure the data in Private and Public Cloud Architecture. Security Concerns, Legal issues and Aspects, Multi-tenancy issues.	06
7	Cloud Simulation	08

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	CloudSim: Modeling and simulation of Cloud computing data centers with virtualized server hosts	
		Total 54 Hours

References:

- Judith Hurwitz, R Bloor, M.Kanfman, F.Halper "Cloud Computing for Dummies", Wiley India Edition, First Edition
- Rajkumar Buyya, James Broberg, Andrzej M. Goscinski, "Cloud Computing: Principles and Paradigms", Wiley Publication,2011
- Tim Mather, SubraKumara swamy, Shahed Latif, "Cloud Security and Privacy: An Enterprise Perspective on Risks and Compliance", O'ReillyMedia Inc, 2009
- Mickey Iqbal 2010, " IT Virtualization Best Practices: A Lean, Green Virtualized Data Center Approach", MC Press
- Frank H. P. Fitzek, Marcos D. Katz, "Mobile Clouds: Exploiting Distributed Resources in Wireless, Mobile and Social Networks", Wiley Publications, ISBN: 978-0-470-97389-9, Jan 2014.

Suggested Theory Distribution:

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	15%	20%	20%	0%	40%

Suggested List of Experiments:

1. Creating Amazon EC2 instances with Microsoft Windows
2. Build Your Virtual Private Cloud (VPC) and Launch a Web Server
3. Working with Amazon Elastic Block Store (EBS)
4. Introduction to AWS Identity and Access Management (IAM)
5. Deploy a Web Application on AWS
6. Using Auto Scaling with AWS Lambda and Lifecycle Hooks
7. Implementing a Serverless Architecture with AWS Managed Services
8. Launching EC2 Spot Instances with Auto Scaling and Amazon CloudWatch

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Supplementary Resources:

- NPTEL online course : https://onlinecourses.nptel.ac.in/noc17_cs23/preview
- MOOC : <https://www.edx.org/micromasters/cloud-computing>
- Coursera: <https://www.coursera.org/specializations/cloud-computing>
- AWS Academy: AWS Cloud Computing Architecture at <https://aws.amazon.com/training/awsacademy/cloud-computing-architecture/>

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Subject Code: 01CE0804

Subject Name: Machine Learning

B.Tech. Year - IV

Objective: To learn machine learning, artificial neural networks and genetic algorithms for intelligent behavior. To learn various optimization techniques.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, student will be able to

- Understand machine-learning concepts.(Understand)
- Understand Optimization theory and concepts.(Understand)
- Understand and analyse different method of Gradient Descent. (Analyze)
- Apply concept of Supervised and Unsupervised learning.(Apply)
- Apply the concepts of machine learning and optimization in designing intelligent systems.(Apply)

Pre-requisite of course: Computer Programming, Mathematics.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Introduction Machine learning introduction, Supervised Learning, Unsupervised Learning, Linear Regression with One Variable: Model and Cost Function, Model representation, Cost Function, Parameter Learning: Gradient Descent for single variable; Linear Regression with Multiple Variables: Multiple Features, Gradient Descent for multiple variables, Feature Scaling, Learning rate, Features and polynomial regression. Normal Equation and Noninvertibility; Logistic Regression:	12

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	Classification, Hypothesis Representation, Decision Boundary, Cost Function and Gradient Descent, Multiclass Classification: one vs all; Regularization: The Problem of Overfitting, Cost Function Regularized Linear Regression	
2	Machine Learning System Design: Evaluating a Learning Algorithm: Deciding what to try next, Evaluating Hypothesis, Model Selection and Train/ Validation/ Test Sets, Bias Vs variance: Diagnosing Bias Vs Variance, Regularization and Bias/ Variance, Learning Curve, Building a Spam Classifier: Prioritizing what to work on, Error Analysis, handling Skewed Data: Error Matrices for Skewed Classes, Trading off Precision and recall, Data for Machine Learning; Support Vector Machines: Large Margin Classification: Optimization Objective, Large Margin Intuition, Kernels	14
3	Unsupervised Learning: Unsupervised Learning Introduction, Clustering: K-Mean Algorithm, Optimization Objective, Random Initialization; Dimensionality Reduction: Principal Component Analysis, its formulation and Algorithm, Reconstruction from Compressed Representation, Number Selection for Principal Components; Anomaly Detection: Density Estimation: Problem Motivation, Gaussian Distribution, Algorithm, Anomaly Detection System: Developing and Evaluating Anomaly Detection System, Anomaly Detection Vs Supervised Learning; Large Scale Machine Learning: Gradient Descent with Large Dataset: Learning with Large Dataset, Stochastic Gradient Descent, Mini-Batch Gradient Descent, Stochastic Gradient Descent Convergence	14
4	Optimization: Constrained optimization algorithms: Random search methods, penalty function method, MATLAB solution of constrained optimization algorithms. Advanced optimization methods: Genetic algorithm, Optimization of fuzzy systems, Neural-Network based optimization and MATLAB solution.	12
	Total Hours	52

Texts and References:

- 1) Introduction to Machine Learning, Second Edition, by Ethem Alpaydin, The MIT Press
- 2) Machine Learning an algorithmic perspective by Stephen Marsland, CRC Press
- 3) Machine Learning in Action by Peter Harrington, Manning Shelter Island

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- 4) Engineering optimization: Theory and Practice by S. S. Rao, New Age publication.
- 5) Optimization for Engineering Design: Algorithms and Examples by Kalyanmoy Deb, PHI Learning Private Limited.
- 6) Engineering optimization: Methods and Applications by A. Ravindran, K. Ragsdell and G. Reklaitis; John Wiley and Sons.
- 7) Optimization: Structures and Applications: edited by C. Pearce and E. Hunt; Springer publications.
- 8) Optimal design of complex mechanical systems by G. Mastinu, M. Gobbi and C. Miano; Springer publication.

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
0%	40%	40%	20%	0%	0%

Suggested List of Experiments:

1. Develop a cost function of linear regression using sample data.
2. Develop a Gradient descent of linear regression using sample data.
3. Implement linear regression algorithm using sample data.
4. Implement logistic regression algorithm using sample data.
5. Develop regularization in already developed logistic regression algorithm.
6. Calculate bias and variance from already computed algorithm.
7. Calculate Error Matrix for already implemented algorithm.
8. Implement k-means algorithm using sample data.
9. Develop PCA based on sample data.
10. Develop and implement Neural-network based any algorithm using sample data.

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Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. Machine Learning by Andrew NG on Coursera

A, A handwritten signature in blue ink, consisting of the letter 'A' followed by a stylized, cursive name.



Subject Code: 01CE0805

Subject Name: Business Intelligence

B. Tech. Year - IV

Objective: Exponential increase in size and availability of data makes Business Intelligence (BI) an extremely valuable subject. BI as a methodology and technique for gathering, storing, analyzing, sharing and providing access to data, to help University, Enterprise or any other organization to make a better decision. Now a days as internet users are increasing, so there is a requirement of techniques through which raw data can be converted into Information. This course will cover data science, data visualization dashboard design, performance dashboard and future of BI.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, student will be able to

- Graduates will learn concept, process, and practice of the data science and how methodologies are applied to visualize information from raw data. (Apply)
- Encourage and motivate students for learning BI involving predictive and statistical approach. (Understand)
- Understand and analyze BI concepts and techniques. (Analyze)
- Understand and apply BI Techniques for various situations. (Apply)
- Implement BI techniques by using various tools and Create data visualization. (Create)

Pre-requisite of course: Data Mining

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

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- c) Implement the Knowledge discovery algorithm of choice.
 - d) Interpret and visualize the results.
 - e) Provide clearly the BI decision that is to be taken as a result of mining.
- 9) Demonstration of Performance Dashboard: Measuring, Monitoring and management of Business
- 10) Demonstration of KPIs and Enterprise dashboard, design of enterprise dashboards using Pentaho tool.

Instructional Method:

- a) The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b) The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c) Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.

Supplementary Resources:

Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory.

- a) <http://www.pentaho.com/>
- b) <https://www.edx.org/course/introduction-data-analysis-using-excel-microsoft-dat205x-2>
- c) <https://www.ibm.com/developerworks/library/os-weka2/>
- d) <http://www.saedsayad.com/>
- e) http://www.cs.ccsu.edu/~markov/ccsu_courses/datamining-3.html
- f) <https://cognitiveclass.ai/>

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Subject Code: 01CE0806
Subject Name: Internet of Things
B.Tech. Year - IV

Objective: In this course, student will explore various components of Internet of things such as Sensors, internetworking and cyber space. In the end they will also be able to design and implement IoT circuits and solutions.

Credits Earned: 05

Course Outcomes: After successful completion of this course, student will be able to

- Understand general concepts of Internet of Things (IoT) (Understand)
- Recognize various devices, sensors and applications (Knowledge)
- Apply design concept to IoT solutions (Apply)
- Analyze various M2M and IoT architectures (Analyze)
- Evaluate design issues in IoT applications (Evaluate)
- Create IoT solutions using sensors, actuators and Devices (Create)

Pre-requisite of course: Fundamentals of computer network, Network Security, internet technology.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

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Contents:

Unit	Topics	Contact Hours
1	Introduction to IoT: Sensing, Actuation, Networking basics, Communication Protocols, Sensor Networks, Machine-to-Machine Communications, IoT Definition, Characteristics. IoT Functional Blocks, Physical design of IoT, Logical design of IoT, Communication models & APIs.	10
2	M2M to IoT -The Vision-Introduction, From M2M to IoT, M2M towards IoT-the global context, A use case example, Differing Characteristics. Definitions, M2M Value Chains, IoT Value Chains, An emerging industrial structure for IoT,	8
3	M2M vs IoT An Architectural Overview -Building architecture, Main design principles and needed capabilities, An IoT architecture outline, standards considerations. Reference Architecture and Reference Model of IoT.	8
4	IoT Reference Architecture - Getting Familiar with IoT Architecture, Various architectural views of IoT such as Functional, Information, Operational and Deployment. Constraints affecting design in IoT world - Introduction, Technical design Constraints.	8
5	Domain specific applications of IoT : Home automation, Industry applications, Surveillance applications, Other IoT application.	8
6	Developing IoT solutions : Introduction to Python, Introduction to different IoT tools, Introduction to Arduino and Raspberry Pi Implementation of IoT with Arduino and Raspberry, Cloud Computing, Fog Computing, Connected Vehicles, Data Aggregation for the IoT in Smart Cities, Privacy and Security Issues in IoT.	10
Total Hours		52

References:

1. Jan Holler, Vlasios Tsiatsis, Catherine Mulligan, Stefan Avesand, Stamatis Karnouskos, David Boyle, **"From Machine-to-Machine to the Internet of Things: Introduction to a New Age of Intelligence"**, 1st Edition, Academic Press, 2014.

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Computer Engineering

2. Vijay Madiseti and Arshdeep Bahga, "**Internet of Things (A Hands-on-Approach)**", 1st Edition, VPT, 2014
3. Francis daCosta, "**Rethinking the Internet of Things: A Scalable Approach to Connecting Everything**", 1st Edition, Apress Publications, 2013
4. Cuno Pfister, Getting Started with the Internet of Things, O'Reilly Media, 2011, ISBN: 978-1-4493-9357-1

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
10%	10%	30%	25%	15%	10%

List of Experiments - Internet of Things

1. Introduction to various sensors and various actuators & its Application (Students have to prepare Report for the same). Perform Experiment using Arduino Uno to measure the distance of any object using Ultrasonic Sensor.
 - a) PIR Motion Sensor.
 - b) Rain Drop Sensor.
 - c) Moisture Sensor.
 - d) Temperature Sensor.
 - e) Touch Sensor.
 - f) Infrared Sensor.
 - g) Servo Moto.
 - h) RFID Sensor.
 - i) Bluetooth Module.
 - j) Wi-Fi Module.
2. Demonstrate NodeMCU and its working
3. Getting Started with ESP8266 Wi-Fi SoC
4. Hands-on with on-board peripherals of ESP8266
5. Demonstrate Arduino and its pins.

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Computer Engineering

6. Perform Experiment using Arduino Uno to measure the distance of any object using Ultrasonic Sensor.
7. Create a circuit using Arduino and sensors. Perform experiment using Arduino Uno to Learn Working of Servo Motor
8. Creating a webpage and display the values available through Arduino.
9. Demonstration of Setup & Working of Raspberry Pi. (Students have to prepare the Report for the same.).
10. OPEN Ended problem: Students are required to submit an IOT based project using the Microcontroller or a Raspberry Pi and connecting various sensors and actuators. The data for the same should be displayed via a webpage or a web app.

Instructional Method:

- a) The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b) The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c) Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d) Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

References

Web

- a) <https://www.udemy.com/internet-of-things-iot-for-beginners-getting-started/>
- b) <http://playground.arduino.cc/Projects/Ideas>
- c) <http://runtimeprojects.com>
- d) <http://www.megunolink.com/articles/arduino-garage-door-opener>
- e) <http://www.willward1.com/arduino-wifi-tutorial>

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- f) <http://www.makeuseof.com/tag/pi-overdose-heres-5-raspberry-pi-alternatives>
- g) <http://www.electronicshub.org/arduino-project-ideas>
- h) <http://homeautomationserver.com>
- i) <http://www.toptechboy.com/arduino-lessons>
- j) <https://www.eprolabs.com>

YouTube

- a) <https://www.youtube.com/watch?v=dC2GdEWHRxQ&list=PLy6JR9IR8VKOZBpDcETsH9Tb6B4bcaTXf>
- b) https://www.youtube.com/watch?v=kLd_JyvKV4Y
- c) <https://www.youtube.com/watch?v=TkA2LJctU1c>

A. No

Subject Code: 01IT0701

Subject Name: Advance Web Technology

B.Tech. Year - IV

Objective: The increasing practice of MVC architecture in Web based applications, this course focuses on Advanced PHP concepts and Laravel Framework along with Node.js. This subject will attempt to give basic understanding of cURL methods, MVC Framework, Unit Testing, Web Services, API, Node Servers and routing.

Credits Earned: 4 Credits

Course Outcomes: After completion of this course, students will be able to

- Apply Object Oriented concepts in developing PHP applications (Apply) • Use various third party APIs and advance concepts of PHP to develop Applications (Apply)
- Create and deploy scalable web based system using Laravel (Create) • Develop server side web applications using Node.js (Create)

Pre-requisite of course: Programming Fundamentals, Web Technology

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theor y	Tutorial	Practical		ESE (E)	Mid Sem (M)	Intern al (I)	Viva (V)	Term work (TW)	
3	0	2	4	50	30	20	25	25	150

Contents:

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Unit	Topics	Contact Hours
1	Object Oriented PHP: Object Oriented Programming with PHP - Classes, Properties, Methods, Magic Methods: Constructor, Destructor, Getter and Setter, Encapsulation, Inheritance, Data Abstraction, Polymorphism.	6
2	Advance PHP: Web Scraping using cURL, Regular Expression, Mail function, Web Services & APIs	6
3	PHP MVC Framework - Laravel: Introduction to Laravel and MVC, Environment Setup, Routes, Namespaces, Controllers, Views, Request Response, Redirections, Forms, Session, Cookie, Database Connectivity and CRUD operations	20
4	Node.js Introduction to Node.js, Node Package Manager, REPL Terminal, Node.js Webserver - Server and Clients, Creating a simple server, Rendering HTML, Rendering JSON Data, Routing	10
	Total Hours	42

References:

1. PHP: The Complete Reference, By Steven Holzner. Publisher: Tata McGraw Hill
2. Laravel: Up and Running, By Matt Stauffer. Publisher: O'Reilly Media
3. Node.js in Action, By Mike Cantelon, Marc Harter, T.J. Holowaychuk, and Nathan Rajlich. Publisher: Manning publications

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
10%	10%	30%	10%	10%	30%

A. M. S.



List of Experiments:

1. Develop a web application in PHP using various concepts of object oriented programming like Class, Object, Inheritance, Function, Overloading, Constructor and Destructor.
2. Develop a web scraper to mine structured data from any website according to given application.
3. Develop a web application in PHP to demonstrate the use of third party APIs like weather, sports, stock market, etc.
4. Develop a small project using Laravel framework.
5. Develop a small project in Node.js.

Instructional Method:

- a) The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, also need to use ICT tools and facilities.
- b) The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c) Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.

Supplementary Resources:

Students will use supplementary resources such as online videos, NPTEL videos, e courses, Virtual Laboratory.

- a) <https://learninglaravel.net/>
- b) <https://www.tutorialspoint.com/laravel/>
- c) <https://laravel.com/>
- d) <https://nodejs.org/en/>
- e) <https://www.w3schools.com/nodejs/>

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Subject Code: 01IT0703
Subject Name: Major Project - I
B.Tech. Year - IV

Objective: The objective is to enhance practical skills of students which will help them to analyze and solve real world problems by using latest software / hardware / tools and by applying theoretical knowledge

Credits Earned: 1 Credit

Course Outcomes: After completion of this course, student will be able to

- To analyze real world problems and design solutions for those problems (Analyze)
- To identify practical aspect of studied technologies (Evaluate)
- To use latest software / hardware as per requirement (Apply)
- To develop complete solutions for read world problems (Create)
- To use different testing methodologies for implemented work (Apply)
- To present and document implemented work effectively (Create)

Pre-requisite of course: Hardware/Software Knowledge, Software Engineering, Mini Project

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
0	0	2	1	0	0	0	50	50	100

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Contents:

Unit	Topics	Contact Hours
1	Project/Problem Identification	2
2	Project Analysis, Requirement Gathering	4
3	Project Design / Prototype Development	4
4	Implementation of Project/Solution	12
5	Testing and Verification	2
6	Presentation and Report Writing	4
	Total Hours	28

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
0%	0%	35%	15%	15%	35%

f, nla

Subject Code: 01IT0801

Subject Name: Major Project - II

B.Tech. Year - IV

Objective: Students will find out about the need of industry, explore latest technologies, work on industry / social problems with team members.

Credits Earned: 9 Credits

Course Outcomes: After completion of this course, student will be able to

- Understand, analyze and solve Medium / Large scale industrial / social problems (Analyse)
- Demonstrate the application of various engineering subjects to solve industrial / social problems (Apply)
- Communicate in the way industry demands in oral and documented way. (Create)
- Demonstrate teamwork and leadership qualities. (Apply)
- Demonstrate professional and ethical conduct as per industrial expectations. (Evaluate)

Pre-requisite of course: Mini Project, Major Project I, Software Engineering

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
0	0	18	9	0	0	0	200	200	400

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Contents:

Unit	Topics	Contact Hours
1	Project/Problem Identification	18
2	Project Analysis Requirement Gathering	36
3	Project Design / Prototype Development	36
4	Implementation of Project/Solution	108
5	Testing and Verification	18
6	Presentation and Report Writing	36
Total Hours		252

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
0%	0%	30%	25%	20%	25%

A. W. S.



**Syllabus for Bachelor of Technology
Department of Computer Engineering /
Information Technology**

Subject Code: 01CE0408

Subject Name: Creativity, Problem Solving and Innovation

B. Tech. 2nd Year Semester: IV

Prerequisite: Zeal to learn the subject.

Course Objective: To develop creative thinking skill in the students using cone of learning components leading to understanding of various strategies for creativity, problem solving and innovation.

Course Outcome:

After learning the course, the students will be competent

1. Importance of creativity, problem solving and innovation while addressing science, engineering and social issues.
2. Demonstrate the ability to contextualize knowledge related to professional engineering practices.
3. Demonstrate the functioning effectively as an individual and team member.
4. Ability to engage in life-long learning in the context of technological change.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks					Total Marks
L	T	P		Theory Marks			Practical Marks		
			ESE(E)	IA	CSE	Viva (V)	Term Work		
0	0	2	1	0	30	0	20	(TW) ₀	50

Content:

Sr. No.	Content	Total Hrs
---------	---------	-----------

f. No

1	Phase 1: To introduce the subject of the course; this course as a needed skill for your future. Psychology of problem solving; Vertical versus Lateral thinking	02
2	Phase 2: Strategy of Questioning; Method of questioning; Importance of asking the right question. Who, what, when, where, why, how?	02
3	Phase 3:	02

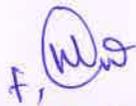


**Syllabus for Bachelor of Technology
Department of Computer Engineering /
Information Technology**

	Learning and its importance; Sources of learning; Methods of learning. Purpose and value of education in future creativity in real life.	
4	Phase 4: Strategy of Knowing how to see; Making your thought visible; Visualizing thinking; Mapping of mind, Fishbone diagram.	02
5	Phase 5: Strategy of Thinking Fluency; Generating all possibilities; more the better; Quantity without screening is helpful; SCAMPER technique; Creative or divergent idea generating thinking versus Critical or convergent idea selection thinking.	02
6	Phase 6: Strategy of Fusing of ideas; Making novel combinations; Connecting the unconnected.	02
7	Phase 7: Strategy of Looking at the other side, looking in other world, finding what you are not looking for and following it up.	02
8	Phase 8: Strategy of Play, Importance of play; Diversion; Unstructured activities for sheer joy, Activities for joy, Let subconscious figure it out, Various puzzles as play or fun.	02
9	Phase 9: Strategy of Awakening the collaborative spirit, Collaborative thinking, brain storming, Innovation requires collaboration to make it happen.	02
10	Phase 10: Review Strategies for Creative problem solving methods, Five building blocks as	02

f. W. O.

17. 101 Creative problem solving techniques by James m Higgins.1994
18. Creative approach to problem solving by Scott G Isaksen, K Brian Dorval, Donald J Treffinger. 2000
19. Creative problem solving An Introduction by Donald J. Treffinger, Scott G Isaksen and K. Brian Stead=Dorval. 4th edition, 2006
20. Strategies for creative problem solving by H. Scott Fogler & Steven E. LeBlanc. Second edition 2008
21. Game storming by Dave Gray, Sunni Brown and James Macanuf.2010
22. Creating minds by Howard Gardner. 1993
23. Creativity—Flow and Psychology of Discovery and Invention by Mihaly Csikzentmihalyi.1996
24. Aha! Insight by Martin Gardner. 1978
25. The Ultimate Lateral & Critical Thinking Puzzle book by Paul Sloane, Des MacHale & M. A. DiSpezio. 2002
26. Test your Lateral Thinking IQ by Paul Sloane. 1994
27. Intriguing Lateral Thinking Puzzles by Paul Sloane & Des MacHale.1996.


**Head of the Department
Computer Engineering
Marwadi University**

Course having focus on
Employability
Entrepreneurship
Skill development
during last five years in
B.Tech Mechanical
Engineering
(2017-2022)

Syllabus for Bachelor of Technology

Mechanical Engineering

Subject Code: 01ME0101

Subject Name: Elements of Mechanical Engineering

B.Tech. Sem-I

Type of course: Engineering Science

Prerequisite: Zeal to learn the subject

Rationale: Understanding of basic principles of Mechanical Engineering is required in various field of engineering.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks					Total Marks
L	T	P	C	Theory Marks			Practical Marks		
				ESE	IA	CSE	Viva	TW	
3	0	2	4	50	30	20	25	25	150

Content:

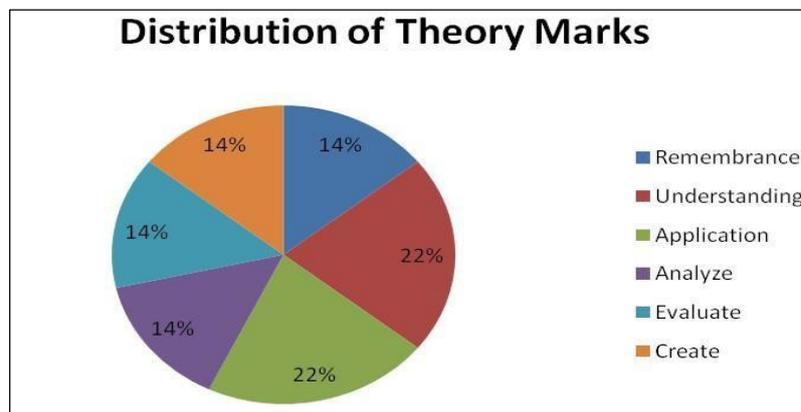
Sr. No.	Content	Total Hrs	%Weight age
1	Introduction: Prime movers and its types, Concept of Force, Pressure, Energy, Work, Power, System, Heat, Temperature, Specific heat capacity, Change of state, Path, Process, Cycle, Internal energy, Enthalpy, Statements of Zeroth Law and first law	4	25%
2	Properties of gases: Gas laws, Boyle's law, Charle's law, Combined gas law, Gas constant, Relation between Cp and Cv, Various non-flow processes like constant volume process, constant pressure process, Isothermal process, Adiabatic process, polytropic process	6	
3	Properties of steam: Steam formation, Types of Steam, Enthalpy, Specific volume, Internal energy and dryness fraction of steam, use of Steam tables, steam calorimeters	6	30%
4	Heat engines: Heat Engine cycle and Heat Engine, working substances, Classification of heat engines, Description and thermal efficiency of Carnot; Rankine; Otto cycle and Diesel cycles	6	
5	Steam Boilers: Introduction, Classification, Cochran, Lancashire and Babcock and Wilcox boiler, Functioning of different mountings and accessories	4	



Syllabus for Bachelor of Technology

Mechanical Engineering

6	Internal Combustion Engines: Introduction, Classification, Engine details, four-stroke/ two-stroke cycle Petrol/Diesel engines , Indicated power, Brake Power, Efficiencies	4	20%
7	Turbo machines: Types and operation of Reciprocating, Rotary and Centrifugal pumps, Priming and air compressors	4	
8	Refrigeration & Air Conditioning: Refrigerant, Vapor compression refrigeration system, vapor absorption refrigeration system, Domestic Refrigerator, Window and split air conditioners	4	25%
9	Couplings, Clutches and Brakes: Construction and applications of Couplings (Box; Flange; Pin type flexible; Universal and Oldham), Clutches (Disc and Centrifugal), and Brakes (Block; Shoe; Band and Disc)	4	
10	Transmission of Motion and Power: Shaft and axle, Belt drive, Chain drive, Friction drive, Gear drive	4	



Reference Books:

1. Basic Mechanical Engineering by Pravin Kumar, Pearson
2. Thermal Science and Engineering by Dr. D.S. Kumar, S.K. Kataria & sons, Publication New Delhi
3. Fundamental of Mechanical Engineering by G.S. Sawhney, PHI Publication New Delhi

Syllabus for Bachelor of Technology

Mechanical Engineering

4. Elements of Mechanical Engineering by Sadhu Singh S. Chand Publication

Course Outcome:

After learning the course the students should be able to:

1. To understand the fundamentals of mechanical systems
2. To understand and appreciate significance of mechanical engineering in different fields of engineering

List of Experiments:

1. To understand and appreciate significance of mechanical engineering in different fields of engineering
2. To understand construction and working of different boiler mountings and accessories.
3. To determine brake thermal efficiency of an I. C. Engine.
4. To understand construction and working of different types of air compressors.
5. To demonstrate vapor compression refrigeration cycle of domestic refrigerator OR window air conditioner OR split air conditioner.

Design based Problems(DP)/ Open Ended Problem:

1. Develop a prototype of gear train/drive for certain velocity ratios.
2. Develop a small boiler with different mountings.
3. Develop a hot air engine

List of Open Source Software/learning website:

1. <http://nptel.iitm.ac.in>,
2. <http://vlab.co.in/>

Engineering Graphics

Module 1: Drawing instruments and accessories, standards of engineering drawings

Module 2: Plane scales, diagonal scales

Engineering Graphics is the language of engineering. It is the fundamental core skill enhances problem-solving ability which improves the engineering knowledge. Moreover, it is creating a link between imagination and realization.

It is a credit course

It is a compulsory course to learn the subject.

It is a credit course

Teaching Scheme Hours			Credits	Theory Marks			Tutorial/Practical Marks		Total Marks
Theory	Tutorial	Practical		100	A	100	100	Term work	
0	0	0	0	100	100	100	100	100	100

Course Objectives

Sl. No.	Objectives	Weightage
1	<p>Module 1: Drawing instruments and accessories, standards of engineering drawings</p> <p>Module 1: Drawing instruments and accessories, standards of engineering drawings</p> <p>Module 2: Plane scales, diagonal scales.</p>	0
2	<p>Module 1: Introduction to engineering curves with classification and application.</p> <p>Module 2: Construction of ellipse, parabola, and hyperbola with normal and tangent to the curve.</p> <p>Module 3: Construction of involutes, spirals and special curves with normal and tangent to the curve.</p>	100
3	<p>Module 1: Introduction to principal planes</p> <p>Module 2: Projections of a point considering location in same and different quadrants.</p> <p>Module 3: Projection of line with an inclination to one reference plane and two, true length of line.</p>	100



<input type="checkbox"/>	<p>Module Positioning of a plane surface Projection of Polygons, circle and ellipse with an inclination to one and two</p> <p>Module Auxiliary plane method concept.</p>	<input type="checkbox"/>
<input type="checkbox"/>	<p>Module Different types of solid cylinder, cone, pyramid and prism and its Projection along with frustum with its inclination to one and with two</p> <p>Module Section of solids and the true shape.</p>	<input type="checkbox"/>
<input type="checkbox"/>	<p>Module Introduction to Orthographic Projection, Plane of Projection.</p> <p>Module Projection of the object on the principal planes.</p> <p>Module Front View, Top View, and Side View of isometric object using First and Third Angle Projection methods.</p> <p>Module Sectional Orthographic.</p>	<input type="checkbox"/>
<input type="checkbox"/>	<p>Module Isometric View, Conversion of Orthographic View to isometric View.</p> <p>Module Isometric Scale, Difference between Isometric View and Projection.</p>	<input type="checkbox"/>
	<p>Engineering Graphics</p>	<input type="checkbox"/>

References

- Engineering Graphics by Ramdevsinh Chala, Tata Mc Graw Hill, New Delhi
- A Text Book of Engineering Graphics by R. Chah, Chand Company Ltd., New Delhi
- Elementary Engineering Drawing by S. S. Chatter, Charotar Publishing House, Anand
- A Text Book of Engineering Drawing by S. S. Chawan, Chand Company Ltd., New Delhi
- A Text Book of Engineering Drawing by R. L. Hill, S. S. Chatterjee Sons, Delhi.



After completion of this course, student will be able to

- Know, understand and able to define the methods of engineering drawing.
- Learn basic sketching methods.
- Understand engineering drawings using fundamental mathematics.
- Construct engineered drawing.
- Develop visualization skills so that they can create new product design.
- Understand the theory of projection, learn technical communication skill.

The suggested theory distribution as per Bloom's taxonomy is as per follow. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
□□□	□□□	□□□	□□□	□□□	□□□

The suggested practical work is as per follow.

- Practice sheet
 - Dimensioning methods, types of line, Methods to draw different polygons, Equal division of line and angle
 - Scale plane and diagonal scale
 - Curves
 - Projection of straight line and projection of plane surfaces.
 - Projection of solid and section of solid
 - Orthographic projection and sectional orthographic projection
 - Isometric projection and Isometric view.

□

Internal Method

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by blackboard may also use any of tools such as demonstration, role play, quiz, brainstorming
- The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and classroom.
- c. Practical examination will be conducted at the end of the semester for an evaluation of the performance of students in the laboratory.
- d. Students will use supplementary resources such as online videos, printed videos, e-courses





Subject Code: 01ME1104

Subject Name: Workshop

B.Tech. Ist Year Semester: II

Type of course: Under Graduate

Prerequisite: Zeal to learn subject

Rationale: Mechanical Workshop is of paramount importance for the engineering students to enhance their technical skills as per the need of industries. Practice of engineering workshop make students aware about practical work in industrial environment as well as day-to-day life work.

Course Outcome:

After learning the course, the students will be competent to

1. Apply knowledge of hand tools, power tools and safety related rules and regulations
2. Apply knowledge of conventional machining processes
3. Apply knowledge of advanced manufacturing processes
4. Apply knowledge of manufacturing processes of composite materials

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks					Total Marks
L	T	P		Theory Marks			Practical Marks		
			ESE(E)	IA	CSE	Viva (V)	Term Work (TW)		
0	0	2	1	0	0	0	0	50	50

Content:

Sr. No.	Content	Total Hrs.
1	<p>Introduction: Introduction to mechanical workshop its plan and layout. Learn about various safety related rules and regulation.</p> <p>Demonstration of various tools which are used in workshop like hand tools, power tools, various measurement equipment, study of different types of materials, various processes like Finishing, Marking, Cutting, Smoothing, Bending etc.</p>	04



2	Fitting Shop and Carpentry Shop Demonstration of fitting and carpentry job and make job physically	08
3	Metal Removing Operations Introduction to Lathe machine, Various parts of Lathe machine, Various operations on lathe machine	04
4	Laser Cutting Operation Introduction to 2D CAD drawing, exporting 2D drawing to software, Principle of Laser cutting machine, Demonstration of laser cutting operation.	04
5	Additive Manufacturing Introduction to Additive Manufacturing, use of 3D models in additive manufacturing, demonstration of 3D printing process	04
6	Manufacturing of composite materials Introduction to composite materials, different manufacturing methods of composite materials, materials used for manufacturing of composite materials, GFRP manufacturing	04

List of Experiments:

1. Fitting job and Carpentry job
2. Metal removing operations on lathe machine
3. Laser cutting operation
4. Manufacturing of prototype using 3D printer
5. Manufacturing of GFRP composite

Major Equipment:

1. Hand tools and Power tools
2. Bench vise
3. Lathe machine
4. Laser cutting machine
5. 3D printer

Reference books:

1. Elements of Workshop Technology, Volume-2: Machine Tools, S.K. Hajra Choudhury, Nirjhar Roy, MPP Publication
2. The Laser Cutting Process: Analysis and Applications, Bekir Sami Yilbas, Elsevier Publication



3. Additive Manufacturing Technologies: 3D Printing, Rapid Prototyping and Direct Digital Manufacturing, Ian Gibson, David Rosen, Brent Stucker, Springer
4. Composite Materials: Science and Engineering, Krishan K Chawla, Springer

List of Open Base Software / learning website:

1. NPTEL Courses

A handwritten signature in blue ink, consisting of several vertical strokes followed by a horizontal flourish.

Subject Code: 01ME0301

Subject Name: Applied Differential Equation

B.Tech. IInd Year Semester: III

Type of course: Under Graduate

Prerequisite: Engineering Mathematics I, Engineering Mathematics II

Rationale: After learning this subject student will be able to apply Fourier series, Laplace transform and differential equation methods for solution of engineering problems

Course Outcome:

After completion of this course, student will be able to

1. Expand various functions in terms of sine and cosine functions.
2. Classify and apply the standard methods to solve ordinary and partial differential equations.
3. Apply Laplace transform and Fourier series to solve differential equations.
4. Apply the knowledge of differential equations and its solutions to evaluate engineering problems.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks					Total Marks
L	T	P		Theory Marks			Practical Marks		
			ESE(E)	IA	CSE	Viva (V)	Term Work		
4	2	-	5	50	30	20	25	25	150

Content:

Sr.	Content	Total
1	Fourier series: Periodic functions, Fourier series of functions of any period, Fourier series of Even and odd functions, Half range Expansions, Fourier integrals.	14
2	Laplace Transforms: Laplace transforms definition, Laplace transforms of some elementary functions, Inverse transforms, Linearity and shifting properties, Laplace transforms of derivatives and integrals, Differentiation and integrations of Transforms, Convolution theorem and its application to obtain inverse Laplace transform, Laplace transform of periodic functions, Unit step function, Unit impulse function (Dirac delta function), second shifting property, Applications of Laplace transforms to solve ODE and system of ODE.	16

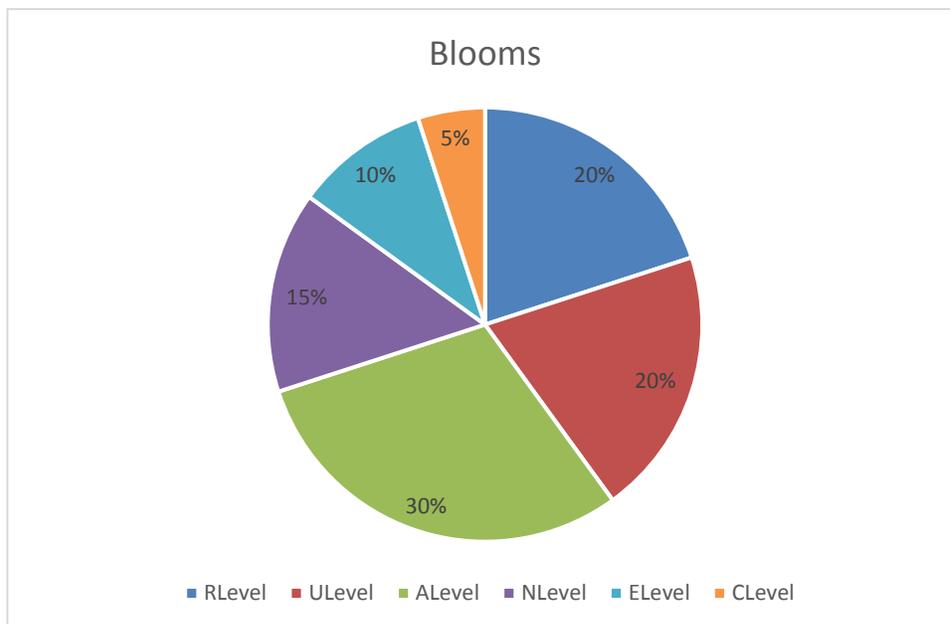


3	<p>Linear Differential Equations:</p> <p>Solution of homogeneous linear differential equations with constant coefficients, Non homogeneous linear differential equations, particular integrals by Inverse Operators and Variation of Parameters, Euler-Cauchy's differential equations with variable coefficients, Power Series solution of ODE.</p>	10
4	<p>Partial Differential Equations:</p> <p>Formation of PDE, Methods of solutions, Lagrange's linear partial differential equation, Special types of Nonlinear PDE of the first order, method of separation of variables.</p>	10
5	<p>Applications of differential equations:</p> <p>Application of ODE: Mechanical vibration system, Electrical circuit system, Application of PDE: Heat, wave, Laplace equations and their solution by method of separation of variables and Fourier series.</p>	10

Distribution of Theory Marks

R Level	U Level	A Level	N Level	E Level	C Level
20	20	30	15	10	5

Legends: R: Remembrance; **U:** Understanding; **A:** Application, **N:** Analyze, **E:** Evaluate **and C:** Create




List of Assignment:

Assignment should be designed to include chapter no 1, 2 & 3. Machine Design Portion.

1. Theory and Example on Fourier series.
2. Theory and Example on Laplace transe form
3. Theory and Example on linear differential Equations.
4. Theory and Example on partial differential Equations.
5. Theory and Example on application of differential equations.

Reference books:

1. 1. M. D. Weir et al: Thomas' Calculus, 11th Ed., Pearson Education, 2008.
2. 2. Stewart James: Calculus Early Transcendental, 5th Ed., Thomson India, 2007
3. 3. Wylie & Barrett: Advanced Engineering Mathematics, Mc Graw Hill pub.
4. 4. Greenberg M D: Advanced Engineering Mathematics, 2nd ed., Pearson.

List of Open Base Software/learning website:

1. Web site: <http://mathworld.wolfram.com/>
<http://en.wikipedia.org/wiki/Math>



Subject Code: 01ME1301
Subject Name: Fluid Mechanics
B.Tech. II Year – (Sem-3) Mechanical & Automobile Engineering
Type of course: Fundamental

Prerequisite: NIL

Rationale: To provide fundamental knowledge of fluids, its properties and behavior under various conditions

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Evaluation Scheme					Total Marks
Theory	Tutorial	Practical		Theory Marks			Practical Marks		
				ESE (E)	IA	CSE	Viva (V)	Term Work (TW)	
3	0	2	4	50	30	20	25	25	150

COURSE OUTCOME

After learning the course, students will have/will be able to

1. Determine the fluid properties and flow parameters
2. Analyse various hydraulic systems by applying the fundamental laws of fluid statics
3. Distinguish between different types of fluid flows and solve the fluid flow governing equations by taking suitable assumptions
4. Evaluate major and minor losses in pipes
5. Apply principles of dimensional analysis on real life problems
6. Interpret the boundary layer aspects of laminar and turbulent flows

SR NO	CONTENTS	TOTAL HOURS	WEIGHTAGE
1	INTRODUCTION TO FLUID STATICS: Definition of fluid, Fluid properties, Classification of fluids, Pascal's Law and Hydrostatic Law, Pressure and its variation in a static Fluid, Measurement of static fluid pressure: Manometers	4	10 %
2	HYDROSTATIC FORCES AND BOUYANCY:	6	13 %



	Hydrostatic forces on Plane –Inclined and Curved surfaces, Buoyancy, Condition of Equilibrium for Submerged and Floating Bodies, Centre of Buoyancy, Metacentre–Determination of Metacentric Height		
3	FLUID KINEMATICS AND DYNAMICS: Fluid kinematics: Description of fluid motion – Lagrangian and Eulerian approach, Types of flows, Control volume, Material derivative and acceleration, Streamlines, Pathlines and Streaklines, Circulation and Vorticity, Stream function and velocity potential function, Vortex flow Fluid dynamics: Continuity equation, Euler’s equation of motion, Bernoulli’s equation, Practical applications of Bernoulli’s equation in flow measurement devices like venturi meter, orifice meter and pitot tube, elementary Theory of notches	10	24 %
4	VISCOUS FLOW AND TURBULANT FLOW: Reynolds number, flow of viscous fluid through circular pipe-Hagen Poiseuille formula, Flow of viscous fluid between two parallel fixed plates, power absorbed in viscous flow through - journal, foot step and collar bearing, movement of piston in dash pot, methods of measurement of viscosity, Moody diagram resistance of smooth and rough pipes shear stress and velocity distribution in turbulent flow through pipes	8	20 %
5	FLOW THROUGH PIPES: Darcy-Weisbach equation, major and minor losses in pipes, pipe friction, parallel, series and branched pipes	3	7%
6	DIMENSIONAL ANALYSIS: Dimensional homogeneity, Rayleigh’s method, Buckingham π theorem, Non-dimensional numbers, Model laws and distorted models, Modelling and similitude	5	12%
7	BOUNDARY LAYER FLOW: Boundary layers, Laminar flow and turbulent flow, Boundary layer thickness, Momentum integral equation, Drag and lift, Separation of boundary layer, Methods of preventing the boundary layer separation	6	14%
8	COMPRESSIBLE FLOW: Basic equations for one dimensional, compression, Pressure wave propagation, sound velocity in fluid, Mach number, Stagnation properties	Using Swayam/NPTEL platforms	



R Level	U Level	A Level	N Level	E Level
15	20	25	25	15

Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze, and E: Evaluate

Reference Books:

1. Fluid Mechanics and Fluid Power Engineering by D.S. Kumar, S. K. Kataria & Sons, 9th Edition, 2015.
2. Fluid Mechanics and Hydraulic Machines by R.K. Bansal, Laxmi Publications, 10th Edition, 2019.
3. Fluid Mechanics and Hydraulic Machines by R.K. Rajput, S. Chand & Co, 6th Edition, 2015.
4. Fluid Mechanics by Frank M. White, McGraw Hill Publishing Company Ltd, 8th Edition, 2016.
5. Fundamentals of Fluid Mechanics by Munson, Wiley India Pvt. Ltd, 8th Edition, 2020.
6. Yunus A. Çengel, John M. Cimbala, Fluid Mechanics: Fundamentals and Applications, McGraw-Hill, 4th Edition, 2018.

List of Experiments

1. To determine the different types of flow Patterns by Reynolds's experiment
2. Verification of Bernoulli's theorem
3. To determine the friction factor for different pipes
4. To determine the loss coefficients for different pipe fittings (for sudden enlargement and sudden contraction)
5. To determine the loss coefficients for different pipe fittings (for bend and elbow)
6. To determine the coefficient of discharge through an orifice meter
7. To determine the coefficient of discharge through venturi meter
8. To measure the velocity of flow using pitot tube
9. To determine the coefficient of discharge through open channel flow over a rectangular notch
10. To determine the coefficient of discharge through open channel flow over a V-shaped notch
11. To determine metacentric height of floating body
12. Free and forced vortex flow

List of open-source software/learning website:

1. <http://nptel.iitm.ac.in>
2. <http://media.efluids.com/galleries/all>
3. <https://swayam.gov.in/>



Subject Code: 01ME0302

Subject Name: Kinematics of Machines

B.Tech. II Year (Sem-III) Mechanical & Automobile Engineering.

Type of course: Engineering Science

Prerequisite: NIL

Rationale: Kinematics of machines is intended to impart the fundamental knowledge of mechanism and machines so as to understand their functional aspects and perform the kinematic analysis of machine elements like linkages, gears and cams.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Evaluation Scheme					Total Marks
Theory	Tutorial	Practical		Theory Marks			Tutorial/Practical Marks		
				ESE (E)	IA	CSE	Viva (V)	Term Work (TW)	
4	2	0	5	50	30	20	25	25	150

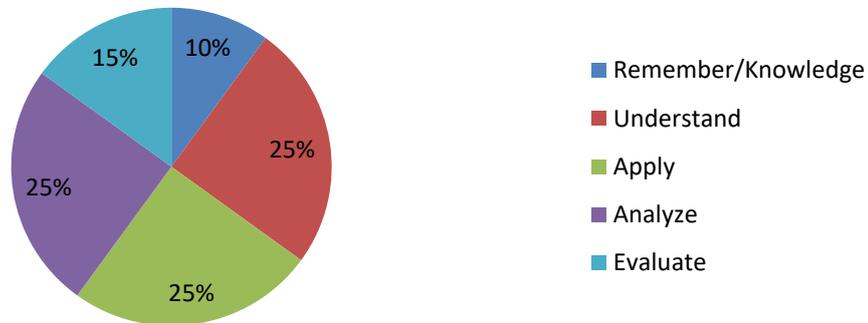
Content:

No	Module	Sub Module	Topics	Weight age %	Duration
1	Mechanisms & Machines	Introduction	Various mechanisms & machines	10	1
			various types of links, kinematic pairs & kinematic chain		
		Types of motion, mobility of a mechanism - Kutzbach and Grubler's criterion			
		Classification	Classification of Mechanisms		2
		Inversion	Concept of inversion, Kinematic inversion of four bar, single slider, & double slider crank chain		3
2	Synthesis & Analysis of	Introduction	Concept of synthesis & its classification	15	3
			Various types of synthesis problems		



	mechanisms	Graphical synthesis & analysis	Accuracy points for function generation, Analysis of four bar mechanism using Freudenstein's equation, synthesis of four bar & slider crank chain mechanism using graphical techniques		5
3	Kinematic Analysis	Velocity analysis	Analysis of Velocity diagrams, Relative velocity method, Instantaneous centre method, rubbing velocity	15	4
		Acceleration analysis	analysis of acceleration diagram, Klien's construction, Corioli's component of acceleration.		4
4	Special Mechanisms	Functional aspects	Various types of lower pair mechanisms such as Straight line mechanism, Indicator diagrams, universal Joint, Steering gear Mechanism	10	6
5	Gears	Introduction	Introduction & various types of toothed wheels, Terminology of gear, fundamental condition for constant velocity ratio, sliding velocity	15	2
		Forms of gears teeth	Cycloidal profile teeth, Involute profile Teeth , Relative benefits and drawbacks of cycloidal and involute tooth forms,		2
		Interference	Conatact ratio, Interference & undercutting in involute gears, Minimum number of teeth to avoid interference		3
		Functional aspects	Basic concepts of Worm, Bevel, helical & spiral gears		2
6	Gear Trains	Introduction	Basic concepts of Simple, compound & reverted gear trains,	10	2
		Analysis	Motion Analysis of Epicyclic gear trains by different methods		4
7	Cam & Follower	Introduction	Introduction to various classification of cam & follower, terminology of cam various types of displacement, velocity & acceleration diagrams for various follower motions,	25	1
					2
		Cam profile construction	Determination of basic dimensions of profile of cam and its construction using Graphical techniques		7



**References:**

1. Theory of Machines and Mechanisms (3/e 2009, 2013 Impression) Uicker J J Jr., Pennock G R, Shigley J E, Oxford Press.
2. Kinematics and Dynamics of Machinery (1/e 2009, 2013 Reprint) Norton R L, McGraw-Hill
3. Mechanism and Machine Theory (2013 Reprint), Ambekar, A G, Prentice Hall
4. Theory of Machines, Singh Sadhu, Pearson Education
5. Theory of Machines, Rattan S S, Tata McGraw-Hill

Web Resources

<http://kmoddl.library.cornell.edu/>

Course Outcomes:

- Identify the functional characteristics of various machine elements
- Synthesize and analysis the motion parameters of mechanisms
- Understand the functional characteristics of various gears
- Analyse the motion of gear trains
- Analyse the motion of cam and follower



List of Open Source Software/learning website:

1. <http://nptel.iitm.ac.in>,
2. <http://vlab.co.in/>



Subject Code: 01ME1402
Subject Name: Manufacturing Processes-II
B.Tech. (II Year) Semester-IV Mechanical & Automobile Engineering
Type of course: Engineering Science

Prerequisite: Knowledge of Manufacturing process-I

Rationale: Understanding of basic principles of manufacturing techniques and proper selection of manufacturing processes is required in various field of engineering.

Teaching and Examination Scheme:

Teaching Scheme			Credits C	Examination Marks					Total Marks
L	T	P		Theory Marks			Practical Marks		
				ESE	IA	CSE	VIVA	TW	
3	---	2	4	50	30	20	25	25	150

Content:

Sr. No	Module	Topic	Detail	Weightage	Hours
1	Metal Casting	PATTERN MAKING	Identification		
			Design with allowances	8	5
		MOULD MAKING	Making a wooden pattern		
			Composition, methodology		
			No-back mould making	8	5
		SAND TESTING	Sodium silicate mould making		
			Specimen preparation		
			Permeability testing	11	4
		METAL PORING	Clay Content testing		
			Sieve analysis		
Melting metal for ready to pour					
INVESTMENT CASTING	Gating system design & preparation	6	2		
	sand mould casting				
	Industry visit and summery report	10	2		
Study of other/remaining casting	Working principle and methodology				
			10	3	

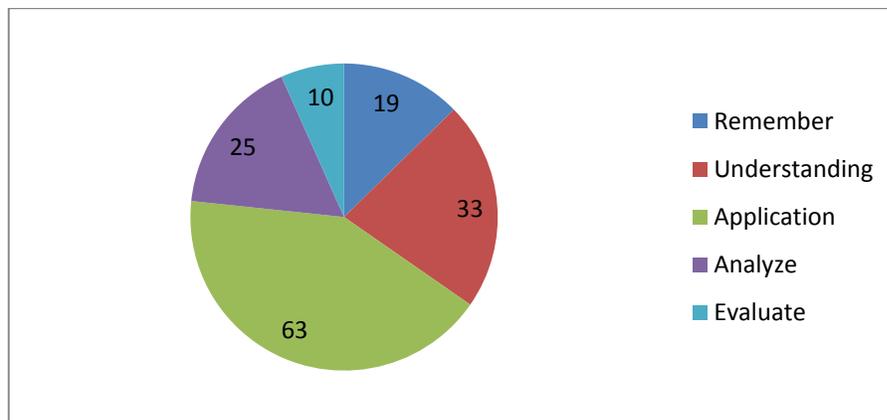


		techniques		
		Metal casting defects	List of defects with causes and remedies	7 3
		TOTAL (a)		60 24
		Introduction	Types of joint and edge preparation	4 2
		SMAW (SHIELDED METAL ARC WELDING)	Working Principle and set-up Parameters Performance	5 2
		MIG (METAL INERT GAS WELDING)	Working Principle and set-up Parameters Performance	5 2
		TIG (TUNGSTEN INERT GAS WELDING)	Working Principle and set-up Parameters Performance	5 2
2	Metal Joining		Working Principle and set-up	
		SPOT WELDING	Parameters Performance	5 2
		OXY-ACEYTYLENE GAS WELDING/CUTTING	Working Principle and set-up Parameters Performance	5 2
		FRICTION STIR WELDING	Working Principle and set-up Parameters Performance	5 2
		Study of other/remaining metal joining processes	Working principle and methodology	3 2
		Metal joining defects	List of defects with causes and remedies	3 2
		TOTAL (b)		40 18
	Metal Forming	Rolling	Working Principle and set-up Parameters	- -
3	(from Virtual lab) (To be performed in lab duration)	Forging	Working Principle and set-up Parameters	- -
		Extrusion	Working Principle and set-up	- -



	Parameters		
Drawing & Deep drawing	Working Principle and set-up	-	-
	Parameters	-	-
Metal forming defects	List of defects with causes and remedies	-	-
	TOTAL (c)	-	-
TOTAL [(a) + (b)]		100	42

Final Exam of MP-II		
Making a componet which require minimum two machine		
Detail	Marks	Hours
Pattern making for the given drawing	15	6
Sand casting for the given component	15	
To prepare a weld joint by arc welding	10	
To Prepare a joint by spot welding	10	
Total	50	6


Reference Books:

1. Manufacturing Engineering and Technology By S. Kalpakjian, Pearson.
2. Manufacturing Processes Vol-I, By P.N.Rao, Mac-grawhill publication.
3. Manufacturing technology –I, by P.C.Sharma, S.Chand Publication.
4. Manufacturing Processes and Systems, 9th Ed. Phillip F., Ostwald, Jairo Munoz, Wiley India
5. Casting Practice by John Campbell, Elsevier/Butterworth-Heinemann publication.
6. Welding Engineering and Technology, by R.S.Parmar, 2nd edition, khanna publication.
8. Welding Technology, by O. P. Khanna, Dhanpat Rai publishers.
9. Welding process technology by Houldcroft P.T., Cambridge University Press, 1977.



Course Outcome:

After learning the course the students should be able to:

- CO1** Understand the basic concept of different manufacturing processes and their parameters.
- CO2** Compare the different manufacturing processes and parameters.
- CO3** Choose the right manufacturing process according to requirements.
- CO4** Analyze any conventional processes and parameters.
- CO5** Develop the sequence of operations to produce the end product.
- CO6** Judge the limitations and scope of process to perform variety of functions.

Major Equipment:

1. Different patterns for Demonstration
2. Small Foundry
3. Arc welding Machine (SMAW, TIG, MIG etc.)
4. Resistant Spot welding m/c.
5. Oxy- Acetylene welding machine.

List of Open Source Software/learning website:

1. <http://nptel.iitm.ac.in>,
2. <http://vlab.co.in>
3. <http://www.sme.org/fmp/>
4. <http://efoundry.iitb.ac.in/Academy/index.jsp>





Subject Code:01ME0304

Subject Name: Design Thinking and Problem Solving Skills

B.Tech. Year - II

Objective: The main objective of this course is to inculcate interdisciplinary engineering skills in students for taking real time engineering problem available in our society/industry and to come-up with the grass root innovation, can be helpful to all level of human beings.

Credits Earned: 1 Credits

Course Outcomes: After completion of this course, student will be able to

1. Understand the importance of Design Thinking.
2. Evaluate the quality of your information and your emotions; keep thinking straight.
3. Identify skills and personality traits of successful problem solving.
4. Apply standard problem-solving heuristics to aid in problem solving.
5. Apply problem-solving techniques to programming activities.
6. Formulate and successfully communicate the solutions to problems.

Pre-requisite of course: Not Required.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
0	0	2	1	0	0	0	25	25	50



Contents:

Units	Topics	Contact Hours
Module-1 Design Thinking Introduction	Introduction, Need of Design Thinking, Traditional Problem Solving versus Design Thinking, phases of Design Thinking, Tools for Design Thinking, Relevance of Design and Design Thinking in Engineering	3
Module-1 Team Formation, Documentation and Canvas	Team Building Domain Selection (Society/Industry project), Log Books-need, types of log book, preparation of log book, Importance of Documentation, Strategy Design	3
Module-1 Design Thinking Exercise	Formation of Team and aspects for the selection, Domain selection, Observation exercise, Design activities through Canvas, Brainstorming for the problem, Users Interview conduction, generation of records via logbooks	6
Module-2 Problem Solving Skills Introduction	Developing logical thinking. Introduction to Problem Solving in Computer Science domain, Errors in reasoning; verbal reasoning; analogy problems lateral thinking	4
Module-2 Problem Solving Techniques	Deductive and hypothetical reasoning; computational problem solving; generating, implementing, and evaluating solutions; interpersonal problem solving	4
Module-2 Problem Solving Exercise	Group Activities based assignments related to problem solving skills will be given for better understanding and development of problem solving skills	4
Module-3	Mini project exercise based on understanding of	6



Capstone Project	modules contents	
		Total Hours
		30

Note: Mentors are advised to take suitable project/activity to explore the above topics and make students understand the various concepts.

References:

1. H. S. Fogler and S. E. LeBlanc, Strategies for Creative Problem Solving, 2nd edition, Pearson, Upper Saddle River, NJ, 2008.
2. A. Whimbey and J. Lochhead, Problem Solving & Comprehension, 6th edition, Lawrence Erlbaum, Mahwah, NJ, 1999.
3. M. Levine, Effective Problem Solving, 2nd edition, Prentice Hall, Upper Saddle River, NJ, 1994

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done based on continuous evaluation of students in the laboratory and classroom.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. <https://www.coursera.org/learn/uva-darden-design-thinking-innovation>
2. http://www.cs.odu.edu/~cs381/cs381content/problem_solving/problem_solving.html



3. <https://www.cs.vt.edu/undergraduate/courses/CS2104>
4. <https://ryanstutorials.net/problem-solving-skills/>
5. <http://courses.cs.vt.edu/cs2104/Fall17Barnette/>
6. <https://www.k-state.edu/wwparent/programs/hero/hero-action.htm>
7. <http://proquest.safaribooksonline.com/book/programming/9781457169618/firstchapter>

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Subject Code: 01ME0271

Subject Name: Numerical Analysis

B.Tech. IInd Year Semester: IV

Type of course: Under Graduate

Pre requisite: Adequate knowledge of Differentiation and Integration

Rationale: Application of various Numerical Analysis methods for solution of Engineering problems

Course Outcome:

After learning the course, the students will be competent

1. Recognize the error in the number generated by the solution
2. Compute solution of algebraic and transcendental equation by numerical methods like Bisection method and Newton Rapshon method
3. Apply method of interpolation and extrapolation for prediction
4. Use numerical methods and tools in the engineering problem solving process.
5. Student able to apply numerical integration in engineering problems
6. Student able to apply ordinary differential equation in engineering problems

Teaching and Examination Scheme:

No.	Content	Total Hrs
1	Numerical Analysis and Computers: Concepts and definition, Representation of numbers in computers, types of errors, basic sources of errors, significant digits, computer arithmetic, errors in computations with digital computers.	8
2	Approximate solutions of nonlinear equations and system of linear equations : Bisection method, Method of false position, Method of Iteration, Newton- Raphson method for single variable convergence criteria and rate of convergence and for simultaneous equations with two variables, Convergence criteria and rate of convergence, Convergence criteria and error estimates for these methods	12

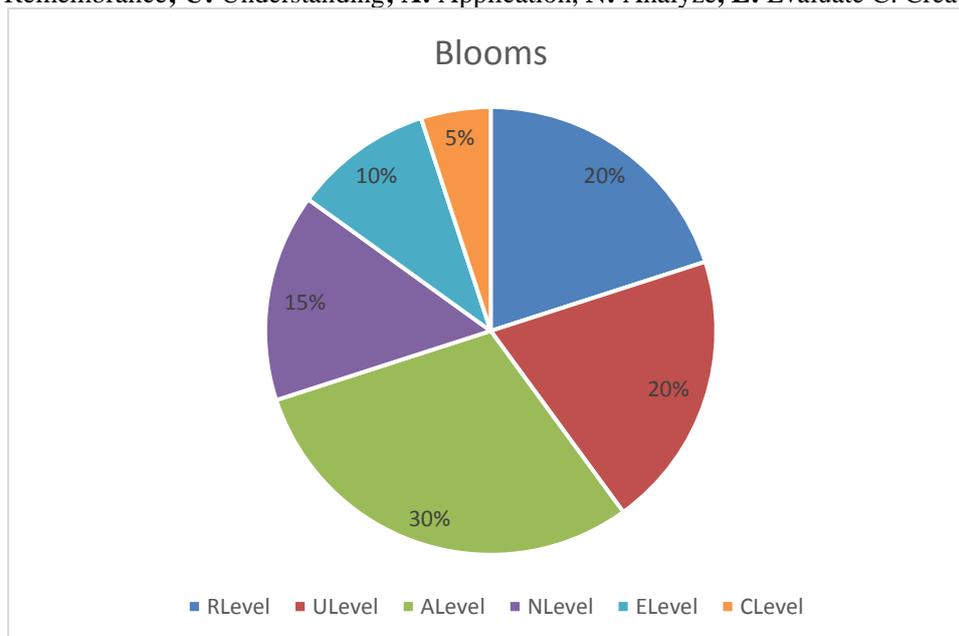


3	Numerical Differentiation and Integration Approximate differentiation based on Newton's interpolation, Newton – cotes quadrature formula, trapezoid rule, Simpson's rules, Remainder terms, error bounds and estimates of these rules, Gaussian integration.	10
4	Interpolation, Curve fitting Finite differences of various orders, difference table, Newton's formulae for interpolation, Lagrange's Interpolation formula, Error estimates of these formulae.	10
5	Numerical solution of ordinary differential equation Single step methods – Taylor series, Euler's and modified Euler, Runge - Kutta method of 2nd and 4th order, Multistep Methods- Milne's and Adam's – Bashforth predictor corrector methods.	10

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Distribution of Theory Marks

R Level	U Level	A Level	N Level	E Level	C Level
20	20	30	15	10	5

Legends: R: Remembrance; **U:** Understanding; **A:** Application, **N:** Analyze, **E:** Evaluate **C:** Create



List of Assignment:

1. Theory and Example on Numerical Analysis and Computers.
2. Theory and Example on Approximate solutions of nonlinear equations and
3. Theory and Example on Numerical Differentiation and Integration.
4. Theory and Example on Interpolation, Curve fitting
5. Theory and Example on Numerical solution of ordinary differential equation.

Reference books:

1. Introductory Methods of Numerical Analysis – S.S. Sastry, Prentice Hall of India
2. Computer Oriented Numerical Methods – V Rajaraman, Prentice Hall of India
3. Numerical methods with programs in C++ - S Balachandra Rao & C K Shantha
4. Numerical Methods with programs in C and C++ - Veerarajan & Ramchndran. Tata McGraw Hill
5. A textbook of Computer based numerical and Statistical Techniques – A. K. Jaiswal & Anju Khandelwal, New Age International Publishers

List of Open Base Software/learning website:

- Web site:
1. <http://numericalmethods.eng.usf.edu>
 2. <http://mathworld.wolfram.com/>
 3. <http://en.wikipedia.org/wiki/Math>



Subject Code: 01ME1401

Subject Name: Machine Design & Industrial Drafting

 B.Tech. IInd Year (Sem - IV) Mechanical & Automobile Engineering

Type of course: Under Graduate

Prerequisite: Engineering Graphics, Mechanics of Solid.

Rationale: Understanding the Geometrical Dimension and Tolerance for Production Drawing & Design the Machine Component.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks					Total Marks
L	T	P		Theory Marks			Practical Marks		
			ESE	IA	CSE	Viva	Term Work		
4	0	2	5	50	30	20	25	25	150

Content:

Sr. No	Content	Theory hrs	%Weight age
1	Principle Stresses: Introduction: Two-dimensional stress system. Evaluation of stresses in an inclined plane for members subjected to orthogonal stresses. Definition of principal plane, principal stresses, angle of obliquity, and resultant stress. Principal Stress and Strain: Evaluation of Principal plane and Principal stresses using analytical method. Analysis of Principal stresses and principal planes for two-dimensional stress system. Application of Mohr's circle and ellipse of stress.	6	10
2	Design concepts of Mechanical Components: Concepts of stresses, Strain, strain and its relation, Shear loading and Torsion as well as Bending loads; Different theories of Failures and its limitation and application for Different theories i. e. Distortion energy, Maximum Shear stress, Maximum Principal stress, Coulomb-Mohr Theory, Factor of safety and its different parameters for selection, Selection of theories of failures and Use of theories of failures; Contact stresses, Crushing and Bearing pressure.	6	10
3	Design of Mechanical Joints: Temporary Joint Cotter and Knuckle Joints: Design of Cotter and Knuckle Joints Screw and nut: Different types of thread for Single as well as Multiple threaded screw, screw fastening and its types, Cap and Set screw, concept of uniform strength in bolt, locking devices , Different Terms of Screw thread, Simple and Eccentric loading. Calculation of torque for bolt tightening.	20	38



	<p>Design of Power screw: Different terms used to describe power screw, Calculation of torque required for lifting and lowering of Load, Efficiency of threads, Self-locking phenomenon, Co-efficient of friction.</p> <p>Permanent Joint : Welded Joints: different types of welded joints and stress relieving methods in weld joints, Strength of butt and fillet joint eccentric loading in the plane of weld, Welded joint subjected to bending and torsion.</p> <p>Riveted Joints: material selection and criteria for rivet joints and type of its failure, riveted joints efficiency and strength calculation, strength method for riveted joints like Caulking and Fullering, Longitudinal lap joint and circumferential lap joint, Eccentric loading condition riveted joint.</p>		
4	<p>Design of Machine Component : Shafts, Keys and Couplings Design of solid and hollow circular shaft subjected to torque as well combined loading; Design of shaft based on rigidity and stiffness; Design of Keys: Saddle, Sunk, Woodruff, Square, and Flat. Design and Concept of Couplings, Rigid coupling Flexible coupling.</p>	16	22
5	<p>Design and analysis of levers: Cranked, Bell crank, Foot, Rocker arm.</p>	6	10
6	<p>Columns: Type of loading compressive axial loading of columns and struts, Slenderness ratio, Compressive stress and buckling of components, Effect of end forms. Euler's equation with applications and validate with limitations, Rankine and Johnson's equation, Eccentric loading for long columns.</p>	6	10
7	<p>Geometric Dimensioning and Tolerance (GD&T) : Basic terminology of GD & T , major advantages of geometric dimensioning and tolerance GD&T Concepts and its application, Size Tolerance Machining flowchart, Requirement of dimensional tolerance, Tolerance dimensioning, Methods of conveying tolerance in industrial drawing, Identifying the tolerance for the assembly drawing, Tolerance for Manufacturing process.</p>	6	To be covered in Lab
8	<p>Limits , Fit, And Tolerances & Surface Roughness : Deviation , Hole and shaft basic system , Indian Tolerance grades, Different types of Fits with application , Allowance , Clearance, Maximum Material Condition of a feature of size , Minimum Material Condition of a feature of Modifiers and Symbols , Types of geometric characteristic symbols , Fourteen geometric characteristic symbols , Common modifying symbols used in geometric tolerance , Detecting the parts of a feature control frame , Detecting the additional symbols used in geometric tolerance Parameters of surface texture and qualifications, Relation of surface roughness and various manufacturing processes, Surface Lay Indication.</p>	8	To be covered in Lab



Course Outcome:

After learning the course the students will be competent

1. To Recognize the Important of GD & T.
2. To generate and interpret assembly and production drawings in 2D Drafting Computer software Packages.
3. To analyze components subjected to various mechanical loads.
4. To analyze beams and columns for stresses and deflection.
5. To design and analyze shafts, keys and couplings.
6. To select fasteners and design welded / riveted joints.

List of Experiments:

Practical should be designed to include chapter no 4 & 5. Industrial Drafting Portion.

1. Problems related to Limits, fits and tolerances & Indian Tolerance Grade.
2. Introduction to computer aided drafting tools and 2D software Packages, Using drafting software, generate Assembly and Production drawings after completion of basic Drawing.
3. Understanding of Reverse Engineering and Draw at least two Assembly drawing and Detailed Drawing of Actual Machines per industrial Standard.
4. Case study on Drafting and Designing problem Any Real case of Industrial problem and Solution.

List of Assignment:

Assignment should be designed to include chapter no 1, 2 & 3. Machine Design Portion.

1. Theory and Example on Beam & Column.
2. Theory and Example on Lever & Rocker Arm.
3. Theory and Example on Shaft, Key and Coupling.
4. Theory and Example on Power Screw.
5. Theory and Example on All Temporary Joint.
6. Theory and Example on All Permanent joint.

Major Equipment: 1. Computational facility. 2. CAD Software 3. Workshop hand tool and Machinery.

Design based Examples (DE)/ Open Ended Example:

Design / Analyse a mechanical structure which may involve different components included in Syllabus from Machine Design Portion. Prepare assembly and production drawings in 2D computer Graphics.

List of Open Base Software/learning website:

<http://nptel.ac.in/course.php>



Subject Code: 01ME1402
Subject Name: Manufacturing Processes-II
B.Tech. (II Year) Semester-IV Mechanical & Automobile Engineering
Type of course: Engineering Science

Prerequisite: Knowledge of Manufacturing process-I

Rationale: Understanding of basic principles of manufacturing techniques and proper selection of manufacturing processes is required in various field of engineering.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks					Total Marks
L	T	P		Theory Marks			Practical Marks		
			ESE	IA	CSE	VIVA	TW		
3	---	2	4	50	30	20	25	25	150

Content:

Sr. No	Module	Topic	Detail	Weightage	Hours
1	Metal Casting	PATTERN MAKING	Identification		
			Design with allowances	8	5
		MOULD MAKING	Making a wooden pattern		
			Composition, methodology		
			No-back mould making	8	5
		SAND TESTING	Sodium silicate mould making		
			Specimen preparation		
			Permeability testing	11	4
		METAL PORING	Clay Content testing		
			Sieve analysis		
Melting metal for ready to pour					
INVESTMENT CASTING	Gating system design & preparation	6	2		
	sand mould casting				
	Industry visit and summery report	10	2		
		Study of other/remaining casting	Working principle and methodology	10	3

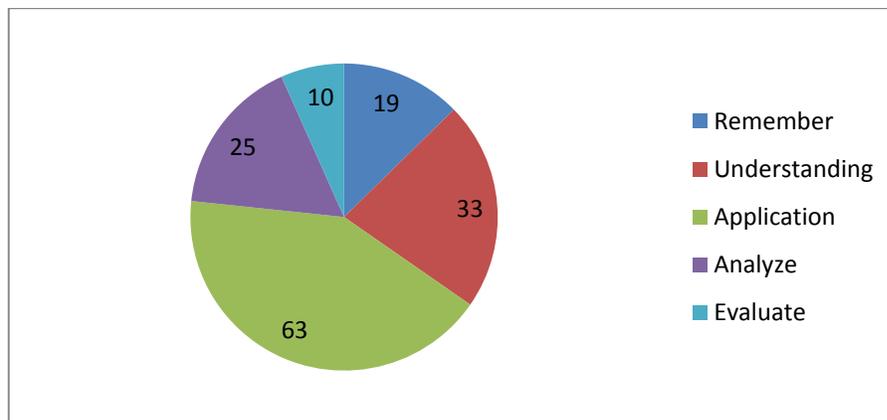


		techniques		
		Metal casting defects	List of defects with causes and remedies	7 3
		TOTAL (a)		60 24
		Introduction	Types of joint and edge preparation	4 2
		SMAW (SHIELDED METAL ARC WELDING)	Working Principle and set-up Parameters Performance	5 2
		MIG (METAL INERT GAS WELDING)	Working Principle and set-up Parameters Performance	5 2
		TIG (TUNGSTEN INERT GAS WELDING)	Working Principle and set-up Parameters Performance	5 2
2	Metal Joining		Working Principle and set-up	
		SPOT WELDING	Parameters Performance	5 2
		OXY-ACEYTYLENE GAS WELDING/CUTTING	Working Principle and set-up Parameters Performance	5 2
		FRICTION STIR WELDING	Working Principle and set-up Parameters Performance	5 2
		Study of other/remaining metal joining processes	Working principle and methodology	3 2
		Metal joining defects	List of defects with causes and remedies	3 2
		TOTAL (b)		40 18
	Metal Forming	Rolling	Working Principle and set-up Parameters	- -
3	(from Virtual lab) (To be performed in lab duration)	Forging	Working Principle and set-up Parameters	- -
		Extrusion	Working Principle and set-up	- -



	Parameters		
Drawing & Deep drawing	Working Principle and set-up	-	-
	Parameters	-	-
Metal forming defects	List of defects with causes and remedies	-	-
	TOTAL (c)	-	-
TOTAL [(a) + (b)]		100	42

Final Exam of MP-II		
Making a componet which require minimum two machine		
Detail	Marks	Hours
Pattern making for the given drawing	15	6
Sand casting for the given component	15	
To prepare a weld joint by arc welding	10	
To Prepare a joint by spot welding	10	
Total	50	6


Reference Books:

1. Manufacturing Engineering and Technology By S. Kalpakjian, Pearson.
2. Manufacturing Processes Vol-I, By P.N.Rao, Mac-grawhill publication.
3. Manufacturing technology –I, by P.C.Sharma, S.Chand Publication.
4. Manufacturing Processes and Systems, 9th Ed. Phillip F., Ostwald, Jairo Munoz, Wiley India
5. Casting Practice by John Campbell, Elsevier/Butterworth-Heinemann publication.
6. Welding Engineering and Technology, by R.S.Parmar, 2nd edition, khanna publication.
8. Welding Technology, by O. P. Khanna, Dhanpat Rai publishers.
9. Welding process technology by Houldcroft P.T., Cambridge University Press, 1977.



Course Outcome:

After learning the course the students should be able to:

- CO1** Understand the basic concept of different manufacturing processes and their parameters.
- CO2** Compare the different manufacturing processes and parameters.
- CO3** Choose the right manufacturing process according to requirements.
- CO4** Analyze any conventional processes and parameters.
- CO5** Develop the sequence of operations to produce the end product.
- CO6** Judge the limitations and scope of process to perform variety of functions.

Major Equipment:

1. Different patterns for Demonstration
2. Small Foundry
3. Arc welding Machine (SMAW, TIG, MIG etc.)
4. Resistant Spot welding m/c.
5. Oxy- Acetylene welding machine.

List of Open Source Software/learning website:

1. <http://nptel.iitm.ac.in>,
2. <http://vlab.co.in>
3. <http://www.sme.org/fmp/>
4. <http://efoundry.iitb.ac.in/Academy/index.jsp>



Subject Code: 01ME0403

Subject Name: Material Science and Metallurgy

B. Tech: (II Year) IV Semester, Mechanical & Automobile Engineering

Type of course: Engineering Science

Pre requisite: Basic knowledge of Physics, Chemistry

Teaching Scheme:

Teaching Scheme			Credits	Examination Marks					Total Marks
L	T	P		C	Theory Marks			Practical Marks	
			ESE(E)		IA	CSE	Viva	TW	
4	0	2	5	50	30	20	25	25	150

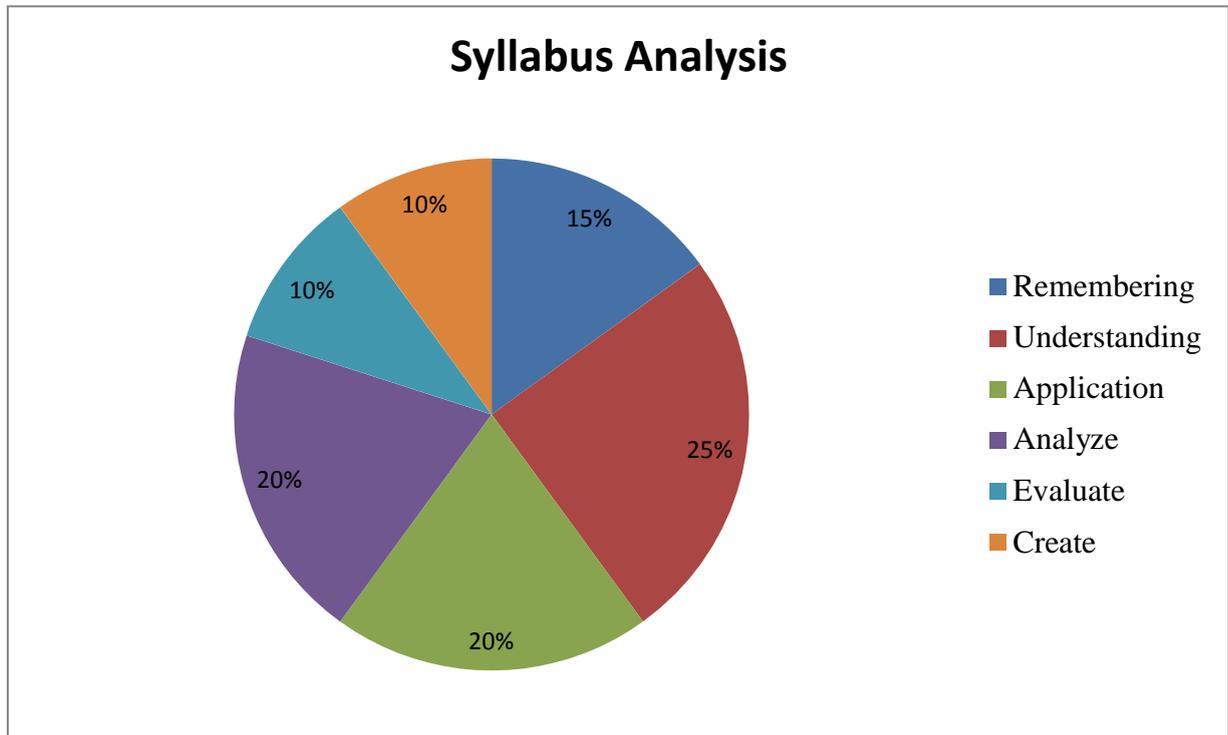
Detailed Syllabus:

Sr. No	Name of Module and Detail	Teaching Hours	Module Weighage (%)
1.	Introduction of Material science and Metallurgy: Introduction to properties of materials, Engineering Requirements of materials, Classification of Engineering Materials, Criterion for selection of materials.	02	5
2.	Metallography: Macro-examination and Micro examinations, Procedure for preparing the specimen for macro and micro examination.	01	
3.	Crystal Geometry and Structure: Crystal Structure for Metallic Elements, Types of crystal systems, Crystal lattice, Lattice parameter, co-ordination number, Atomic radius, atomic packing factors for various cubic systems, crystal Directions, Lattice Planes and Miller Indices.	06	10
4.	Solidification of Metals and Phase Diagrams: Solid Solutions: Types Solid Solutions, Hume-Rothery's Rules. Concept of solidification of metals, Solidification of pure metals, Nucleation, Growth, Growth of the new phase, Solidification of alloys, Progressive, Directional solidification & control of solidification to obtain sound	10	20

	casting. Phase Diagrams: Objectives & classification of System, phases & structural constituent of phase diagram, Gibb's solid phase rule, Cooling Curves (Time-Temperature Curves), Eutectic, Peritectic & Eutectoid system, Equilibrium diagrams for non ferrous alloys, Lever rule.		
5.	Iron-Carbon Diagram: Allotropic forms of Iron, Iron- Iron carbide equilibrium Diagram, Development of microstructure in iron-carbon alloys.	05	10
6.	Heat Treatment Processes: Definition, Purpose & classification of heat treatment processes for various types of special steels, Introduction applications of various case hardening & surface hardening treatments. TTT & CCT curves.	06	12
7.	Ferrous Materials Pig Iron, Wrought Iron Cast Iron: Classification of Cast irons Gray cast irons, nodular cast irons, white cast irons, malleable cast irons, chilled. Effect of various parameters on structure and properties of cast irons. Steel: Classification and application of steels, Effect of alloying elements, Specification of some commonly used steels for Engineering applications (e.g. En. AISI, ASTM, IS etc.) with examples. Classification and application of plain carbon steels.	08	15
8.	Non-ferrous alloys: Introduction, Aluminium Alloys, Magnesium and Beryllium Alloys, Copper Alloys, Nickel and Cobalt Alloys, Titanium Alloys, Refractory and Precious Metals.	04	8
9.	Non-Destructive Testing's (NDT): Radiography Testing, Dye, Penetration Testing, Magnetic Particle Testing, Ultrasonic Testing. Eddy current testing with their Principle of non-destructive testing, the test methods, relative merits, demerits and applications.	06	12
10.	Powder Metallurgy Introduction, Methods of manufacturing powders, mixing of powders, compaction, sintering, secondary operation, advantages and limitation of powder metallurgy.	04	8



* **Highlighted topics should be covered during lab session only.**

**Text Books:**

- Physical Metallurgy, Sydney H. Avner, Tata McGraw-Hill.
- Material science & Engineering of materials, Donald Asklund & Pradeep Phule, Thomson Learning.

Reference Books:

- Materials Science and Engineering, W.D. Callister, John Wiley & Sons.
- Material Science, O.P. Khanna, Dhanpat rai Publication.
- Metallurgy for engineers, V. Raghvan, PHI Learning.
- Material Science and Metallurgy, U.C. Jindal, Pearson Education.

List of Experiments:

1. To understand the construction and working of a Metallurgical Microscope.
2. To study of microstructures for various ferrous and non ferrous materials.
3. **To prepare the specimen for microscopic observation.**
4. **To determine the strength and hardness of ferrous and non-ferrous specimen.**
5. To study the effect of Heat treatment process on the Hardness and Tensile Strength of Mild Steel.

6. To show the effect of different quenching media (Oil, Water and Brine) on the hardness of Mild steel.
7. To determine the hardenability of a specimen by Jominy end quench test.
8. To study of powder metallurgy.
9. To determine the surface defect by liquid penetrant test and magnetic particle test.
10. To determine the internal defect by Ultrasonic Test.

Important Equipment Used:

1. Metallurgical Microscope.
2. Belt grinder and Polishing Machine.
3. Hardness Tester i.e. Rockwell Hardness test.
4. Muffle Furnace.
5. Jominy end quench tester.
6. NDT equipments.

Course Outcome:**After successful completion of course student will be able to:**

- CO1: Enhance the technical knowledge on Engineering materials & its applications.
- CO2: Establish important relationships between internal structure, properties and performance of materials during processing and use.
- CO3: Design the alloy system based on their knowledge of phase diagrams and metal characteristics.
- CO4: Understand different non-destructive testing methods
- CO5: Know the various heat treatment processes for steels.
- CO6: Apply the knowledge of Heat treatment process for emphasizing relation between microstructure and mechanical properties.



Design based Problems (DP)/ Open Ended Problem:

1. Students may be asked for metallography to prepare specimens for microstructure analysis. Moreover they may be asked to provide design of heat treatment cycles of specific types of steels for their applications, e.g., design heat treatment cycle for tool steel.
2. Students may be asked to choose a material for given application based on structure-property-performance relationship. Also they should give specification and designation of a chosen material.

List of Open Source Software/learning website:

1. www.nptel.ac.in



Subject Code: 01ME0404
Subject Name: Engineering Thermodynamics
B.Tech. Sem- IV
Type of course: Engineering Science

Prerequisite: Nil

Rationale: Thermodynamics is the introductory course on Thermal Science and Engineering. It comprises the understanding of certain natural laws and energy interaction prominently heat and work transfer.

Teaching and Examination Scheme:

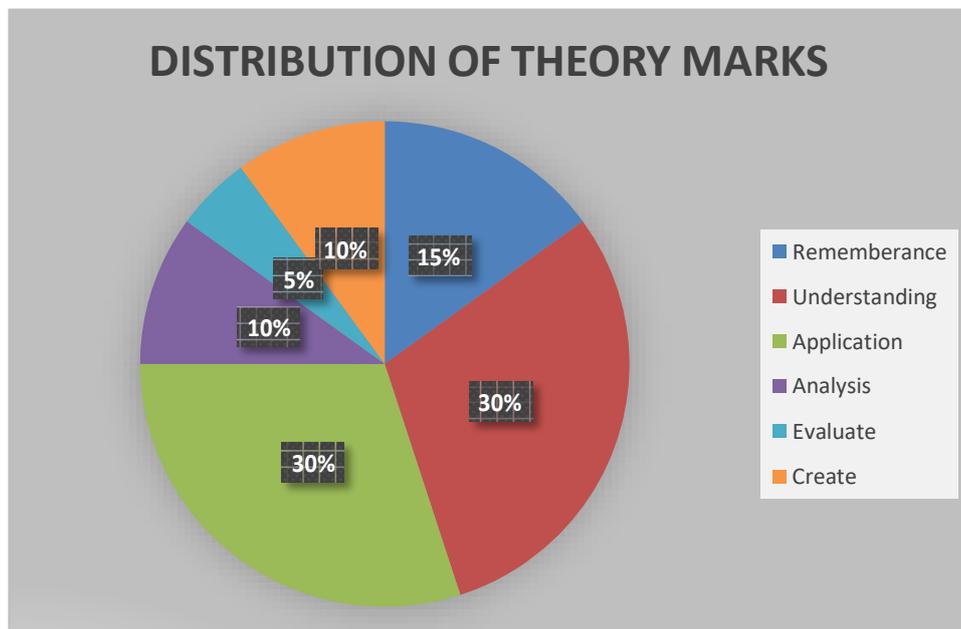
Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	CSE	Viva (V)	Term work (TW)	
4	2	0	5	50	30	20	25	25	150

Content:

Sr. No.	Content	Total Hrs	%Weight age
1.	Introduction: Concept of Continuum, Macroscopic and Microscopic approach, Control Volume, Thermodynamic System, Types of Systems, Surrounding, Universe, Boundaries, State, Point and Path Function, Thermodynamic Properties, Process, Cycle, Quasi – Static Process, Thermodynamic Equilibrium, Pure Substance, Vapour-Liquid-Solid Phase in a Pure Substance, Heat and Heat Capacity, Energy and Work Transfer, Free Expansion Work, Types of Work Transfer.	4	8
2.	Laws of Thermodynamics: Zeroth law, First law for closed system, Energy, Specific Heat Capacities, Enthalpy, PMM-I, Steady flow energy equation, Application of First Law , First Law Limitations. Second Law: Thermal Energy Reservoir, Heat Engine, Refrigerator and Heat Pump , Kelvin-Planck and Clausius Statements of Second Law, Equivalence of Kelvin-Planck and Clausius Statements, PMM-II, Reversibility and Irreversibility, Causes & types of Irreversibility, Condition for Reversibility, Carnot Cycle, Reverse Carnot Cycle, Carnot's theorem & its corollary, Kelvin Scale, Third Law of Thermodynamics.	12	22
3.	Entropy: Clausius' Theorem, Entropy-A Property of System, Inequality of Clausius, Entropy Change in Irreversible Process, Entropy Change in	6	12



	Various Thermodynamics Process, Entropy Principle and It's Applications, Entropy Generation in Closed and Open System, Entropy and Disorder.		
4.	Availability: Concept of Exergy, Available and Unavailable Energy, Exergy of a Source and Finite Body, Exergy Destruction in Heat Transfer Process, Dead State, Exergy of a Closed System and Steady Flow System, Second Law Efficiency.	6	12
5.	Vapour Power Cycle: Carnot & Rankine Cycle, Comparison of Rankine and Carnot Cycle, Efficiency Calculation of Rankine Cycle, Mean Temperature of Heat Addition, Factors Affecting Efficiency of Rankine Cycle, Reheat, Regenerative, Reheat-Regenerative Cycle, Feedwater Heaters. Air standard Efficiency and Comparison of Otto, Diesel and Dual Cycle.	16	30
6.	Ideal and Real Gases: Properties of Ideal and Real Gases, Equation of State, Avogadro's Law, Vander Waal's Equation of State, Reduced Properties, Law of Corresponding States, Compressibility Chart, Gibbs-Dalton law, Internal Energy, Enthalpy and Specific Heat of Gas Mixtures.	8	16


References Books:

1. P.K.Nag, Engineering Thermodynamics, McGraw Hill Education



2. R. K. Rajput, Engineering Thermodynamics, EVSS Thermo Laxmi Publications
3. E.Rathakrishnan Fundamentals of Engineering Thermodynamics, PHI,2005
4. Y. A. Cengel and M. A. Boles, Thermodynamics an Engineering Approach, McGraw Hill Education
5. G. Van Wylen, R. Sonntag and C. Borgnakke, Fundamentals of Classical Thermodynamics, John Wiley & Sons
6. Holman J.P, Thermodynamics, McGraw Hill Education
7. Krieth, Engineering Thermodynamics, CRC Press
8. Jones and Dugan, Engineering Thermodynamics, PHI Learning Pvt. Ltd.
9. M. Achuthan, Engineering Thermodynamics, PHI Learning Pvt. Ltd.

Course Outcome:

After learning the course the students should be able to:

1. Understand basic terms used in thermodynamics.
2. Understand the laws of thermodynamics and their significance
3. Apply the principles of thermodynamics for the analysis of thermal systems
4. Understand various vapor power cycles.
5. Understand the properties of gas mixtures

List of Open Source Software/learning website:

1. <http://nptel.iitm.ac.in/courses.php>



Subject Code: 01ME0405

Subject Name: Human Centric Design Approach

B.Tech. Year - II

Objective: This course focuses to build the empathy for the people for designing to solve the societal problem as Human-centred design. It is a creative repeatable approach for problem solving by understanding the real need of the users.

Credits Earned: 1 Credits

Course Outcomes: After completion of this course, student will be able to

1. Understand the Human Centric approach for design.
2. Understand significance of the empathy and solution based on empathy
3. Importance of design thinking when addressing social change
4. Generate the innovative ideas and will convert in new solutions.
5. Build a possible prototype solutions

Pre-requisite of course: No

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
0	0	2	0	0	0	10	20	20	50

Contents:

Unit	Topics	Contact Hours
Phase :1 Introduction to Human Centred Design	Introduction to Human-Centered Design, Design Principles, the Diamond Model, The Human-Centered Design Process, Systems Thinking, Psychology behind Design, History of Design/History of Innovation. Activity: Mini Design Challenge	4
Phase:2 Inspiration Phase	Defining and Visualizing Challenges, Team formation, Key Assumptions. Activity: Choose Your Design Problem, Plan Your Research build Interview Guide	4





	+ Activity: Conduct activity with canvas for this phase	
Phase:3 Ideation Phase	A business case developed, High-level requirements are elicited; and, A Project Overview Statement (POS), Share Stories and Learning from User Research, Ideation Methods to Select Ideas Activity: Conduct activity with canvas for this phase	4
Phase:4 Prototype Phase	What is Prototype, Types of Prototyping- Low-Fidelity Prototyping, High-Fidelity Prototyping, Guidelines for Prototyping. Discussion: Determine What to Prototype Activity: Brainstorm, Selecting Best Ideas, checking viability, Creating a Storyboard, Start Prototyping, Test Prototype and Get Feedback.	8
Module-5- Implementation Phase	Activity: Create an Action Plan Activity: Create a Pitch Activity: Share Your Solution Reflection Discussion: Moving Forward	8
	Total Hours	28

Note: Faculty are advised to take suitable project/activity to explore the above topics and make students understand the various concepts.

References:

1. Gray, Dave, Sunni Brown and James Macanufu (2010). Game Storming: A Playbook for Innovators, Rulebreakers, and Changemakers, O'Reilly Media, Inc.
2. Maul, June (2011). Developing A Business Case: Expert Solutions to Everyday Challenges, Harvard Business Review Press. Project Management Institute, (2013).
3. A Norman, D.A. (1988). The Design of Everyday Things. New York: Basic Books.
4. Stickdorn, M & Schneider, J (2011). This is Service Design Thinking. John Wiley & Sons: New Jersey



5. Stickdorn, Marc and Jakob Schneider. (2012). This is Service Design Thinking: Basics, Tools and Cases. Wiley Publishing.
6. Dubberly, Hugh and Shelley Evenson. (2010). Designing for Service: Creating an Experience Advantage. Wiley Online Library

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use resources like online videos, NPTEL course videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. IDEO Workshop: Part 1 Observations (video)
<https://www.youtube.com/watch?v=>
2. Dubberly, Hugh and Shelley Evenson. (2009). Designing for Service: Creating an Experience Advantage Design at Stanford University
3. Greenberg, S., Carpendale, S., Marquardt, N., & Buxton, W. (2012). Sketching User Experiences: The Workbook. Amsterdam: Elsevier/Morgan Kaufmann.
4. Moggridge, B. (2007). Designing Interactions. Cambridge, MA: The M.I.T. Press.
5. Stickdorn, Marc and Jakob Schneider. (2012). This is Service Design Thinking
6. Creativity. http://www.ted.com/themes/the_creative_spark.html
7. http://www.usaid.gov/sites/default/files/documents/1868/USAID_eBook.pdf
8. Kelley, David (2013). "How to Build Your Creative Confidence." Ted Talk. Retrieved from
9. http://www.ted.com/talks/david_kelley_how_to_build_your_creative_confidence?language=en



10. Osborn, Alex F. (1979). Applied Imagination: Principles and Procedures of Creative Problem Solving
11. <https://www.interaction-design.org/literature/article/stage-3-in-the-design-thinking-process-ideate>
12. <https://www.qaiglobalinstitute.com/product/design-thinking-ideation-phase/>
13. <http://www.designkit.org/human-centered-design>
14. <https://www.usertesting.com/blog/2015/07/09/how-ideo-uses-customer-insights-to-design-innovative-products-users-love/>

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Subject Code: 01ME0305

Subject Name: Fundamental of Machine Design

B. Tech. IInd Year Semester: III

Type of course: Under Graduate

Prerequisite: Engineering Graphics and Physics

Rationale: Understanding the fundamental principles, concepts and techniques, both theoretical and experimental, with emphasis on the application of these to the solution of mechanics based suitable problems in all engineering.

Course Outcome:

After learning the course, the students will be competent

1. To understand the laws of mechanics and their application to engineering problem.
2. Apply resultant force to move or equilibrant force to keep body in equilibrium.
3. To apply the fundamentals of stress/strain analysis with confidence to simple structure.
4. Apply shear force and bending moment diagrams to analyze the resistance offered by the beam and evaluate the stresses induced in beam.
5. To Analyze the Deflection of Beams, Torsion of Circular Shafts.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks					Total Marks
L	T	P		Theory Marks			Practical Marks		
			ESE(E)	IA	CSE	Viva (V)	Term Work (TW)		
4	0	2	5	50	30	20	25	25	150

Content:

Sr. No.	Topic Name	Hours
1	Introduction Terminologies: space, time, particle, rigid body, deformable body. Force: Definition, categorization of forces, Characteristics of a force, System of forces and resolution of forces. Principles of mechanics: Principles of Transmissibility, superposition, Gravitational Law and Parallelogram Law of Forces.	2



2	Fundamentals of Statics	8
	<p>Force and Force system: System of Forces its definition and application in Engineering.</p> <p>Coplanar concurrent force system: Derivation of resultant force and equilibrant force using analytical and graphical methods. Triangle law of forces and Polygon law of forces.</p> <p>Equilibrium of rigid bodies: Conditions of equilibrium, Lami's theorem and its derivation. Concept of Free body diagram in engineering. Application of Lami's theorem in various problems.</p> <p>Coplanar non-concurrent forces: Definition of moment, couple and its effect on rigid bodies. Properties of couple, equivalent force couple system with examples, Varignon's theorem and its derivation.</p> <p>Resultant of Coplanar non-concurrent Force system: Calculation of resultant force in coplanar non-concurrent force system by analytical and graphical methods.</p>	
3	Shear force and Bending moment in beams	8
	<p>Classification of loads and supports</p> <p>Support Reactions: Calculation of support reactions for determinate beams subjected different loads viz. (i) Concentrated loads and moment, (ii) Uniformly distributed load, and (iii) Uniformly Varying loads.</p> <p>Internal forces in beams: Definition of shear force and bending moment. Correlation between loading, shear force & bending moment in beams.</p> <p>Shear Force and Bending Moment Diagrams: Bending moment and shear force diagrams for beams subjected to; i) Concentrated loads and moment, (ii) Uniformly distributed load, and (iii) Uniformly Varying loads. Point of Contra flexure and maximum bending moment in a beam.</p> <p>Deflection of Beams</p>	
4	Concepts and Application of Static Friction	6
	<p>Introduction: Theory, Classification and laws of Static and Dynamic friction.</p> <p>Glossary of Terms: Angle of friction, Coefficient of friction, Angle of repose and Cone of friction.</p> <p>Application of Static Friction -</p> <p>(a) Block friction: Solutions of problems involving block friction in horizontal and inclined planes.</p> <p>(b) Ladder Friction: Solution of various problems.</p> <p>(c) Wedge, Belt and Rope Friction: Solution of various problems.</p>	





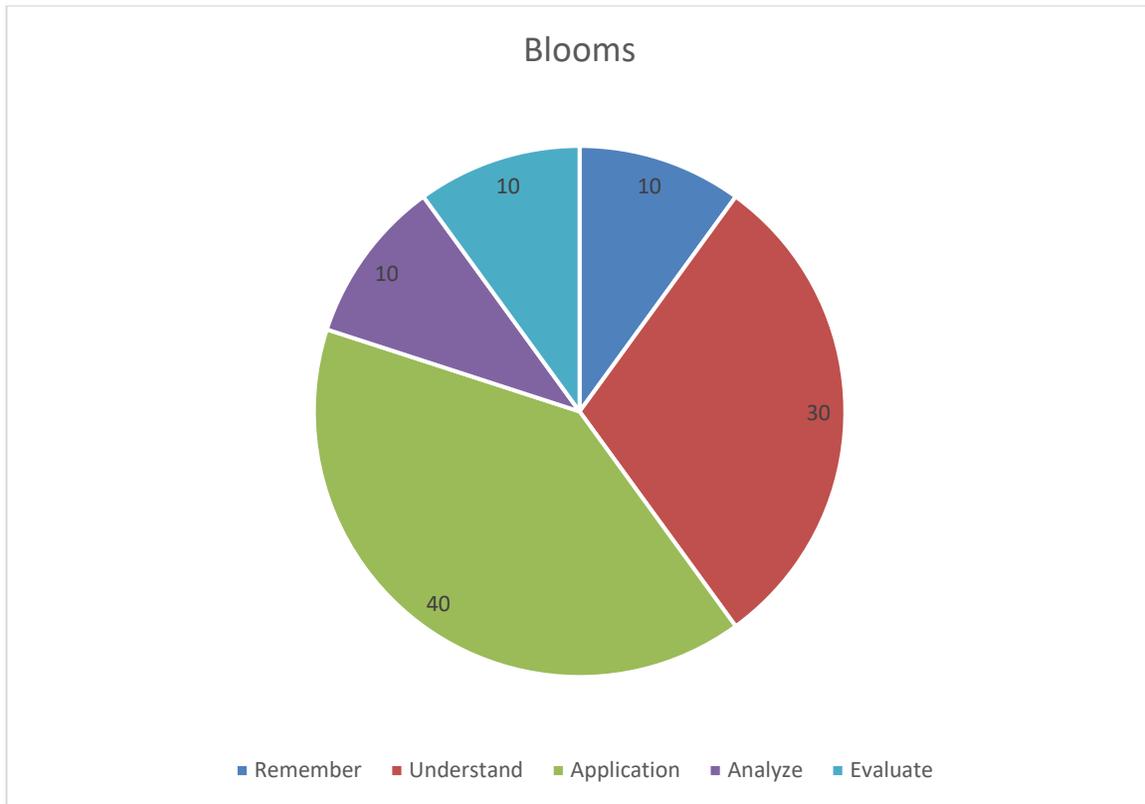
5	<p>Centroid and Moment of Inertia</p> <p>Centroid: Definition, concept, and evaluation of centroid for one-dimensional standard geometry viz. horizontal, vertical, inclined and circular curved lines.</p> <p>Centroid of Standard Geometrical shapes: Determination of centroid for standard two-dimensional and three-dimensional shapes viz. rectangular, triangular, circular, semi-circular, quarter circular, circular segments, and cylindrical, conical, spherical and cubical shapes.</p> <p>Calculation of Centroid: Calculation of centroid for composite lines, areas and volumes.</p> <p>Pappus - Guldinas Theorem: Pappus Guldinus theorem and its application in calculating surface area and volume.</p> <p>Introduction to Moment of Inertia: Definition and concept of Moment of Inertia. Perpendicular axis, Parallel axis theorem, Polar Moment of inertia, and radius of gyration.</p> <p>Moment of Inertia for Planar cross-sections: Determination of Moment of Inertia for planar sections using parallel axis theorem for standard lamina.</p> <p>Moment of Inertia for composite planar elements: Determination of moment of Inertia for composite lamina.</p>	9
6	<p>Simple Stresses & Strains</p> <p>Introduction: Definition and types of simple stresses (direct and indirect) and strains (linear and lateral) in an element and its importance in engineering.</p> <p>Relation between stress and strain: Hooke's law, Poisson's ratio, Modulus of Elasticity, Rigidity, and Bulk modulus.</p> <p>Stresses and strains Members: Evaluation of stresses and strains in members subjected to axial and shear loading for homogenous, composite, prismatic and tapered sections.</p> <p>Thermal Stresses: Evaluation of stresses in elements subjected to temperature effects in homogeneous and composite members</p> <p>Inter-relationship between various Moduli: Relationship between modulus of elasticity, rigidity, bulk modulus and Poisson's ratio with problems.</p> <p>Multidirectional Stresses: Volumetric strains, effect of multi-directional stresses on homogeneous members.</p>	10
7	<p>Stresses in Beams</p> <p>Theory of Pure Bending – Assumption, theory and derivation of equation for pure bending. Determination of bending stresses at various sections.</p> <p>Flexural stresses – Section modulus and determination of flexural stress distribution in beams of various cross sections.</p> <p>Equation of Shearing stress – Derivation of equation for shear stress across the cross section in a beam.</p> <p>Shear stresses – Qualitative and Quantitative determination of shear stress distribution in beams having various cross sections.</p>	6

8	<p>Torsion: Equation of Pure Torsion: Definition of Torsion, Assumption and derivation of equation for pure torsion in circular shafts, Torsional rigidity and its application. Stresses due to Torsion: Torque generated due to Power transmitted in shaft. Stresses generated in members subjected to circulatory motion in circular and hollow circular shafts</p>	7
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Distribution of Theory Marks

R Level	U Level	A Level	N Level	E Level
10	30	40	10	10

Legends:R:Remembrance;U:Understanding;A:Application,N:Analyze,and E:Evaluate




List of Experiments:

1. Law of Parallelogram of Forces
2. Coplanar Non-Concurrent Forces
3. Co-efficient of Static Friction
4. Compressive Strength
5. Tensile Strength
6. Hardness Number
7. Izod Impact Test
8. Shear forces and bending moment Diagrams.

List of Assignment:

Assignment should be designed to include chapter no 2, 3, 4 & 6

1. Theory and Examples on Coplanar Concurrent & Non-concurrent Forces
2. Theory and Examples on Support reaction and Shear Force and Bending moment diagram
3. Theory and Examples on Centre of Gravity & Moment of Inertia
4. Theory and Examples on Simple Stresses and Strain

Major Equipment:

1. Universal Testing Machine
2. Impact Tester machine
3. Hardness Tester Machine

Design based Examples (DE)/Open Ended Example:

1. Design a stable object
2. Centroid, centre of gravity and moment of inertia

Text Books:

Applied Mechanics S. B. Junarkar & H. J. Shah-Charotar Publication

Reference Books:

1. Engineering Mechanics by G. S. Sawhney; PHI New Delhi
2. Mechanics of Materials: Beer and Johnston, TMH
3. Mechanics of Materials: Gere & Timoshenko; CBS Publishers & Distributors, Delhi
4. Mechanics of Materials: Hibbler R C; Pearson Education
5. Strength of materials; Ramamutthram
6. Engineering Mechanics of Solids: Popov E.P; Prentice Hall of India, New Delhi

List of Open Base Software/learning website:

1. <https://nptel.ac.in/courses/112/102/112102284/>
2. <https://web.mit.edu/emech/dontindex-build/>



Subject Code: 01CR0501

Subject Name: Business Benchmark (Semester 5, 3rd Year, Level 3)

Branch: ME, Civil & Chemical

Objective: This, an upper-intermediate qualification that shows students have a level of English that is adequate for practical everyday use in a business environment.

Credits Earned: 1 Credit

Course Outcomes: This an upper-intermediate level qualification, which shows students can:

- ✓ Write short pieces of business correspondence reports or proposals.
- ✓ Read extracts from business publications. Ask for the information required.
- ✓ Listen to, understand and contribute to discussions in meetings.
- ✓ Give a prepared presentation on a familiar topic.

Pre-requisite of course: NA.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work TW=CSE	
1	0	0	1	00	00	00	50	50	100

Contents:

Unit	Topics	Contact Hours
1	The working day Changing places, job swapping at work. Discussion on how to describe jobs. Understanding job titles names of company department.	1
2	Getting the right job Reading through job satisfaction at Sony Mobile and advice on job applications for how to make web entries and writing a short email. Discussion on format of emails and letters. Language work on past simple regular and irregular verbs. Using comparatives and superlatives	2
3	Making Contact A quiz on telephone with phone answering tips. Short talk on what is important when making a business telephone call. Language work on present passive and modal verbs for obligation. Present simple and continuous: time expressions and state verbs, asking questions, expressing likes and introducing reasons.	1
4	Launching a product Reading through a Drink Me Chai success story. How to launch and promote new products. How to write a marketing report. Language work on Present Continuous for	2



	future, will and am going to forms and the differences between them.	
5	Starting a business Setting up an international franchise. Writing the letter of enquiry. Language work on perfect tense and simple past tense & Past continuous and using prepositions in time phrase.	2
6	Making arrangements and transport How to make travel arrangements. Writing a letter responding to an invitation. Discussion on what factors are important while on a business trip.	1
7	Business Meetings Study on survey of meetings. Writing an email about giving instructions and business trip. Discussion on how meeting should be conducted. Language work on using collocations describing reasons for meetings and referencing. Using modals to Showcase responsibility and ability.	1
8	Social media and business Ways of using social media. Writing an email arranging a meeting and introducing a company. Discussion on how to use social media. Making recommendations and using passive to express opinions and ideas.	1
9	Job applications Writing your CV. Writing a letter inviting a candidate for interview and letter giving the result of an application. Headings for CVs and describing application procedure.	2
10	Communication with customers How to train for customer communication skills. Discussion on the best methods for communicating different things. Expressing result. Adjective & Noun collocations.	1
	Total Hours	14

References:

- Cambridge English-Business Benchmark upper intermediate

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
20%	20%	35%	10%	10%	15%

Subject Code:01ME0501
Subject Name: Dynamics of Machine -1
B.Tech. III Year – (Sem-5) Mechanical
Type of course: Progame Core

Prerequisite: KOM

Rationale:- Dynamics of Machine-I is a fundamental course. It is essential for mechanical engineer to understand motion of machine elements and force analysis of static and dynamic reciprocating parts

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Evaluation Scheme					Total Marks
				Theory Marks			Practical Marks		
Theory	Tutorial	Practical		ESE (E)	IA	CSE	Viva (V)	Term Work (TW)	
4	---	2	5	50	30	20	25	25	150

COURSE OUTCOME

Students will be able to

1. Identify the fundamental of dynamics of machine along with associated terminologies.
2. Distinguish static and dynamic condition of machine.
3. Evaluate the different harmonic motion of machine.
4. Design and development of Flywheel for IC engine
5. Static and dynamic force analysis of machine components

SR No	CONTENTS	TOTAL HOURS	WEIGHTAGE
1	Gyroscopic Couple and ProceSSIONAL Motion : Concept of Gyroscope, Change in the first Euler angle, fundamental of Gyroscopic effect, Define active and reactive couple along with axes, Evaluate the effects of gyroscopic couple on ship, airplane, two wheeler and four wheeler, Stability of two and four wheeler exposed to curved path	14	28%
2	Clutch, Breaks and Dynamometer: Introduction and classification of clutch, pressure and wear theory of clutch, single plate, multi plate and centrifugal plate clutch, equation of energy and thermal aspects in clutch. Introduction and classification of brakes, braking effect, analysis of band, block and combination of band and block brakes, analysis of internal expansion shoe break, Introduction and classification of dynamometer, analysis of	8	16%



	dynamometer: prony brake, rope break, hydraulic, belt transmission, epicyclical train and bevis-gibson torsion		
3	Governors: Introduction and classification of governors, governor terminologies, watt governor, porter governor, proell governor and hartnell governor, governor stability and hunting, introduction to isochronism in governor, sensitivity in governor	6	12%
4	Turning Moment Diagrams and Flywheel: Introduction to turning moment diagrams and flywheel, turning moment diagrams for IC engine. Speed and energy fluctuation in flywheel, flywheel rim dimensions, flywheel in punching press.	**	4%
5	Simple Harmonic Motion: Introduction to simple harmonic motion (SHM), velocity and acceleration of a particle moving with SHM, differential equation of SHM, simple pendulum, compound pendulum, center of percussion, bifilar suspension and trifler suspension	8	16%
6	Force Analysis of Reciprocating Parts: Introduction, resultant of forces in system, two force and three force systems, force and couple, free body diagrams, static force analysis of mechanisms, D'Alembert's principle, velocity and acceleration of the reciprocating parts, Klein's construction, ritterhaus's construction, Bennett's construction, velocity and acceleration of piston and connecting rod –Approximate analytical approach, forces acting on reciprocating parts of an engine. Dynamically equivalent and non-equilibrium system, correction couple, analytical method for inertia torque	12	24%

**** Should be covered during practical session only.**

Distribution of Theory Marks

R Level	U Level	A Level	N Level	E Level
10	25	30	20	15

Legends: R: Remembrance; **U:** Understanding; **A:** Application, **N:** Analyze, **and E:** Evaluate

Reference Books:

1. S S Rattan 4/e, Theory of Machines, McGraw-Hill.
2. J.Uicker , Gordon R Penstock & J.E. Shigley, Theory of Machines and Mechanisms, Oxford.
3. A G Ambekar, Mechanism and Machine Theory, PHI.
4. R L Norton, Kinematics and Dynamics of Machinery, McGraw-Hill.
5. Kenneth J Waldron , Gary L Kinzel, Kinematics, Dynamics and Design of Machinery, Wiley.
6. Meriam, J L and Kraige, L G, Engineering Mechanics: Dynamics, Wiley.

List of Experiments:

1. Performance analysis of governors.
2. Flywheel design for IC engine and punching press.
3. Analysis of gyroscopic effect.
4. Analysis of clutch.



5. Analysis of brakes
6. Static force analysis of reciprocating parts.
7. Dynamic force analysis of reciprocating parts.
8. Measurement of mass, moment of inertia
9. Radius of gyration of various component
10. Study of flywheel

List of Open Source Software/learning website:

1. <http://nptel.iitm.ac.in>



Subject Code: 01ME0502
Subject Name: Fluid Power Engineering
B.Tech. III Year – (Sem-5) Mechanical Engineering
Type of course: Programme Core
Prerequisite: Elements of Mechanical Engineering, Fluid mechanics.

Rationale: To provide the detailed understanding of fluid power and different major equipment which are dealing with fluid power.

Teaching and Examination Scheme:

Teaching Scheme(Hours)			Credits	Evaluation Scheme					Total Marks
Theory	Tutorial	Practical		Theory Marks			Practical Marks		
				ESE (E)	IA	CSE	Viva (V)	Term Work (TW)	
4	0	2	5	50	30	20	25	25	150

COURSE OUTCOME

Students will be able to

- CO1** Understand the operation and use of different fluid machines like hydraulic turbine, pumps, compressors, hydraulic crane, fluid coupling and fluid torque convertor etc.
- CO2** Learn the benefits and limitations of fluid power technologies compared with other power transmission and generation technologies.
- CO3** Apply their knowledge to calculate various performance parameters related to fluid machines.
- CO4** Analyze the selection of fluid machines.
- CO5** Design different fluid machines depending on various field applications.
- CO6** Predict the performance of fluid machines for the different operating conditions.

Sr. No.	Content	Total Hrs	% Weightage
1	Impact of Jet: ✓ Introduction, Force exerted on flat stationary & moving plate held		



	normal and inclined to jet, Force exerted on stationary & moving curved plate when jet is striking at center, when Jet is striking on curved vane tangentially at one tip and leaving at other end, Jet propulsion in ships	07	20
2	Hydraulic Turbines: <ul style="list-style-type: none"> ✓ Introduction & Classification of hydropower plant, Advantages and disadvantages of hydropower plant, ✓ Introduction & Classification of turbines, construction, working and performance of Pelton, Francis and Kaplan Turbines, Draft tube, Cavitations, Unit quantities, specific speed and model relationships, Governing of hydraulic turbines. 	09	25
3	Centrifugal Pumps: <ul style="list-style-type: none"> ✓ Pump classification and selection criterion, Centrifugal pumps, Pump losses and efficiencies, Net positive suction head, Characteristic curves of centrifugal pumps, priming, maximum suction limit - minimum starting speed to deliver the discharge, Multistage pumps, cavitation, pump selection 	06	12
4	Reciprocating Pumps: <ul style="list-style-type: none"> ✓ Operation of Reciprocating pumps, discharge co-efficient, volumetric efficiency, slip, work done and power required to drive reciprocating pumps, effect of air vessels, effect of friction on performance of reciprocating pump 	04	8
5	Positive displacement compressors <ul style="list-style-type: none"> ✓ Reciprocating Compressors: Construction and working, Multistage, conditions for minimum work, Intercooling, Efficiency and control of air compressors ✓ Rotary Compressors: Introduction, Classification, roots blower, Vane type, Screw compressor, Scroll compressor 	07 02	10
6	Roto-Dynamic Compressors <ul style="list-style-type: none"> ✓ Centrifugal Compressors: Essential parts, Static and total head properties, Velocity diagram, Degree of reaction, surging and choking, Losses in centrifugal compressor ✓ Axial Flow Compressors: Construction of an axial flow compressor, Lift and drag, Performance characteristics 	04 05	10
7	Hydraulic Machines: <ul style="list-style-type: none"> ✓ Construction and working of hydraulic press, Hydraulic accumulator, Hydraulic intensifier, Hydraulic crane, Hydraulic jack, hydraulic lift, Hydraulic ram, Fluid couplings, Fluid torque converter and air lift pump 	04	15

Distribution of Theory Marks					
R Level	U Level	A Level	N Level	E Level	C Level
10	15	25	25	15	10

Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze, and E: Evaluate C : Create

Reference Books:

1. Fluid Mechanics and Fluid Power Engineering by D.S. Kumar, S.K. Kataria & Sons.



2. Fluid Power Engineering by R.N. Patel and V.L. Patel Mahajan Publication
3. Fluid Mechanics and Hydraulic Machines by R.K. Bansal, Laxmi Prakashan.
4. Fluid Mechanics and Hydraulic Machines by R.K. Rajput , S.Chand & Co.
5. Turbines, Compressors and Fans by S.M. Yahya., TMH Publishers
6. Fluid Mechanics and Turbomachines by Das, Madan Mohan, PHI Learning

List of the Experiment

- 1 To study about hydropower plant.
- 2 To Verify Impulse-momentum principle for impact of jet on stationary vane.
- 3 Performance test and analysis on Pelton turbine.
- 4 Performance test and analysis on Kaplan turbine.
- 5 Performance test and analysis on Francis turbine.
- 6 Performance test and analysis on Centrifugal pump.
- 7 Performance test and analysis on Reciprocating pump.
- 8 Performance test and analysis on Reciprocating compressor.
- 9 Performance test and analysis on Centrifugal compressor.
- 10 Performance test on Hydraulic ram.

List of Open Source Software/learning website:

1. <http://nptel.iitm.ac.in>
2. <http://media.efluids.com/galleries/all>



Subject Code: 01ME0503

Subject Name: Machine Design - I

B.Tech. III Year – (Sem-5) Mechanical Engineering

Type of course: Programme Core

Prerequisite: Machine Design & Industrial Drafting

Rationale: To develop an ability to design a system, component, or process to meet desired needs within realistic constraints. To determine the fundamentals of design procedure of machine components like Pressure vessel, spring and transmission system like belts, chain and ropes and analysis of components subjected to fluctuating loads.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Evaluation Scheme					Total Marks
Theory	Tutorial	Practical		Theory Marks			Practical Marks		
				ESE (E)	IA	CSE	Viva (V)	Term Work (TW)	
4	0	2	5	50	30	20	25	25	150

COURSE OUTCOME

After completion of syllabus, students will be able to:

1. Understand basic knowledge of design and design procedures and its effect under certain conditions.
2. Carry out preliminary selection of materials for mechanical components.
3. Design mechanical components subjected to fatigue failure criteria.
4. Design mechanical springs with geometrical features and use the techniques, skills and modern tools necessary for the practice.
5. Design pressure vessels using conventional methods and understanding of standard codes.
6. Evaluate and design a Belt drive, Chain drive and Rope drive systems to meet desired needs in the field of mechanical engineering.



Sr. No.	Contents	Total Hours	Weightage
1	Machine Design Introduction: Classification of machine design, Design Procedure of Machine Elements, Manufacturing considerations in Design, Aesthetic Considerations in Design, Ergonomic Considerations in Design, Concurrent Engineering, Selection of Preferred Sizes, Selection of Material, BIS System of Designation of Steels, Cast Irons, Alloy Steels.	6	10 %
2	Design for Fluctuating Loads: Stress Concentration, Stress Concentration Factors, Reduction of Stress Concentration, Fluctuating Stresses, Fatigue Failure, Endurance Limit, Low cycle and High cycle Fatigue, Notch Sensitivity, Endurance Limit - Approximate Estimation, Reversed Stresses - Design for Finite and Infinite Life, Cumulative Damage in Fatigue, Soderberg and Goodman Lines, Modified Goodman Diagrams, Gerber Equation, Fatigue Design under Combined Stresses.	10	20 %
3	Design of Springs: Introduction, Types of Springs, Terminology of Helical Springs, Styles of End, Stress and Deflection Equations, Series and Parallel Connections, Spring Materials, Design of Helical Springs, Spring Design – Trial and Error Method, Concentric Springs, Optimum Design of Helical Spring, Surge in Spring, Helical Torsion Springs, Spiral Springs, Multi-Leaf Spring, Nipping of Leaf Springs, Introduction of Belleville Spring, Shot Peening.	8	20 %
4	Belt Drives: Belt Drives, Belt Constructions, Geometrical Relationships, Analysis of Belt Tensions, Condition for Maximum Power, Characteristics of Belt Drives, Selection of Flat-belts from Manufacturer's Catalogue, Pulleys for Flat Belts, Arms of Cast-iron Pulley, Working of Timing belt, V-belts, Selection of V-belts, V-grooved Pulley, Belt-Tensioning Methods, Ribbed V-belts.	9	20 %



5	Chain Drives and Rope Drives: Chain Drives, Roller Chains, Geometric Relationships, Polygonal Effect, Power Rating of Roller Chains, Sprocket Wheels, Design of Chain Drive, Chain Lubrication, Silent Chain, Rope Drives, Construction and Lay of Wire Ropes, Stresses in Wire Ropes, Pulley System, Design of Sheave and drums.	5	10 %
6	Design of Cylinders and Pressure Vessels: Thin and Thick Cylinders, Design of Thin Cylindrical Vessels, Design of Thin Walled Spherical Vessels, Design of Thick Cylinders, Lame's Equation, Clavarino's Equation, Birnie's Equation, Cylinders Subjected to External Pressure, Autofrettage, Compound Cylinder, Gaskets, Gasketed Joint, Thickness of Cylindrical and Spherical Shells, End Closures, Introduction of design codes for pressure vessel.	10	20 %

Note: Use of Design data book should be permitted during the examination.

Distribution of Theory Marks

R Level	U Level	A Level	N Level	E Level	C Level
15	20	20	20	15	10

Legends: **R:** Remembrance; **U:** Understanding; **A:** Application, **N:** Analyze, **E:** Evaluate and **C:** Create

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Reference Books:

1. Abdulla Shariff, Design of Machine Elements, 1/e, Dhanpat Rai Publications.
2. V B Bhandari, Design of Machine Elements, 3/e, McGraw Hill.
3. Farzad Haidari, Machine Design Vol. - I, II, 1/e, Nirali Prakashan.
4. P C Gope, Machine Design: Fundamentals and Applications, 1/e, PHI.
5. R C Juvinall, Fundamentals of Machine Component Design, 4/e, Wiley.
6. R L Norton, Machine Design an Introduction, 1/e, Pearson.

Design Data Book:

1. V. B. Bhandari, Machine Design Data Book, 1/e, McGraw Hill Education.
2. Data Book of Engineers by PSG College, Kalaikathir Achchagam, Coimbatore.



List of the Experiments:

1. Design and testing of different components undergoes to stress concentration.
2. Design of component considering fatigue failure criteria.
3. Design and testing of stresses and strains in a thick and thin cylinder.
4. Design and selection of Flat belt and V-belt using manufacturer's Catalogue.
5. Testing of belt drive for different tension (tightening) levels.
6. Design and testing of different types of springs.
7. Design and testing of chain drive.
8. Design and selection of wire rope.

Design based Problem / Open Ended Problem:

1. Design of Pressure vessel using software.

Major Equipment:

1. Digital Fatigue Testing Machine
2. Combined Coil And Belt Friction apparatus
3. Thick and Thin cylinder apparatus
4. Chain drive apparatus

List of Open Source Software / learning website:

1. <https://ocw.mit.edu>
2. www.nptel.ac.in
3. <https://cosmolearning.org>
4. <http://ekeeda.com>



Subject Code: 01ME0504
Subject Name: Metrology
B.Tech. III Year – (Sem-5) Mechanical Engineering
Type of course: Programme core

Pre requisite: Nil

Teaching Scheme:

Teaching Scheme			Credits	Examination Marks					Total Marks
L	T	P		C	Theory Marks			Practical Marks	
			E		I	CSE	Viva	TW	
3	0	2	4	50	30	20	25	25	150

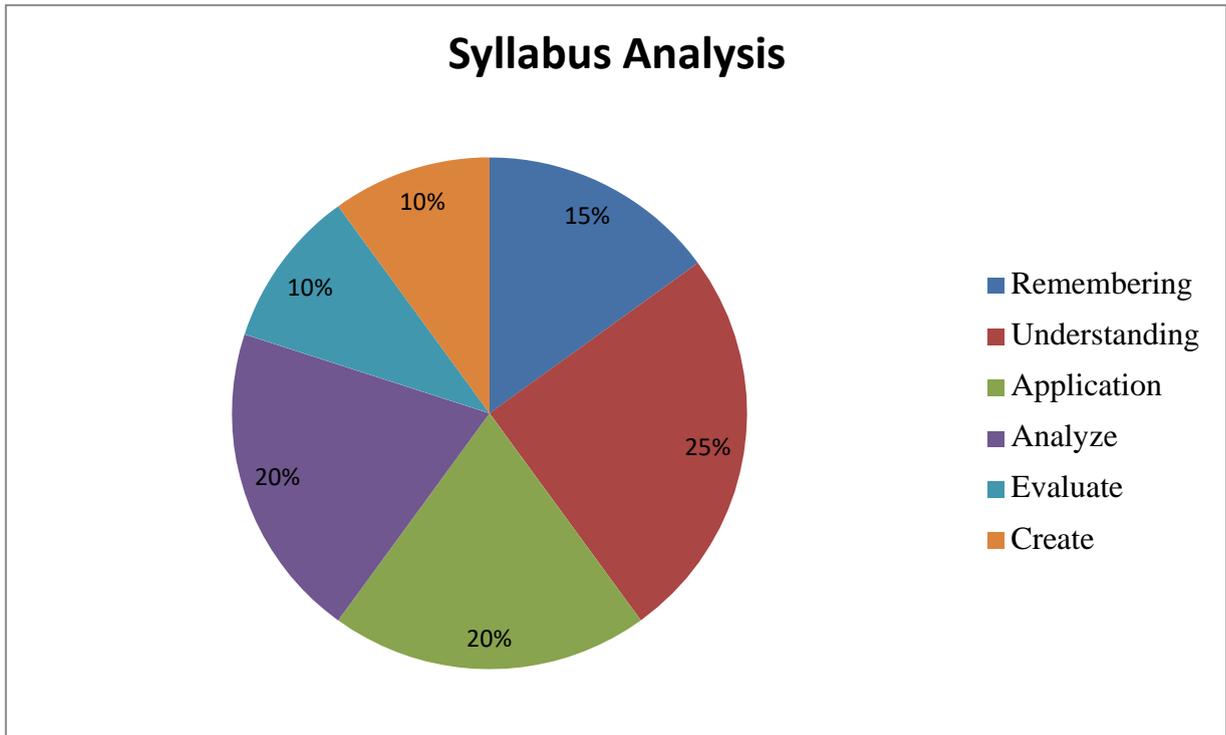
Detailed Syllabus:

Sr. No	Name of Module and Detail	Teaching Hours	Module Weightage (%)
1.	Basics of Metrology and Measurement: Meaning, Necessity and Objectives of Metrology, Standards of Measurement, Elements of Measuring System, Methods of Measurement, Static Performance Characteristics, Dynamic Performance Characteristics, Precision and Accuracy, Sources of Errors, Selection and Care of instruments, Standardizing organizations	06	12
2.	Liner and Angular Measurements: *(Introduction & classification of Linear Measuring Instruments, Least count, working principle, Vernier Height Gauge, Vernier Depth Gauge, Micrometres, slip gauges, Dial indicators-construction & working), comparators, calibration of various linear measuring instruments; Introduction, Working principle & construction of Angular Measuring instruments like Bevel Protractors, Sine bars, Taper Measuring instruments: Measurement of taper shafts & holes.	07	14
3.	Measurement of Motion and Force: Motion Measurement of displacement, velocity, acceleration and vibrations by potentiometer, strain gauges, seismic pickups, velocity pickups and acceleration pickups, calibration of pickups. Force Torque and shaft power measurement, Basic method of force	06	14

	measurements, Load Cell, Proving Ring, differential transformers, torque measurement on rotating shaft, shaft power measurement by dynamometers.		
4.	Measurement of Pressure Basic method of pressure measurement, dead weight gauges and manometers, elastic transducers and force balance transducer.	03	10
5.	Temperature Measurement: Measurement of temperature by liquid – in – glass thermometers, pressure thermometers, thermocouples, their calibration, resistance thermometer, bimetallic thermometer, thermistors, radiation and optical pyrometers.	04	10
6.	Metrology of Gears and screw threads: Gear tooth terminology, Sources of errors in manufacturing of gears, Measurement of tooth thickness: Gear tooth vernier, Constant chord method, Addendum comparator method and Base tangent method, Measurement of tooth profile: Tool maker's microscope or projector, Involute tester, Measurement of pitch, Measurement of run out, Lead and Backlash checking. Measurement of concentricity, Alignment of gears. Screw Thread Measurement: Errors in threads, screw thread gauges, measurement of element of the external and internal threads, thread calliper gauges.	07	18
7.	Metrology of Surface finish: Surface Metrology Concepts and terminology, Analysis of surface traces, Specification of surface Texture characteristics, and Method of measuring surface finish: Stylus system of measurement, Stylus probe instruments, Wave length, frequency and cut off, other methods for measuring surface roughness: Pneumatic method, Light Interference microscopes, Mecrin Instruments.	06	12
8.	Miscellaneous Metrology: Precision Instrumentation based on Laser Principals, Coordinate measuring machines: Structure, Modes of Operation, Probe, Operation and applications. Optical Measuring Techniques: Tool Maker's Microscope, Profile Projector, Optical Square. Basics of Optical Interference and Interferometry, Optoelectronic measurements,	04	10
	Total	43	100%

* **Highlighted topics should be covered during lab session only.**



**Text Books:**

- 1.R.K. Jain, Khanna Publishers - A Text Book of Engineering Metrology
- 2.M.Mahajan, DhanpatRai, New Delhi - A Text Book of Metrology
- 3.D.S. Kumar, Metropolitan book Co. - Mechanical Measurement & Control
- 4.R.K.Rajput, S.K.Kataria& Sons. - Mechanical measurement and instrumentation

Reference Books:

- 1.Engineering Metrology and Measurement, N V Raghavendra and Krishnamurthy, Oxford University Press,
2. Engineering Metrology and Measurements, Bentley, Pearson Education
3. Theory and Design for Mechanical Measurements, 3rd Edition, Richard S Figliola, Donald E Beasley, Wiley India
4. Metrology and Measurement, Anand Bewoor & Vinay Kulkarni McGraw-Hill
5. Doebelin's Measurement Systems Ernest Doebelin, Dhanesh Manik McGraw-Hill
6. Instrumentation, Measurement and Analysis, B.C. Nakra, K.K. Chaudhry McGraw-Hill
7. A Text book of Engineering Metrology, I C Gupta, Dhanpat Rai Publications
8. A course in Mechanical Measurements and Instrumentation, A K Sawhney, Dhanpat Rai Publications
9. Mechanical Measurements and Instrumentations, Er. R K Rajput, Kataria Publication(KATSON)
10. Mechanical Measurement and Metrology by R K Jain, Khanna Publisher Mechanical Measurement & Control by D.S. Kumar.
11. Industrial Instrumentation & Control by S K Singh, McGrawHill
12. Mechanical Measurements by Beckwith & Buck, Narosa publishing House
13. Thomas G. Beckwith, Pearson Edu. - Mechanical Measurement



List of Experiments:

1. Basic understanding of measurements and metrology: concepts, application, advantage and future aspects
2. Performance on linear measurements using Vernier Calliper, Vernier height gauge, and Micrometer.
3. Performance on Angular Measurement using Bevel protector and Sine bar.
4. Performance on Temperature measurements and check different characteristics of measurements and also do calibration
5. Performance on force/torque measurements and check different characteristics of measurements and also do calibration
6. Performance on Speed/Velocity, acceleration measurements.
7. Performance on surface measurements
8. Performance on measurements of gears and screw threads

Important Equipment Used:

1. Temperature Measurements Equipments
2. Force Measurements Equipments
3. Surface Measurements Equipments
4. Linear/Angular Measurements Equipments
5. Tachometers
6. Gears/Screw Threads Measurements Equipments

Course Outcome:**After successful completion of course student will be able to:**

- CO1: Understand the basic concept of Metrology & to select instrument for particular measurement. Describing the calibration of instrument
- CO2: Demonstration of various instrument for hands on experience.
- CO3: Application of various measuring instrument in industry & day to day life
- CO4: Analysing the error in measurement & measuring instruments
- CO5: Discriminate the various methods of measurement
- CO6: Describe the use of advanced measuring instrument



Design based Problems (DP)/ Open Ended Problem:

1. Students may be asked for Calibration of temperature measuring devices.
2. Students may be asked to prepare and perform experiments on linear and angular measurements
3. Students may be asked to prepare and perform experiments on Displacement, Speed/Velocity and acceleration measurement.

List of Open Source Software/learning website:

1. www.nptel.ac.in
2. www.mitutoyo.com
3. www.taylor-hobson.com



Subject Code: 01ME0506
Subject Name: Computer Graphics
B.Tech. V Year (Sem-III) Mechanical Engineering.
Type of course: Engineering Science

Rationale: Computer have become inevitable in today era and find their application in various stages of product design. Computer Graphics is intended to impart the fundamental knowledge of various input output devices, geometric transformations and 2D/3D modeling. This course intends to introduce students to learn computer graphics designed to give an overview of fundamental principles.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Evaluation Scheme					Total Marks
Theory	Tutorial	Practical		Theory Marks			Tutorial/Practical Marks		
				ESE (E)	IA	CSE	Viva (V)	Term Work (TW)	
3	0	2	5	50	30	20	25	25	150

Content:

Sr. No.	Content	Total Hrs	%Weight - age
1	Introduction: A typical product cycle, CAD tools for the design process of product cycle, CAD / CAM system evaluation criteria, Input / Output devices; Graphics Displays: Refresh display, DVST, Raster display, pixel value and lookup table, estimation of graphical memory, LCD, LED fundamentals. Concept of Coordinate Systems: Working Coordinate System, Model Coordinate System, Screen Coordinate System. Line and Curve generation algorithm: DDA, Bresenham's algorithms. Graphics exchange standards and Database management systems.	08	20%



2	Curves and Surfaces: Parametric representation of lines: Locating a point on a line, parallel lines, perpendicular lines, distance of a point, Intersection of lines. Parametric representation of circle, Ellipse, parabola and hyperbola. Synthetic Curves: Concept of continuity, Cubic Spline: equation, properties and blending. Bezier Curve: equations, properties; Properties and advantages of B-Splines and NURBS. Various types of surfaces along with their typical applications.	10	24%
3	Mathematical representation of solids: Geometry and Topology, Comparison of wireframe, surface and solid models, Properties of solid model, properties of representation schemes, Concept of Half-spaces, Boolean operations. Schemes: B-rep, CSG, Sweep representation, ASM, Primitive instancing, Cell Decomposition and Octree encoding.	05	12%
4	Geometric Transformations: Homogeneous representation; Translation, Scaling, Reflection, Rotation, Shearing in 2D and 3D; Orthographic and perspective projections. Window to View-port transformation.	07	16%
5	Viewing: Viewing world co-ordination system, Normalized co-ordinate system, Device/Image co-ordination system, Window definitions, View port definitions, Viewing transformation.	06	14%
6	Clipping: Clipping: Point clipping, Line clipping, Cohen- Sutherland clipping, Midpoint clipping method, Sutherland and Hodgman Clipping.	06	14%

References:

1. Ibrahim Zied, CAD / CAM: Theory and Practice, McGraw-Hill
2. Hearn E J and Baker M P, Computer Graphics, Pearson.
3. Sinha & Udai, Computer Graphics, McGraw-Hill Education

Course Outcomes:

1. Understand and appreciate use of computer in product development.
2. Apply algorithms of graphical entity generation.
3. Understand mathematical aspects of geometrical modelling.
4. To understand the various computer graphics hardware technologies.
5. Various 2D and 3D objects transformation techniques .



List of Experiments:

1. Develop the DDA Line drawing algorithm using C language.
2. Develop the Bresenham's Line drawing algorithm using C language.
3. Develop the Bresenham's Circle drawing algorithm using C language.
4. Perform the following 2D Transformation operation Translation, Rotation and Scaling.
5. **Introductory exercise for 3-D modelling and editing options.**
6. **Exercise for surface modelling.**
7. Exercise for Assembly modelling.
8. Exercise for advanced 3-D modelling.

List of Open Source Software/learning website:

1. <http://nptel.iitm.ac.in>
2. Inkscape - Open Source vector graphics editor



Subject Code: 01ME0507
Subject Name: Design for Manufacturing
B. Tech. (III Year) Semester- V: Mechanical Engineering
Type of course: Engineering

Prerequisite: Workshop, MP – I, MP - II

Rationale: Understanding the importance of Design in Manufacturing.

Teaching and Examination Scheme:

Teaching			Credits	Examination Marks					Total Marks
L	T	P		Continuous Evaluation			Final Exam		
			ESE	IA	CSE	VIVA	TW		
3	--	2	4	50	30	20	25	25	150

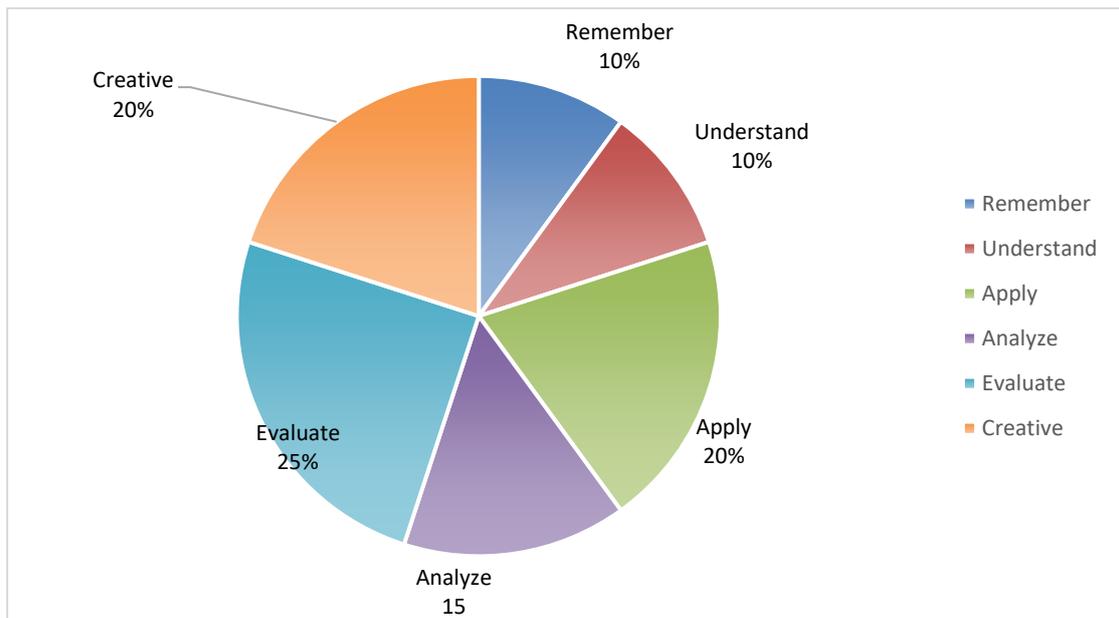
Content

No	Module	Topics	Weightage	Duration
1	Introduction	Concepts of DFM	10 %	6
		Role of DFM		
		Material and Process Selection		
2	Components Design	Design for Quality	30 %	12
		Design for Assembly		
		Design for Cost		
		Design for Performance		
		Design for Biocompatibility		
		Design for Ergonomics		
		Design for Recycling and other factors.		
3	Methods of Material Selection	Material Selection on the basis of Engineering Properties	20 %	8
		Material Selection on the basis of material performance indices		
		Material Selection on the basis of charts		
		Evaluation of single and multi-attribute utilities.		
4	Design Rules	Design rules for material and process	25 %	10
		Part geometry and tolerances		
		Shape factor		
		Prototyping		
		Computer aided Material		
		Functional Modelling		
		Mathematical optimization		
		Formation of objective		
Constraint functions, factorial analysis.				



5	Case Studies	Case studies on product design	15 %	6
		Case study on manufacturing design.		
		Case study on design of assembly.		

R Level	U Level	A Level	N Level	E Level	Creative
10	10	20	15	25	20



Reference Books:

1. Material Selection in Mechanical Design by Michael Ashby.
2. Bralla, Design for Manufacture handbook, McGraw Hill, 1999
3. Product design and development, by K.T. Ulrich and S.D. Eppinger, Tata McGraw Hill
4. Boothroyd, G, 1980 Design for Assembly Automation and Product Design. New York, Marcel Dekker.
5. Kevin Otto and Kristin Wood, Product Design. Pearson Publication, 2004.
6. Boothroyd, G, Heartz and Nike, Product Design for Manufacture, Marcel Dekker, 1994.
7. Dickson, John. R, and Corroda Poly, Engineering Design and Design for Manufacture and Structural Approach, Field Stone Publisher, USA, 1995.
8. Fixel, J. Design for the Environment McGraw Hill., 1996.

Course Outcome:

After learning the course the students should be able to:



1. Understand the concept & role of Design in manufacturing.
2. Design different components/parts for manufacturing.
3. Identify application of different materials
4. Apply proper rules and criteria for designing of a component.
5. Design components for industrial applications.

List of Experiments

- 1.

List of Open Source Software/learning website:

1. <http://nptel.ac.in/courses/112101005>
2. <https://ocw.mit.edu/index.htm>



Subject Code: 01ME0505
Subject Name: Power Plant Engineering
B. Tech. III Year – (Sem-5) Mechanical Engineering
Type of course: Core

Prerequisite: Engineering Thermodynamics, Fluid Mechanics

Rationale: To impart basic knowledge of various types of power plants & components with required equations.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Evaluation Scheme					Total Marks
Theory	Tutorial	Practical		Theory Marks			Practical Marks		
				ESE (E)	IA	CSE	Viva (V)	Term Work (TW)	
3	0	2	4	50	30	20	25	25	150

COURSE OUTCOME

Students will be able to

1	Understand basics of power plant including thermodynamic cycles, site selection criteria and modern power plant concept.
2	Understand working of different types of steam generators and different material handling system for power plant.
3	Analyze functioning of condensers and cooling systems.
4	Analyze working and performance parameters of different draught systems.
5	Understand various types of feed water treatment.
6	Understand nuclear power plants with basic physics and new concepts.

SR NO	CONTENTS	TOTAL HOURS	WEIGHTAGE
1	INTRODUCTION: Thermodynamic cycles related to power plant, structure and working of modern power plant, site selection criteria and current scenario of power generation in India.	4	10
2	STEAM GENERATORS: Pressure ranges for boilers, Advantages of high pressure boilers. Various high pressure boilers, super critical boilers.	6	14



3	Coal and Ash Handling Systems: Coal storage, Burning systems, Types of stokers and their working, Pulverized fuel handling systems, Pulverized mills, Pulverized coal burners, Oil burners, Necessity of ash disposal, types of ash handling systems, Dust collection and its disposal, Mechanical dust collector, Electrostatic precipitator.	8	20
4	CONCEPT OF CONDENSERS AND COOLING TOWERS: Introduction, types of condensers, Air leakage & its effect on performance, Dalton's law of partial pressure, vacuum & condenser efficiency and methods to improve them, requirement of quantity of cooling water, Edward air pump, necessity of cooling towers & ponds and types.	8	16
5	INTRODUCTION TO DRAUGHT SYSTEM: Working principle of natural draught & chimney height formula with maximum discharge condition, types of artificial draught systems, and power requirement of blowers.	4	10
6	FEED WATER TRETMENT: Requirement of feed water treatment, various impurities & its effects, effect of PH on corrosion and scale formation and different types of water treatment processes.	4	10
7	NUCLEAR POWER PLANTS: Types of nuclear processes, Fission- fuels, chain reaction, components of fission reactors, various reactors, current scenario in India, Fusion- comparison of fusion-fission, introduction of plasma state, types of plasma confinement, tokamak.	8	20

Distribution of Theory Marks

R Level	U Level	A Level	N Level	E Level
20	35	25	20	10

Legends: **R:** Remembrance; **U:** Understanding; **A:** Application, **N:** Analyze, **and E:** Evaluate

Reference Books:

1. Power Plant Engineering, P.K. Nag, McGraw-Hill Education
2. Power Plant Technology, M.M. El-Wakil, McGraw-Hill Education
3. Thermal Engineering, R.K.Rajput, Laxmi Publication
4. Gas Turbines by V Ganeshan, McGraw Hill Education
5. Steam Turbine Theory and Practice, William J. Kearton, CBS Publication
6. Veatch & Black, "Power Plant Engineering", CBS Publishers & Distributors New Delhi



List of the Experiment

- 1 Study of Modern Thermal Power Plant.
- ✓2 Study of Steam Generators.
- 3 Study of Coal and Ash handling system.
- 4 Study of condenser and cooling tower.
- 5 Study of various draught system.
- 6 Study of different feed water treatment plants.
- 7 Study of different types of steam nozzle and design a nozzle
- 8 Comparative study of different types of high pressure boilers
- 9 Study of Gas and Steam Turbine Combined Cycles.
- 10 Study of Nuclear Power Plant.

List of Open Source Software/learning website:

1. <http://nptel.ac.in/>
2. [https://en.wikipedia.org/wiki/Plasma_\(physics\)](https://en.wikipedia.org/wiki/Plasma_(physics))
3. <https://en.wikipedia.org/wiki/Tokamak>
4. <https://www.wartsila.com/>
5. <http://www.oegindia.com/>
6. <https://aerb.gov.in/index.php/english/>
7. <http://www.vitkovice.cz/>



Subject Code: 01ME0508

Subject Name: Reverse Engineering

B.Tech. Year - III

Objective: The objective of the module is to go through the Reverse Engineering process as it is a self-learning tool used to summarize the process of reconstructing/reformation of an already existing object.

Credits Earned: 1Credit

Course Outcomes: After completion of this course, student will be able to

1. Understand the problem in the existing process.
2. Collect the large number of data/ information for the product
3. Depth analyze of the products and extraction of real time data
4. Understand the principles behind the design of the product, ways to redesign and improve the performance of the system.

Pre-requisite of course: Not Required

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
0	0	2	1	0	0	0	25	25	50

Contents:

Units	Topics	Contact Hours
Module-1 Reverse Engineering Basics	Need of reverse engineering, Methodologies for Reverse Engineering, understanding of Reverse Engineering through example, reasons for reverse engineering, process for Reverse Engineering, Phases of Reverse	6



	Engineering, conceptual System Reasons for Reverse Engineering, Difficulties in Reverse Engineering, Levels of abstraction: Application level, Functional level, Structural level	
Module-2 Reverse Engineering Methodology	Detailed study of Reverse Engineering for Branch Specific learning Disassemble the existing selected artefact/ product/ component/ process/ system to study technical aspects and design detail, Reverse engineering in various computer software/ application, CASE STUDY EIS Client Application, Implementation level	6
Module-3 Software Reverse Engineering	Reverse engineering of software, Binary reverse engineering, Binary software techniques, Software classification, Source code, number of UML tools, Reverse engineering of Protocols	10
Module-4 Capstone Project	Mini project exercise based on understanding of modules contents	6
Total Hours		28

Note: Mentors are advised to take suitable project/activity to explore the above topics and make students understand the various concepts.

References:

1. Reversing: Secret of Reverse Engineering, Eldad Eilam, Wiley Publishing, Inc.
2. Reverse Engineering, Wills, Linda M., Newcomb, Philip (Eds.), Springer, 1996, ISBN 978-0-585-27477-5
3. Practical Reverse Engineering: x86, x64, ARM, Windows® Kernel, Reversing Tools, and Obfuscation, Bruce Dang, Alexandre Gazet, Elias Bachaalany, John Wiley & Sons, Inc, ISBN: 978-1-118-78731-1.





Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. <https://canvas.instructure.com/courses/838884/pages/unit-3-lesson-6-reverse-engineering>
2. <https://www.cs.drexel.edu/~spiros/teaching/CS675/>
3. <https://eforensicsmag.com/course/software-reverse-engineering-techniques-level-1/>
4. <http://www.npd-solutions.com/remethodology.html>

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Subject Code: 01ME0601
Subject Name: Dynamics of Machine - II B.Tech.
III Year – (Sem-6) Mechanical Engineering
Type of course: Under Graduate

Prerequisite: Higher order ODE, PDE, and Kinematics of Mechanism

Rationale: Understanding & Analysis of Vibration in Mechanical System.

Teaching and Examination Scheme:

Teaching Scheme(Hours)			Credits	Evaluation Scheme					Total Marks
Theory	Tutorial	Practical		Theory Marks			Practical Marks		
				ESE (E)	IA	CSE	Viva (V)	Term Work (TW)	
4	0	2	5	50	30	20	25	25	150

COURSE OUTCOME

Student will be able to

- 1 Analyze unbalance force and bearing reaction force in rotating mass and its effects.
- 2 Analyze unbalance force in reciprocating engine and its effects.
- 3 Analyze natural frequency of Vibrating Mechanical system and develop methods to overcome its ill effects.
- 4 Understand critical speed of shaft and analyze the effects of critical speed.
- 5 Understand cam-follower system and analyze forces acting on cam follower system

SR NO	CONTENTS	TOTAL HOURS	WEIGH TAGE
1	Rotating Mass Balance: Understanding static and dynamic balancing, Investigation of effect of unbalance rotating mass (Single & Multi plane), Methods for measuring unbalance force & mass. Bearing reactions.	04	08 %
2	Balancing of Reciprocating Mass: Balancing of slider crank chain mechanisms, Modelling real system for static and dynamic analysis. Inertia force, disturbing force and torque, Balancing of Multi Cylinder Engines: Analysis of Multi Cylinder In-line Engines: Direct and Reverse crank method, optimized configuration of in-line engine. Balancing of Radial Engine : Evaluation of V and radial engine, Analytical & Graphical methods.	12	25 %



	Fundamental of Mechanical Vibrations: Vibration and oscillation, Reason for generation of vibration, Parameters of Vibration- spring, mass, damper, Damper models, Motion –periodic, non-periodic, harmonic, non- harmonic, Degree of freedom, static equilibrium position, Vibration classification.	02	04 %
3	Free Undamped Single Degree of Freedom Vibration System Longitudinal, transverse, torsional vibration system, Methods for formulation of differential equations by Newton, Energy, and Rayleigh’s Method, Free Damped Single Degree of Freedom Vibration System Viscous damping, Under, Critically & Over damped System, Damping Factor, Logarithmic decrement, Free Undamped vibration of Two Degrees of freedom System: Characteristics Equation and basic mode of vibration, torsional vibrations of two and three rotor system, torsionally equivalent shaft, geared system. Forced Vibration: Undamped Forced vibrations, Damped Forced Vibration, Equivalent viscous damping; Externally Applied forces due to unbalanced masses. Vibration Isolation and Transmissibility: Force Transmissibility, Motion Transmissibility Typical isolators & Mounts	20	40 %
4	Vibration in Rotating System: Whirling of shafts, Critical speed and its practical influence in the design of shafts, Application of Dunkerley’s method and Rayleigh’s method for determination of critical speed of shafts	04	08 %
5	Vibration Measurement: Basic of vibration measurement and analysis Instruments used: Vibrometer, velocity pickup, accelerometer, FFT analyzer.	04	08 %
6	Cam Dynamics: Dynamics of force-closed cam follower system: Jump phenomenon: Reason for Jump, response of spring force and static mass on jumping of cam.	03	07 %

Distribution of Theory Marks

R Level	U Level	A Level	N Level	E Level
10	15	15	15	15

Legends: R: Remembrance; **U:** Understanding; **A:** Application, **N:** Analyze, and **E:** Evaluate



Reference Books:

1. S S Rao, Mechanical Vibrations, Pearson.
2. R L Norton, Kinematics and Dynamics of Machinery, McGraw-Hill.
3. J.Uicker , Gordon R Penstock & J.E. Shigley, Theory of Machines and Mechanisms, Oxford.
4. V. P. Singh, Mechanical Vibration
5. R L Norton, Design of Machinery, McGraw-Hill.
6. A. G. Ambekar, Mechanical vibrations and noise engineering
7. G. K. Grover, Mechanical Vibration.

Sr No	List of the Experiment
1	Balancing of rotating mass in different plane.
2	Analysis of unbalanced reciprocating mass.
3	Experimental analysis of Free Undamped longitudinal Vibration of single degree of freedom system
4	Experimental analysis of Free Undamped torsional vibration of single degree of freedom system
5	Experimental analysis of Free Undamped torsional vibration of two rotor system
6	Experimental analysis of Damped torsional vibration
7	Experimental analysis of forced vibration
8	Experimental analysis of forced damped vibration
9	To verify Dunkerley's theorem for lateral vibration
10	To determine critical speed of the shaft and study effect of shaft diameter and end conditions on the same.
11	To determine jump speed and effect of dead weight and spring force on it.

List of Open Source Software/learning website:

- 1) www.nptel.ac.in
- 2) www.coursera.org
- 3) www.edx.org
- 4) <http://vlab.co.in/>



Subject Code: 01ME0602
Subject Name: Heat and Mass Transfer
B.Tech. III Year – (Sem-6) Mechanical & Automobile Engineering
Type of course: Science

Prerequisite: Thermodynamics, Fluid Mechanics

Rationale: The course is prepared to provide the detailed understating of heat and mass transfer principles.

Teaching and Examination Scheme:

Teaching Scheme(Hours)			Credits	Evaluation Scheme					Total Marks
Theory	Tutorial	Practical		Theory Marks			Practical Marks		
				ESE (E)	IA	CSE	Viva (V)	Term Work (TW)	
4	0	2	5	50	30	20	25	25	150

COURSE OUTCOME

Students will be able to

1. Understand the modes and phenomenological origin of laws for the different modes of heat and mass transfer
2. Analysis of heat conduction in a steady and transient state for various geometrics
3. Apply empirical correlation for analyzing free and forced convection problem
4. Evaluate the performance of heat exchangers by using the method of heat exchanger effectiveness
5. To analyze radiation heat exchange between surfaces and in diffuse, gray enclosure

Sr no	Contents	Total hours	Weightage
1	Introduction to Heat Transfer Basic concepts and laws of Conduction, Convection and Radiation, Difference between Thermodynamics and Heat Transfer, Thermal conductivity, Thermal diffusivity, General heat conduction equation in Rectangular, Cylindrical and Spherical coordinates and its reduction to specific cases.	3	7



2	Conduction Heat conduction in plane and composite wall including thermal resistance concepts, Heat conduction in multilayered cylinders and spheres, electrical analogy, Contact resistance, Overall heat transfer coefficient, Critical radius of insulation for cylinder and sphere, Overall heat transfer coefficient.	5	11
3	Extended Surfaces Types and applications of fins, Heat flow through uniform cross section of fin, infinitely long fin, fin insulated at the tip and fin losing heat at the tip, Fin efficiency, Fin effectiveness, Estimation of error in temperature measurement in a thermometer well	5	12
4	Transient heat conduction Transient heat conduction in solids having infinite thermal conductivity, Significance of Biot and Fourier number, Time constant, Transient heat conduction in solids with finite conduction and convective resistances	4	9
5	Convection Introduction to dimensionless number, Physical significance of dimensionless number, Dimensional analysis applied to natural and forced convection, Empirical correlations applied to natural and forced convection problems, Conservation of mass, momentum and energy equations, Hydrodynamic and thermal boundary layer, General solution of Von-Karman integral momentum equation	5	11
6	Heat exchanger Types of heat exchanger, Analysis of heat exchanger, Log Mean Temperature Difference for parallel and counter flow heat exchanger, condenser and evaporator, overall heat transfer coefficient, Fouling factor, Correction factors for multi pass arrangement, Effectiveness and NTU method for parallel and counter flow heat exchanger	7	16
7	Radiation Radiation properties, blackbody radiation, Different laws of radiation, Intensity of radiation and solid angle, Lambert's cosine law, Radiation heat exchange between black bodies, Shape factor, Heat exchange between non-black bodies-infinite parallel planes and infinite long concentric cylinders, Radiation shield, Heat exchange between two grey surfaces, electrical analogy	7	16
8	Boiling and Condensation Boiling regimes, Film wise & drop wise condensation, laminar film condensation on vertical plate, turbulent film condensation, film condensation on tubes.	4	9
9	Mass Transfer Modes of mass transfer, concentrations, velocities and fluxes, Fick's law, general equation of mass diffusion in stationary media, steady state diffusion through a plain membrane, steady state equimolar counter diffusion, isothermal evaporation of water into air from a surface, mass transfer coefficient, convective mass transfer.	4	9



Distribution of Theory Marks

R Level	U Level	A Level	N Level	E Level
15	20	25	25	15

Legends: **R:** Remembrance; **U:** Understanding; **A:** Application, **N:** Analyze, **and E:** Evaluate

Reference Books:

1. Heat & Mass Transfer by P.K. Nag, McGraw Hill
2. Heat and Mass Transfer: Fundamentals and Application by Yunus Cengel, McGraw Hill
3. Fundamental of Heat and Mass Transfer by Incropera and Dewitt, Wiley Publication
4. Heat Transfer by Mills and Ganesan, Pearson Education
5. Heat Transfer by J P Holman , McGraw Hill
6. Heat & Mass Transfer by Arora & Domkundwar, Dhanpat rai and Co., NewDelhi
7. Engineering Heat & Mass Transfer by M.M. Rathore, Laxmi Prakshan
8. Heat & mass transfer by by D.S. Kumar, S.K. Kataria & Sons
9. Heat & Mass Transfer by R.K. Rajput, S. Chand & Co. New Delhi.

List of experiments

1. To determine the thermal conductivity of the given composite walls.
2. To determine Stephan Boltzmann constant experimentally.
3. To determine heat transfer co-efficient by natural convection.
4. To determine the effective thermal conductivity of the composite cylinders.
5. To determine heat transfer co-efficient by forced convection.
6. To determine the overall heat transfer co-efficient of shell and tube type heat exchangers.
7. To determine the emissivity of gray body.
8. To study drop & film wise condensation & determine the film co-efficient
9. To determine convective heat transfer co-efficient of the fin under free and forced convection.
10. To determine heat transfer co-efficient for transient heat transfer apparatus.

List of Open Source Software/learning website:

1. nptel.ac.in
2. www.learnerstv.com



3. cosmolearning.org



Subject Code: 01ME0603
Subject Name: Machine Design II
B.Tech. III Year – (Sem-6) Mechanical Engineering
Type of course: Programme core

Prerequisite: Machine Design and Industrial Drafting, Machine Design I

Rationale: Understanding the design of I.C. engine components, Gear systems and Bearings

Teaching and Examination Scheme:

Teaching Scheme(Hours)			Credits	Evaluation Scheme					Total Marks
Theory	Tutorial	Practical		Theory Marks			Practical Marks		
				ESE (E)	IA	CSE	Viva (V)	Term Work (TW)	
4	0	2	5	50	30	20	25	25	150

COURSE OUTCOME

Students will be able to

- 1 Analyze the functional requirements of various I.C. Engine Components.
- 2 Design various I.C. Engine Components
- 3 Design gears and gear boxes based on application requirements.
- 4 Evaluate the performance parameters of gears for various applications.
- 5 Design and select the bearings based on application requirements.

SR NO	CONTENTS	TOTAL HOURS	WEIGHTAGE
1	Design of I.C. Engine Components Introduction, selection of type of engine, engine power requirements, design of cylinder and cylinder liners, design of cylinder head, design of piston, piston ring, piston pin, design of connecting rod, whipping stress in connecting rod, design of center crankshaft and overhung crankshaft, design of various components of valve gear mechanism.	16	26 %
2	Design of sliding contact bearings Classification of bearings, journal bearing types, basic modes	10	18 %



	<p>of lubrication, viscosity, viscosity index, bearing materials.</p> <p>Hydrodynamic Bearings: petroff's equation, McKee's investigation, Reynold's equation, Raimondi and Boyd method for design of journal bearing, selection parameters for bearing design.</p> <p>Hydrostatic Bearings: Viscous flow through rectangular slot, hydrostatic step bearing, Energy losses</p>		
3	<p>Design of Rolling Contact Bearings: Classification, static load carrying capacity, Stribeck's equation, dynamic load carrying capacity, Load-life relation, selection of bearing from catalogue, design for cyclic load and speed, Bearing with probability of survival other than 90%, Lubrication for rolling contact bearing.</p>	05	10 %
4	<p>Design of spur gears and parallel axis helical gears: Classification of gears, selection of type, gear terminology, standard system of gear tooth, interference and undercutting, gear tooth failures and gear materials</p> <p>Spur gears: force and stress analysis, dynamic effects, fatigue strength, factor of safety, module and face width, power rating calculation based on beam strength and wear strength consideration.</p> <p>Parallel axis helical gears: introduction, pressure angle in normal and transverse plane, helix angle, equivalent numbers of teeth, force and stress analysis, estimating size of helical gears.</p>	12	20 %
5	<p>Design of bevel gears and worm gears: Bevel Gears: Introduction, tooth terminology, straight and spiral bevel gears, force and stress analysis, equivalent number of teeth, safety of bevel gears. Worm gears: Introduction, Advantages and limitation, terminology and designation of worm and worm gears, force and stress analysis, estimating size of the worm gear pair, efficiency of worm and worm gears, modes of failure and materials for worm gears.</p>	08	14 %
6	<p>Design of gear boxes: Introduction, geometric progression, general design procedure, selection of best structure diagram, selection of gear layout and ray diagram, determination of number of teeth on gears.</p>	5	12 %



Distribution of Theory Marks

R Level	U Level	A Level	N Level	E Level
15	15	35	20	15

Legends: **R:** Remembrance; **U:** Understanding; **A:** Application, **N:** Analyze, **and E:** Evaluate

Reference Books:

1. Bhandari, V.B., “Design of Machine Elements”, Tata McGraw-
2. Norton R.L, “Design of Machinery”, McGraw-Hill Book co
3. Maitra G.M., Prasad L.V., “Hand book of Mechanical Design”, II Edition, Tata McGraw-Hill.
4. P.C.Sharma & D.K. Agrawal Machine Design – S.K.Kataria & Sons
5. Shigley J.E and Mischke C. R., “Mechanical Engineering Design”, McGraw-Hill
6. PSG design data book.
7. V.B. Bhandari, Machine Design Data Book, McGraw Hill.

List of the Experiments

- 1 To design the cylinder and piston for given requirements of an engine.
- 2 To design the connecting rod for given requirements of an engine.
- 3 To design the valve gear mechanism for given requirements of an engine.
- 4 To design the spur and helical gears for given requirements.
- 5 To design the bevel and worm gears for given requirements.
- 6 To design the gear box for given requirements of machine tool.
- 7 To select the bearing for given situation to support the rotating/sliding part of an engine.

List of Open Source Software/learning website:

1. N.P.T.L. Lecture Series, www.nptel.iitm.ac.in
2. <https://www.machinedesignonline.com/>
3. <http://machinedesign.com/>

Design based problems/Open ended problems:

1. Design an I.C. engine component and prepare a CAD model.



Subject Code: 01ME0604
Subject Name: Operation Research
B.Tech. III Year – (Sem-6) Mechanical Engineering
Type of course: Core

Prerequisite: Nil

Rationale: Understanding Operation research and to apply problem solving techniques to organization activities such as transportation, assignment, queuing, Project management and Inventory control.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Evaluation Scheme					Total Marks
Theory	Tutorial	Practical		Theory Marks			Practical Marks		
				ESE(E)	IA	CSE	Viva(V)	Term Work (TW)	
3	2	0	4	50	30	20	25	25	150

COURSE OUTCOME

After learning the course the students should be able to:

- Describe Characteristics and applications of Operation Research.
- Formulate real world problems as a mathematical programming model and solve Linear Programming problems.
- Formulate and solve transportation and work/job assignments problems.
- Understand policies for the replacement of machines/components in the industry.
- Solve problems related to CPM and PERT for project management techniques.
- Solve Queuing and Inventory problems related to practical applications.



Sr. No.	Content	Total Hrs	Weightage
1	Introduction: Introduction to operation research, History of Operation Research, Methodology and characteristics, Different phases, Limitations & Applications of Operation research.	02	5 %
2	Linear Programming Problems: Introduction to linear programming, Basic assumptions of Linear Programming, General Mathematical form, Formulation of Linear Programming Graphical solution technique for Linear Programming , Limitations of Linear Programming.	04	10 %
3	Analytical Methods for LPP: Concept of slack and surplus variables, Solution of LP using Simplex method, Two phase method, Big M method, Primal and Dual problems.	08	15 %
4	Transportation Problem: Introduction to Transportation Problems, Mathematical Model for Transportation Problem, Unbalanced Problems, Methods for initial basic feasible solution: Northwest corner method, Least cost method, Vogel's approximation method. Degeneracy in transportation, Optimal solution using Modified Distribution method, Special cases - Unbalanced problems and profit maximization problems. Transshipment Problems.	06	15 %
5	Assignment Problem: Introduction to Assignment Problems, Mathematical formulation of the problem, Hungarian method to solve Assignment problem, Travelling salesman Problem.	04	10 %
6	Queuing Theory: Basics of queuing theory, Operating Characteristics of queuing, Components of queuing system, Kendall's Notation, Classification of Queuing Models, Preliminary examples of M/M/1 : ∞ / FCFS.	04	10 %



7	Replacement Theory: Introduction to Replacement Models, Replacement of capital equipment which depreciated with time, replacement by alternative equipment, Group replacement policy, Individual replacement policy.	05	10 %
8	Project Management: Introduction to Introduction to Project Management, Network diagram components and Rules of Network Construction, Fulkerson's Rules, critical Path calculation, float calculation and its importance, PERT method, Cost reduction by Crashing of activity.	06	15 %
9	Inventory Control : Introduction to Inventory Control, Inventory Classification, Types of Inventories, Different cost associated to Inventory, Economic order quantity, Inventory model with deterministic demand (Constant rate of demand, No shortage allowed & instantaneous replenishment), ABC analysis.	04	10 %

Distribution of Theory Marks

R Level	U Level	A Level	N Level	E Level	C Level
10	20	25	25	15	5

Legends: R: Remembrance; **U:** Understanding; **A:** Application, **N:** Analyze, **E:** Evaluate and **C:** Create

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.



Reference Books:

1. Operations Research: An Introduction by Hamdy Taha, Pearson.
2. Operations Research by D.S. Hira and Premkumar Gupta
3. Operations Research by H N wagner, Prentice hall.
4. Operations Research by R. Paneerselvam, Prentice Hall of India Pvt. Ltd.
5. Quantitative Techniques in Management by N D Vohra, Tata McGraw-Hill

List of Tutorials:

1. Exercise on formulation of linear programming problems.
2. Exercise on Graphical solution of linear programming problems
3. Exercise and case problems on Transportation problems
4. Exercise and case problems on Assignment Problems
5. Exercise and case problems on Simplex, Big M and Two phase LP Problems
6. Exercise and case problems on Dual and Primal LP Problems
7. Exercise and case problems on Queuing theory.
8. Exercise on Inventory model
9. Exercise on Replacement theory
10. Exercise and case problems on PERT/CPM

List of Open ended Tutorials:

1. Solve LP problems using Microsoft Excel.
2. Solve LP problems using Lindo.

List of Open Source Software/learning website

1. <http://nptel.ac.in/>
2. <http://ocw.mit.edu/>



Subject Code: 01ME0605
Subject Name: IC Engines & Automobiles
B.Tech. III Year – (Sem-6) Mechanical Engineering
Type of course: Programme elective

Prerequisite: Elements of Mechanical Engineering

Rationale: The course is designed to provide the detailed understanding of Internal Combustion Engine mainly based on its performance and emission parameters.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Evaluation Scheme					Total Marks
Theory	Tutorial	Practical		Theory Marks			Practical Marks		
				ESE(E)	IA	CSE	Viva(V)	Term Work(TW)	
3	0	2	4	50	30	20	25	25	150

Course Outcome

After learning the course the students should be able to:

- Identify different types of internal combustion engines, its components and their applications.
- Understand the performance parameters of the engine and its signification with the economical and environmental issues.
- Apply principles of thermodynamics, fluid mechanics, and heat transfer to the design and analysis of engines and engine components.
- Analyze the various methods of power enhancement such as supercharger and turbocharger
- Analyze fuel supply systems, ignition and governing systems of IC Engines.
- Evaluate the performance of I.C. engines based on the different test on SI and CI engines

Sr. No.	Content	Total Hrs	% Weightage
1	Introduction Components of I. C. Engines and its material, Classification of I. C. Engines, Two stroke/Four stroke - Petrol/Diesel engine and its comparison, Valve timing diagram, Scavenging and its types, Application of I. C. Engines	2	5
2	Fuel Air Cycles and Actual Cycles Assumptions for fuel-air cycles, Reasons for variation of Specific heat of gases, Change of Internal energy and Enthalpy during a process with variable Specific heats, Isentropic expansion with variable Specific heat, Effect of variable Specific heat on Otto, Diesel and Dual cycle,	7	15



	Dissociation, Comparison of Air standard and Fuel air cycles, Effect of operating variables, Comparison of Air standard and Actual cycles, Effect of Time loss, Heat loss and Exhaust loss in Petrol and Diesel engines, Valve and Port timing diagrams		
3	Combustion Combustion equation, Minimum air requirement for complete combustion, Stoichiometric Air fuel ratio, Enthalpy of formation, Adiabatic Flame Temperature, Calculate Calorific values of fuels, Bomb and Junkers Gas Calorimeter	4	10
4	Spark Ignition Engines Fuel Supply System Air - Fuel mixture requirements, Fuel-Air ratio, Working of Simple Carburettor, Types of carburettor Ignition System Function of Ignition system, Battery and Magneto Ignition system, Electronic Ignition system, Spark plug and its types, Firing order, Governing System Combustion Stages of Combustion in Spark Ignition engine, Factors affecting Ignition lag and Flame propagation, factors affecting Knocking, Effect and Control of Knocking, Types of Combustion Chamber used in SI Engines	8	18
5	Compression Ignition Engines Fuel Injection System Requirement of Fuel Injection system, Fuel pump, Fuel injector, Types of Nozzles and Fuel Spray Pattern Combustion Stages of Combustion in Compression Ignition engine, Detonation, factors affecting Detonation, Controlling Detonation, Types of Combustion Chamber used in CI Engines	8	18
6	Supercharging Purpose and objectives of Supercharging, Thermodynamic cycles of Supercharged engine, Types of Supercharger, different arrangement of Supercharger, Limitations of supercharging, Turbocharger and its types	3	8
7	Performance Measurement of Internal Combustion Engine Methods of measuring Indicated Power, Brake power and Friction power, Air and Fuel consumption, Indicated and Brake Thermal efficiency, Indicated and Brake specific fuel consumption, Mechanical efficiency, Volumetric efficiency, Heat balance sheet of I.C.Engines	3	8
8	Lubrication and Cooling of Internal Combustion Engine Types of Lubricants, properties of Lubricant, SAE ratings, Wet and Dry sump lubricating system, Requirement of Engine cooling, Types of cooling system, comparison of cooling system	2	5



9	Emissions from Internal Combustion Engine and its Control Spark Ignition and Compression Ignition Engine Emissions, Effect of emissions on Human Health and Environment, Control of engine emissions - Catalytic Converter, EURO and BHARAT norms	3	8
10	Non Conventional Internal Combustion Engines Stratified Charged Engine, Wankel Engine, Free Piston Engine, Stirling Engine, Variable Compression Ratio Engine, Dual Fuel Engines, Multi Fuel Engines	2	5

Distribution of Theory Marks

R Level	U Level	A Level	N Level	E Level	C Create
15	20	25	25	15	-

Legends: **R:** Remembrance; **U:** Understanding; **A:** Application, **N:** Analyze, and **E:** Evaluate

Reference Books :

1. Internal Combustion Engines by V. M. Domkundwar, Dhanpat Rai Publications (P) Ltd.
2. Internal Combustion Engine Fundamentals by John B. Heywood, McGraw Hill Education Pvt Ltd.
3. Internal Combustion Engine by V Ganeshan, McGraw Hill Education Pvt. Ltd.
4. Internal Combustion Engine by M.L.Mathur and R.P.Sharma, Dhanpat Rai Publications (P) Ltd.
5. Fundamentals of Internal Combustion engine by H.N.Gupta, PHI Learning.
6. Internal Combustion Engines by K. K. Ramalingam, Scitech Publications Pvt. Ltd.

List of Experiments (Any 10)

1. Study about ignition and governing system of I C engines.
2. Study about supercharging and turbo charging of I C engines.
3. Study about various methods for measurements and testing of I C engines.
4. Performance test on 4 Stroke Petrol Engine
5. Performance test on 4 Stroke Diesel Engine
6. Performance test of 2 stroke Petrol Engine.
7. Determination of Indicated Power of Multi Cylinder Petrol Engine using Morse Test.
8. Measurement of calorific value for solid/liquid/gaseous fuel.
9. Determination of friction power of single/multi cylinder diesel engine using Willan's Line Method.
10. Determination of valve timings for four stroke Petrol/Diesel Engine.
11. Study about engine emissions and their control.
12. Demonstration and study of commercial exhaust gas analyzers.

List of Open Source Software/learning website

1. <http://nptel.ac.in/>
2. <http://ocw.mit.edu/>



Subject Code: 01ME0607

Subject Name: Advanced Manufacturing Processes

B. Tech. (III Year) Semester- 6: Mechanical Engineering

Type of course: Engineering

Prerequisite: Conventional Manufacturing Processes.

Rationale: Understanding of Advancement in Manufacturing Processes

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks					Total Marks
L	T	P		Theory Marks			Practical Marks		
			ESE	IA	CSE	VIVA	TW		
3	--	2	4	50	30	20	25	25	150

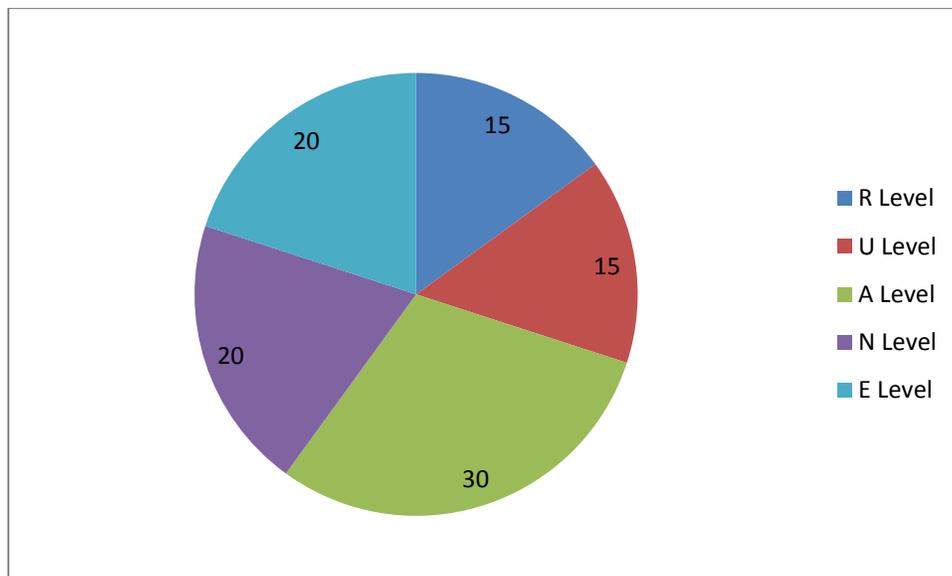
Content

No	Module	Sub Module	Weightage	Duration
1	Introduction of Ultra Precision Machining	Evolution of cutting technology and precision, progress in machining accuracy in the 21st century, positioning accuracy of machine tools and processing equipments, Tolerances or allowances error of products,	20%	10
2	Advanced Processing Equipments	Introduction to working principle, process parameter, application, advantage and disadvantages of unconventional machining like Electro Discharge Machining, Electron Beam Machining, Laser Beam Machining, Ultrasonic Machining, Ion Beam Machining, Ultrasonic Machining	25%	12
3	Chemical and Electrochemical Processing	Chemical Milling/Etching, Chemically Reactive, Deposition, Electrochemical or Electrolytic Plating, Electro Chemical Machining	15%	08
4	Nano Mechanical processing	Introduction to nano mechanical processing, processing energy :no defect, nano processing with point defect, Nano-machining as Atomic Cluster Processing, Nano-machining ,Ultra-precision Aspheric Lenses, Polishing of Si wafers	10%	4



5	Nanolithography	Photoresist Patterning, Photolithography systems, Optical photolithography, Electron Beam Lithography for Masks, Ion Beam and X-ray Lithography	10%	4
6	Energy Beam Forming Processes	Mechanism of Photon or Laser Beam Forming, Laser Beam Forming Processes & Equipment, Electron Beam Forming, Ion Beam Forming Processes	10%	4
7	Recent Manufacturing Methods	Nano processing systems and mechanism, Electroless Plating, etc.	10%	4

R Level	U Level	A Level	N Level	E Level
15	15	30	20	20


List of Experiment:

1. To study about ultra precision machining
2. To study about advanced processing equipments
3. To study about chemical and electro chemical processing
4. To study about nano mechanical processing
5. Nanolithography
6. To study about Energy Beam Forming Processes



Reference Books/ Journals:

1. Materials Characterization and Mechanism of Micro-Cutting in Ultra-Precision Diamond Turning by Wing Bun Lee, Springer
2. Ultra precision Machining of Hybrid Freeform Surfaces Using Multiple-Axis Diamond Turning by Neo, Dennis Wee Keong, Springer
3. Wafer Manufacturing: Shaping of Single Crystal Silicon Wafers by Imin Zao (Author), Milind Bhagavat
4. Ultraclean Surface Processing of Silicon Wafers: Secrets of VLSI Manufacturing by Takeshi Hattori Springer
5. Nanolithography and Patterning Techniques in Microelectronics 1st Edition by D Bucknall Woodhead Publishing

6. Laser Processing of Materials: Fundamentals, Applications and Developments, Peter Schaaf Springer .
7. Advance Method of Machining McGeough, J.A Springer
8. Micromachining of Engineering Materials J.A. McGeough. CRC Press.
9. Fundamentals of Microfabrication Mark Madou CRC Press
10. Modern Machining Processes, Pandey, P.C., and Shan, H.S. Tata McGraw-Hill Education

Course Outcome:

1. Analyzing the conventional machining processes for extension of new machining process
2. Apply basic science concept for developing new manufacturing processes
3. Application of various advanced manufacturing processes for 21st century
4. Selection of best manufacturing processes for 21st century

List of Open Source Software/learning website:

<https://www.youtube.com/watch?v=Jg6YXvTO5FE&list=PLB8BC0AB0AD5DA4E2>

https://www.youtube.com/watch?v=1MkWjVjNFhY&list=PLSGws_74K018tAv9U7K7MFDZ9GSCy4bDf



Subject Code: 01ME0606
Subject Name: Design of Material Handling
Equipment B.Tech. III Year (Sem.- VI) Mechanical
Engineering
Type of course: Under Graduate

Prerequisite: Mechanics of Solid, MDID, Machine Design - I, Machine Design - II

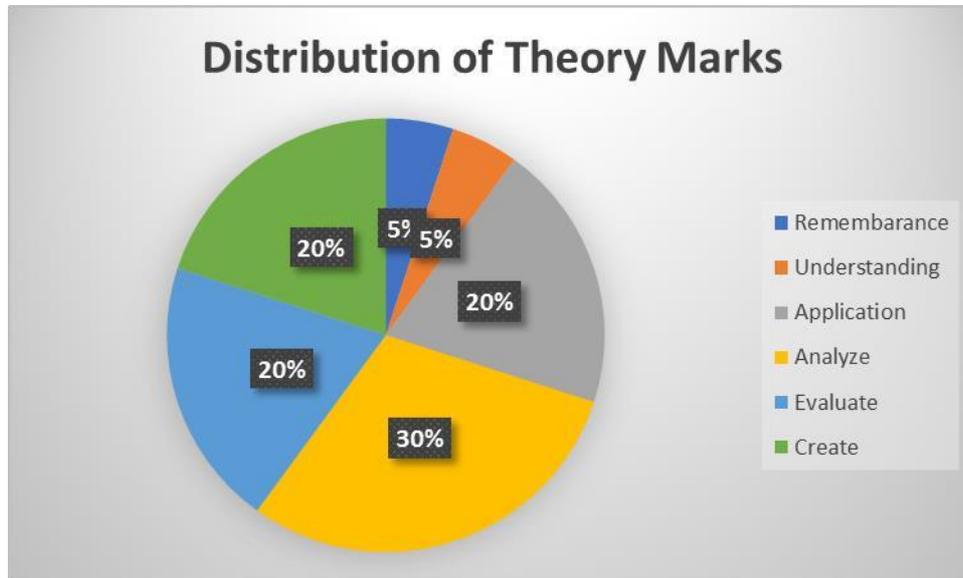
Rationale: The course aims to provide fundamental knowledge of Material Handling Equipment. Design and analysis of Hoisting Equipment's Like, Rope, Drum, Hook, Chain, Pulley and Girder etc. and design of arresting gear, Conveyors and Elevators.

Teaching and Examination Scheme:

Teaching Scheme			Credit	Examination Marks					Total Marks
L	T	P		Theory Marks			Practical Marks		
			ESE (E)	IA	CSE	Viva (v)	Term work TW		
3	0	2	4	50	30	20	25	25	150

Content:

Sr. No	Course content	Total Hrs	% Weightage
1.	Materials Handling Equipment: Introduction to material handling Equipment, Detail classification of MHE, Application and their selection.	3	10
2.	Design of Hoists: Design of hoisting Equipment likes: Wire and Hemp Rope, Welded and roller chains. Design of ropes, pulleys, Pulley systems, Sprockets and drums, Load handling attachments. Design of Hooks: forged hooks and eye hooks, Girder Design, Crane grabs, Grabbing attachments, Design of arresting gear.	18	40
3	Conveyors: Classification of Conveyors, Design and applications of Belt Conveyors , Apron Conveyors and Escalators Pneumatic Conveyors, Screw conveyors and vibratory conveyors.	12	30
4	Elevators: Design of Bucket elevators: Loading and bucket arrangements, Cage elevators, Shaft way, Guides, counter weights.	9	20

**Reference Books:**

1. Material Handling Equipments by Rudenko, MIR Publishers
2. Alexandrov M., "Materials Handling Equipments", MIR Publishers, 1981.
3. Spivakovskii, "Conveyors and related equipments". MIR publishers.
4. ASME, "Materials Handling Handbook", Wiley -Interscience, 1985
5. Spivakovsy A.O. and Dyachkov V K, "Conveying Machines", Volume I and II, MIR Publishers, 1985
6. Tech P S G, "Design Data Book", Kalaikathir Achchagam, Coimbatore, 2003

Practical: Design based Problems (DP)/ Open Ended Problem:

- Major Project: Design of hoisting equipment including assembly and detailed drawings.

Course Outcome:

After learning the course, the students should be able to:

- Understand the basic Fundamentals of Material Handling Equipment.
- Design various hoisting elements like, chains, Hemp and wire ropes, Pulley systems, Sprockets & drums, forged hooks and eye hooks and Girders.
- Design a Conveyors and Selection based on the Application.
- Design of Bucket and Cage Elevator.



Subject Code: 01ME0610

Subject Name: Design Engineering and Project Management
B.Tech. Year - III

Objective: The main objective of this course is to put on the engineering problem solving procedure to solve basic engineering design and analysis problems. using various techniques. This course is also designed with aim to demonstrate planning, execution and testing of various Projects.

Credits Earned: 1 Credit

Course Outcomes: After completion of this course, student will be able to

1. Understand the importance of Design Engineering.
2. Identify various Design Engineering approaches.
3. Apply various methodologies to design the product and in testing the product.
4. Understand various Project Management Processes.
5. Demonstrate effective project execution and control techniques that result in successful projects.

Pre-requisite of course: Not Required.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
0	0	2	1	0	0	0	25	25	50

Contents:

Units	Topics	Contact Hours
Module-1 Design Engineering Introduction	Design and its objectives, Design Constraints, Design functions, Role of Science Engineering and Technology in design Engineering as Business Proposition: How to Initiate Creative design? Initiating the thinking process for designing a	6



	<p>product of daily use. Need Identification, problem Statement, Market survey-customer requirement,</p> <p>Design Attributes and objectives: Ideation: Brainstorming approach arriving at solution, closing on to Design Need.</p>	
<p>Module-2 Design Engineering Methodology</p>	<p>System level Design, Detailed Design, Design for performance, safety and reliability, (2) Design for Ergonomics and Aesthetics, (3) Design for Manufacturing & Assembly (DFMA), (4) Design for cost & Environment, (5) Modelling and Analysis of their design (6) Prototyping (7) Engineering Economics of Design, (8) Design for Use, Reuse and Sustainability and (9) Test the prototype. And additionally, students will also learn topic like (10) Ethics in Design.</p>	6
<p>Module-3 Project Management</p>	<p>PM Foundations, Project management processes, Project execution, Project closing, Global issues in PM, Product-based planning, PM documents</p>	14
Total Hours		28

Note: Mentors are advised to take suitable project/activity to explore the above topics and make students understand the various concepts.

References:

1. Designing for Growth: a design thinking tool kit for managers, Jeanne Liedtka and Tim Ogilvie, Columbia Business School Publishing
2. Eva Dijksterhuis, Gilbert Silviu, "The Design thinking approach to projects", PM World Journal Vol. V, Issue VI, June 2016, pp. 1-15
3. Guide to the Project Management Body of Knowledge (PMBOK® Guide), Fifth Edition, Project Management Institute, Inc.



4. Wysocki, Robert K. (2014a). Effective Project Management: Traditional, Agile, Extreme, 7th Edition, John Wiley & Sons, Inc.
5. Wysocki, Robert K. (2014b). Effective Complex Project Management: An Adaptive Agile Framework for Delivering Business Value, J. Ross Publishing.

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done based on continuous evaluation of students in the laboratory and classroom.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources

1. <http://nptel.ac.in/syllabus/107106009/>



Subject Code: 01ME0701
Subject Name: Finite Element Methods
B.Tech. IV Year – (Sem-7) Mechanical Engineering
Type of course: Under Graduate

Prerequisite: Zeal to learn the Subject

Rationale: The FEM subject will be helpful to teach numerical methods for solving governing equations of mechanical systems. The various mechanical problems of one and two dimensional structural, thermal and fluid analysis; beams and frames and 3D structural problems will be analyzed.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Evaluation Scheme					Total Marks
				Theory Marks			Practical Marks		
Theory	Tutorial	Practical		ESE (E)	IA	CSE	Viva (V)	Term Work (TW)	
4	---	2	5	50	30	20	25	25	150

Course Outcome:

This course will help students to :

1. Understand the basics of finite element method for solving Mechanical Engineering problems.
2. Apply the knowledge of FEM for 1D stress analysis, heat transfer analysis and fluid flow analysis.
3. Formulate and solve problems of trusses, beams and frames.
4. Solve two dimensional FE formulations involving triangular, quadrilateral elements and higher order elements.
5. Prepare algorithms and write Finite Element code for solving simple design problems and understand the use of commercial packages for complex problems.

Content:			
Sr. No.	Topics	Teaching Hrs.	Module Weightage
1	Understanding Mathematical models for structural problems: Equilibrium of continuum. Formulation of mathematical equations, Energy Approach-Integral formulation, Methods of Weighted Residuals (Galerkin, Least-squares). Principle of Virtual work Variational formulation. Various methods for the solution of the mathematical models like : Rayleigh-Ritz methods,	6	15%
2	Bars, Trusses and Beams Application of finite element analysis in design, Modelling and discretization, Types of elements and Degrees-of-Freedom, Shape functions, Strain – displacement relation, Local and Global equations, Applications of FEA. One dimensional Elements for Structural Problems: Linear and Quadratic elements, Elimination and Penalty Approach, Properties of global stiffness matrix. One dimensional thermal conduction and fluid flow	18	40%



	problems. Formulation of Truss element, Plane truss. Formulation of Beam Element , plane frames, various loading and boundary conditions.		
3	Two Dimensional Elements: Gauss Quadrature formula, Gauss Quadrature in two and three dimensions. Plate stress and plane strain matrices. Constant strain Triangle and Linear strain Triangle Limitations of elements. Rectangular Elements, The Shape function, The Jacobian matrix, strain and displacement matrix, stress to strain relationship matrix, force vector	12	25%
4	Plate and Shell Elements: Conforming and nonconforming elements, degenerated shell elements, reduced and selective integration, shear locking in shell element and hour glass phenomenon.	10	20%

Distribution of Theory Marks

Remebering	Understanding	Application	Analysis	Evaluate	Create
10	10	20	15	25	20

Reference Books:

1. Finite element Method in Engineering, Singiresu Rao, Elsevier.
2. Introduction to Finite Elements in Engineering, T. R.Chandrupatla, PHI.
3. Text book of Finite Element Analysis, P.Seshu, PHI.
4. Finite Element Procedures, Bathe K. J., PHI.
5. Concepts and Applications of Finite Element Analysis, R D Cook, D S Malkus, M E Plesha, Wiley.
6. The Finite Element Method – A Practical Course, G. R.Liu and S. S.Quek , Butterworth
7. A First Course in the Finite Element Method Logan, Thompson Publication

List of Experiments:

1. Introduction to Finite Element Analysis software.
2. Solution of 1D – Structural, thermal and fluid problems using FEA software.
3. Solution of Plane truss problems, using FEA software. Include problems with symmetry.
4. Solution of Beam problems with different boundary and loading conditions using FEA software.
5. Solution of problems using different element types in a FEA software. Also analyse effect of element formulation and number of elements.



6. Solution of 3D problems using FEA software.
7. Solution of plate and shell problems using FEA software.
8. Case study of stress analysis for one Machine component

Design based Problems (DP)/Open Ended Problem:

1. Write a generic program for solving 1D and 2D structural problems.

Major Equipment:

1. Computational facility and FEA software.

List of Open Source Software/learning website:

1. nptel.ac.in/courses/112104115/
2. nptel.ac.in/courses/112106135/



Subject Code: 01ME0702
Subject Name: Project - 1
B.Tech. IVth Year Semester: VII
Type of course: Under Graduate

Prerequisite: Basic knowledge of Mechanical Engineering subjects

Rationale: The objective of Project Work I is to enable the student to take up investigative study in the broad field of Mechanical Engineering

Course Outcome:

After learning the course, the students will be competent

1. To Design and Analyze Mechanical System.
2. To perform Product design and development tasks.
3. To perform Industry need based project.
4. To Conducting preliminary analysis/ Modeling/ Simulation/ Experiment/ Design/ Feasibility

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks					Total Marks
L	T	P		Theory Marks			Practical Marks		
			ESE(E)	IA	CSE	Viva (V)	Term Work (TW)		
0	0	12	6	0	0	0	100	100	200

The objective of Project Work I is to enable the student to take up investigative study in the broad field of Mechanical Engineering, either fully theoretical/practical or involving both theoretical and practical work to be assigned by the Department on an individual basis or three/four students in a group, under the guidance of a Supervisor. This is expected to provide a good initiation for the student(s) in R&D work.



The project may be based on any of the following suggested list:

- Design, analysis and/or fabrication,
- Conducting preliminary analysis/ Modelling / Simulation/ Experiment/ Design/

Feasibility

- Product design and development,
- Design and development of laboratory equipments/test rigs,
- Developing computer programmes /software,
- Industry need based basic survey or Testing or Analysis etc.

- The student can undertake project single handed or in a group of not more than four students.
- The students need to Prepare a Written Report on the Study conducted for presentation to the Department.
- The student also needs to give Seminar /oral Presentation before a Departmental Committee.



Subject Code: 01ME0703

Subject Name: Rapid Casting-1

B.Tech. IV Year – (Sem-7)

Type of course: Engineering

Prerequisite: Manufacturing Process, Computer aided Manufacturing,

Rationale: The course aims to impart skills required in pattern making and mold making for metal casting.

Course Outcome

- 1 To get hands on experience on calculation of pattern allowances applicable for different material. Also, hand on experience of pattern making using different methods.
- 2 To develop technical skills associated in designing feeding and filling system for metal casting.

Teaching and Examination Scheme:

Teaching Scheme(Hours)			Credits	Evaluation Scheme					Total Marks
Theory	Tutorial	Practical		Theory Marks			Practical Marks		
				ESE(E)	IA	CSE	Viva(V)	Term Work (TW)	
2	0	4	4	50	30	20	25	25	150

Content

Sr. No	Course Content	Total Hours	% Weightage
1	<p>Pattern Making and Design</p> <p>Types of pattern, allowances for patterns, pattern materials (metal, wood, plastic, thermocol, etc.) pattern making methodologies (Machining, and 3D printing),</p> <p>Use of VMC in pattern making, specification of VMC machine, control of VMC machine, Introduction of G codes/ M codes used in VMC; Introduction of parametric programming.</p>	15	51



	Types of 3D printing technologies, applications of 3D Printing technology in pattern making, use of 3D printer in pattern making, specification of 3D printing machine, working of 3D printing machine.		
2	Moulding Process Design Types of sand used in metal casting, sand testing, properties of sand, types of molds, core making, design consideration in core making, Design considering in mold making	8	28
3	Pouring and Feeding Feeder/riser design, optimum cavity layout, different feed aids, effect of feed aids on metal casting. Types of furnace, calculation on heat required for melting, design of furnace (Resistance heating furnace), comparison of various furnaces for efficiency on melting; Methods of pouring: manual, semi-automatic, automatic pouring, effect of different pouring methods on quality of casting, gating system design	6	21

Distribution of Theory Marks:

R Level	U Level	A Level	N Level	E Level	C Create
05	20	25	25	20	05

Legends: **R:** Remembrance; **U:** Understanding; **A:** Application, **N:** Analyze, **E:** Evaluate, and **C:** Create

Reference Books:

- 1 Joan Horvath (auth.) - Mastering 3D Printing-Apress (2014)
- 2 D.T. Pham and S.S Dimov, Rapid Manufacturing: The Technologies and Applications of Rapid Prototyping & Rapid Tooling, Springer, 2001.
- 3 Peter Hilton and Paul F Jacobs, Rapid Tooling Technologies and Industrial Applications, Marcel Dekker Inc, New York, 2001
- 4 Wanlong Wang, Henry W. Stoll and James G. Conley, Rapid Tooling Guidelines for Sand Casting, Springer, 2010.
- 5 Chua C K, Leong K F, Chu S L, Rapid Prototyping: Principles and Applications in Manufacturing, World Scientific.



- 6 Gibson D W Rosen, Brent Stucker., Additive Manufacturing Technologies: Rapid Prototyping to Direct Digital Manufacturing, Springer.
- 7 Noorani R, Rapid Prototyping: Principles and Applications in Manufacturing, John Wiley & Sons.
- 8 Hilton P, Jacobs P F, Rapid Tooling: Technologies and Industrial Applications, CRC press.
- 9 Rafiq Noorani - 3D Printing_ Technology, Applications, and Selection-CRC Press (2017)
- 10 Metal casting-B.Ravi-PHI
- 11 PRINCIPLES OF METAL CASTING 2nd Edition by Richard W. Heine,,Carl Loper,Philip c Rosenthal
- 12 Manufacturing Science 2nd Edition Ghose and Mallik

List of Experiments

1. Study of different types of pattern materials used in metal casting
2. Pattern making using 3D Printer and CNC Router (Modeling of pattern will be part of assignment)
3. Study of different types of sand used in metal casting
4. Sieve analysis and Permeability test of sand used in metal casting.
5. Design of feeder for sand casting
6. Design of filling system for sand casting
7. Mold making using 2 parts and 3 parts binder system.
8. Demonstration of 3D scanner and its application in metal casting
9. Study of advanced techniques in pattern making

Major Equipment:

- 1) 3D Scanner
- 2) 3D Printer
- 3) VMC Engrave Machine
- 4) Induction Furnace
- 5) Sieve Shaker
- 6) Permeability tester

List of Open Source Software/learning website:

1. <https://nptel.ac.in/courses/112104195/30>
2. <https://nptel.ac.in/courses/112102103/16>
3. <https://nptel.ac.in/courses/112107258/>
4. <https://www.autodesk.com/products/fusion-360/students-teachers-educators?mktvar002=1063629>



SUBJECT CODE: 01ME0732
RENEWABLE ENERGY ENGINEERING
B.Tech. IV Year – (Sem-7) Mechanical Engineering
Type of course: Programe Elective

Prerequisite: Fluid Mechanics, Heat Transfer

Rationale: REE course is designed to provide knowledge of various renewable energy sources, systems and applications in the present situation.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks					Total Marks
L	T	P		Theory Marks		Practical Marks			
			ESE	IA	CSE	Viva	T.W.		
								4	

Content:

Sr. No.	Content	Total Hrs	% Weightage
1	Scenario of Renewable Energy Sources: Needs of renewable energy, benefits and limitations of Renewable Energy, present energy situation of conventional and Renewable Energy sources	2	03
2	Solar Energy: Energy available from the sun, spectral distribution, solar radiation outside the earth's atmosphere and at the earth's surface, solar radiation geometry, Instruments for solar radiation measurements, empirical equations for predicting availability of solar radiation, calculation of radiation on tilted surface conversion of solar energy into heat, different types of solar collectors, solar air heater : evacuated and non-evacuated, concentrated collectors, liquid flat plate collector: Thermal analysis, cylindrical parabolic collector, thermal storage of solar energy, heating and cooling of buildings, Solar Equipments : pump, cooker, solar still, solar drier, refrigeration & air conditioning, solar pond, furnace, air heater, Solar photovoltaic system for power generation, cell modules and arrays, types of solar cell , material, applications, advantages and disadvantages of solar systems	22	40
3	Wind Energy: Energy available from wind, basics of lift and drag, basics of wind energy conversion system, effect of density, angle of attack and wind speed, windmill rotors, horizontal and vertical axes rotors, drag, lift, torque and power coefficients, tip speed ratio, solidity of turbine, wind turbine performance curves, wind energy potential and site selection, basics of wind farm	12	22
4	Bio Energy : Different Types of biogas plants, biogas generation, factors for biogas generation, advantages and disadvantages, biomass energy, bio energy plantation, gasification, gasifiers types and their applications	03	05
5	Ocean Energy: OTEC principle, open, closed and hybrid cycle OTEC system, Energy from tides, estimation of tidal power, tidal power plants, ocean plants : single and double basin, site requirements, advantages and	08	12



	limitations, wave energy, devices for wave energy conversion, advantages and disadvantages of ocean thermal energy Geothermal energy: Introduction, vapor and liquid dominated systems, binary cycle, hot dry rock resources, magma resources, advantages and disadvantages, applications Magneto Hydro Dynamic Power generation: concept and working principle		
6	Economic Analysis: Basic definitions of various costs Initial and annual cost, present value calculations, calculation of repayment of loan :annual installments, annual savings, clean development mechanism, cumulative saving and life cycle cost, Solar system Economic analysis, Calculation of payback period,	09	18

Equipments:

- (a) Solar water heater (b) Solar air heater (c) Pyranometer (d) Pyrheliometer
(e) Solar PhotoVolatic system (f) Wind mill (g) Biogas plant (h) Gasifier (i) Solar cooker

Suggested Specification table with Marks (Theory):

Distribution of Theory Marks					
Remembrance	Understanding	Application	Analyze	Evaluate	Create
10	15	25	10	05	05

Reference Books:

1. Solar Energy: Principles of Thermal Collection and Storage, S. P. Sukhatme and J. K. Nayak, McGraw-Hill Education
2. Solar Engineering of Thermal Processes, John A. Duffie, William A. Beckman, John Wiley, New York
3. Non-conventional energy resources, Shobh Nath Singh, Pearson India
4. Solar Energy Engineering, Soteris Kalogirou, Elsevier/Academic Press.
5. Principles of Solar Energy, Frank Krieth & John F Kreider, John Wiley, New York

Course Outcome:

student will be able to understand,

- Importance of Renewale Eenergy sources
- Applications of different Renewale Eenergy sources
- Carry our preliminary economic analysis of Renewale Eenergy systems

List of Open Source Software/learning website:

- <http://nptel.ac.in/courses/112104117/18>
<http://nptel.ac.in/courses/112104117/4>
<http://nptel.ac.in/courses/112104117/17>

Type of course: PROGRAMME ELECTIVE
Prerequisite: None

Rationale: A revolutionary change has taken place in the field of Fluid Power Technology. An engineer in the field of design may require knowledge of power transmission; or in the field of operation and maintenance needs to know the power transmission system of machine tools, presses, equipment. An engineer should be well acquainted with various selection and manufacturing techniques, control, procedure and application of hydraulic/pneumatic components.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Evaluation Scheme					Total Marks
				Theory Marks			Practical Marks		
Theory	Tutorial	Practical		ESE (E)	IA	CSE	Viva (V)	Term Work (TW)	
4	---	2	5	50	30	20	25	25	150

Content:

Sr. No.	Content	Total Hrs	% Weightage
1	Introduction: Functional requirements of a power transmission, how these requirements can be fulfilled by various power transmission systems like mechanical, oil hydraulic, pneumatic, electrical or their combinations; Fundamentals of oil hydraulics and pneumatics, Control functions of oil hydraulic systems; Comparison between Mechanical, Oil Hydraulic, Pneumatic and Electrical power transmission systems; Advantages, disadvantages and Applications of Oil Hydraulic and Pneumatic power transmissions.	3	10%
2	System Components: Hydraulic & Pneumatic Symbols as per ISO/ANSI, Properties and selection of hydraulic fluids, Filtration, Hydraulic Reservoirs and Accumulators, Intensifiers or Pressure Boosters, Seals and Packing.	4	5%
3	Oil Hydraulic Pumps and Actuators: Construction, working principle and operation of rotary & reciprocating pumps like Gear, Vane, Generated-Rotor, Screw, Axial Piston, Radial Piston, Pump characteristics, Specifications and selection of pumps; Linear actuators like Ram type, Telescopic and Single acting/double acting, types of their constructions, types of mountings, cylinder materials, cushioning of hydraulic	6	15%



	cylinders, Rotary actuators, specifications, sizing and selection of pumps and actuators.		
4	Control Valves: Construction, working principle and operation of Direction control valves, Flow control valves and Pressure control valves; including Check, Pressure relief, Compound Pilot operated Pressure Relief, Safety, Sequence, Pressure Reducing, Unloading, Counterbalance valves. Different types of center positions of DCVs, Methods of actuation of DCVs.	8	10%
5	Hydraulic and Pneumatic Controllers used in Feedback Control systems: Construction, working principle and operation of Proportional and Servo control valves including Servo-type DCV like nozzle valve, flapper type valve, mechanical servo valve, single and double stage servo valves; Applications of servomotor systems in feedback control systems.	4	10%
6	Hydraulic Circuits: Reciprocation, quick return, sequencing, flow control circuits, synchronizing circuits, accumulator circuits, industrial circuits like press circuits, machine tool circuits, forklift, earth mover circuits- design and selection of components.	4	15%
7	Pneumatic Systems and Circuits: Pneumatic fundamentals, Construction, working principle and operation of pneumatic power transmission system components like Power source, FRL unit, Actuators and control valves like DCV, FCV, PCV, time delay, quick exhaust, twin pressure, shuttle; Pneumatic circuits like reciprocating circuits, switching circuits, sequential circuits, hydro pneumatic circuits, solenoid operated circuits, simple logic circuits, Programmable logic circuits using PLC/Microcontroller and their applications; selection, sizing and specifications of pneumatic components.	12	35%

Reference Books:

1. Industrial Hydraulics by John Pippenger and Tyler Hicks, McGraw Hill.
2. Oil Hydraulic Systems, Principle and Maintenance by S R Majumdar, McGraw-Hill.
3. Fluid Power with Applications by Anthony Esposito, Pearson.
4. Fluid Power: Generation, Transmission and Control, Jagadeesha T., Thammaiah Gowda, Wiley.
5. The Analysis & Design of Pneumatic Systems by B. W. Anderson, John Wiley.
6. Control of Fluid Power Analysis and Design by Mc Clay Donaldson, Ellis Horwood Ltd.
7. Hydraulic and Pneumatic Controls: Understanding made Easy, K.Shanmuga Sundaram, S.Chand & Co Book publishers, New Delhi, 2006 (Reprint 2009)
8. Basic Pneumatic Systems, Principle and Maintenance by S R Majumdar, McGraw-Hill.
9. Basic fluid power Dudley, A. Pease and John J. Pippenger, , Prentice Hall, 1987

Course Outcome:

After learning the course the students should be able to:

1. Identify and analyze the functional requirements of a power transmission system for a given application. (Application involving fluid power transmission)
2. Design an appropriate hydraulic or pneumatic circuit or combination circuit like electro-hydraulics, electro-pneumatics for a given application. Develop a circuit diagram.
3. Visualize how the hydraulic/pneumatic circuit will work to accomplish the function.

4. Selection and sizing of components of the circuit.

List of Experiments:

- A. Experiments on Hydraulics: Circuits:
 - 1) Extend-Retract and Stop system of a linear actuator and Actuation of a rotary actuator.
 - 2) Regenerative circuit.
 - 3) Speed Control circuits: meter-in, meter-out and bleed off.
 - 4) Sequencing circuit
 - 5) Use of solenoid operated DCV.
 - 6) Rapid Traverse and Feed circuit.
- B. Experiments on Pneumatic Circuits:
 - 1) Study of Compressor, FRL unit and 5/3 DCV.
 - 2) Reciprocating motion of a single and a double acting actuators using 5/3 DCV & Pilot operated DCV.
 - 3) Speed control circuits.
 - 4) Automatic to & fro motion of a pneumatic linear actuator.
 - 5) Sequencing circuit
 - 6) Time delay circuit
 - 7) Logical circuits using shuttle valve and twin pressure valve
- C. Students should build up the above circuits on computer using software like Automation Studio and simulate the flow of fluid during the operation, should learn and check the forward and return path. Afterwards, they themselves can physically connect the connections to build up a circuit on the hydraulic/pneumatic trainer and run the circuit.

Design based Problems (DP)/Open Ended Problem:

Student should be given an application of a power transmission system for which he will evaluate the functional requirements of power transmission and design appropriate circuit with due justification. He has to select and size the components, and specify the components. He should explain the working of circuit (preferably with the help of software like Automation Studio, Festo FluidSIM) through a presentation. The application must involve use of hydraulics/pneumatics and/or combinations of different power transmission systems.

Major Equipment:

1. A hydraulic trainer.
2. A pneumatic trainer.
3. Software like Automation Studio, where the simulation can be visualized.

List of Open Source Software/learning website:

- 1) Autosim Premium
- 2) Hydrosym
- 3) Scilab

Review Presentation (RP): The concerned faculty member shall provide the list of peer reviewed Journals and Tier-I and Tier-II Conferences relating to the subject (or relating to the area of thesis for seminar) to the students in the beginning of the semester. The same list will be uploaded on GTU website during the first two weeks of the start of the semester. Every student or a group of students shall critically study 2 papers, integrate the details and make presentation in the last two weeks of the semester. The GTU marks entry portal will allow entry of marks only after uploading of the best 3 presentations. A unique id number will be generated only after uploading the presentations. Thereafter the entry of marks will be allowed. The best 3 presentations of each college will be uploaded on GTU website.



Subject Code: 01ME0731
Subject Name: Refrigeration & Air-conditioning
B.Tech. IV Year – (Sem-7) Mechanical Engineering
Type of course: Program Elective

Prerequisite: Thermodynamics, Fluid mechanics, Heat and mass transfer

Rationale: The course is prepared to provide the detail knowledge of refrigeration and air conditioning principles, components and various refrigeration cycle, air conditioning terms, load estimation, air handling and distribution systems.

Teaching and Examination Scheme

Teaching Scheme Hours			Credits	Evaluation Scheme					Total Marks
Theory	Tutorial	Practical		Theory Marks			Practical Marks		
				Q	A	SA	QA	Term Work	
1	1	1	1	10	20	10	10	20	50

COURSE OUTCOME

- Students will be able to
- 1. Gather basic concepts and knowledge of refrigeration and Air conditioning system
 - 2. Analyze performance parameters of Air refrigeration system, vapour compression & vapour Absorption refrigeration by using various refrigerants.
 - 3. Examine different terminology of psychrometry and psychrometric processes for human comfort with load calculation sheet
 - 4. Predict the duct design method and air distribution system for analyzing duct and piping system
 - 5. Categorize refrigeration and air conditioning system components based on application

Cr no	Contents	Total hours	Weightage
1	Introduction to refrigeration - Refrigeration, unit of refrigeration, application of refrigeration, methods of producing cooling, ton of refrigeration, coefficient of performance	1	1
2	Refrigerants - Classification of refrigerants, designation system for refrigerant, properties of refrigerants, ozone depletion and Montreal protocol	1	1
3	Air refrigeration - Difference between heat engine, refrigerator and heat pump, reversed Carnot cycle, Bell Coleman cycle, basic air refrigeration	1	1

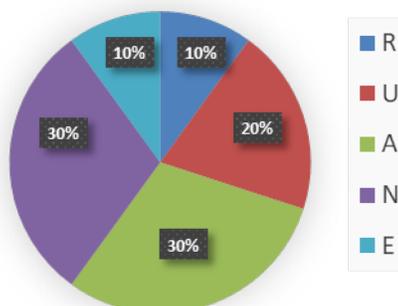


	system, bootstrap air refrigeration system, regenerative air refrigeration system, reduced ambient air refrigeration		
<input type="checkbox"/>	Vapour compression refrigeration system - Concept of vapour compression refrigeration μ , ν on h and s diagrams, factors affecting the performance of the cycle, actual vapour compression cycle Compound vapour compression system - Compound compression with intercooler, flash gas removal and flash intercooler, multiple evaporators with back pressure valves and with multiple expansion valves without flash inter cooling, analysis of two evaporators with flash intercooler and individual expansion valve and multiple expansion valve, cascade refrigeration system	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Absorption refrigeration system - Aqua ammonia absorption system, Electrolux refrigeration system, water lithium bromide absorption system	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Refrigeration system components - Classification, construction and working of compressor, condensers, expansion devices and evaporators, evacuation and charging of refrigerant, properties and classification of thermal insulation	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Psychrometric properties and processes - Dalton's law of partial pressure, dry bulb temperature, wet bulb temperature, relative humidity, enthalpy of moist air, specific humidity, dew point temperature, humidity and temperature measuring instruments, psychrometric chart, bypass factor, sensible heat factor, psychrometric processes such as sensible heating, sensible cooling, humidification and dehumidification, heating and humidification, cooling and dehumidification, air washer, cooling and humidification, heating and dehumidification	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Air conditioning and human comfort - Air conditioning and its types, application of air conditioning, air conditioning system, human comfort, factors affecting thermal comfort, effective temperature, factors governing effective temperature	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Load estimation - Outdoor and indoor design conditions, classification of loads, flywheel effect of building material and its use in design, effect of wall construction on cooling load, instantaneous heat gain μ and instantaneous cooling load ν , sensible heat gain through building structure, solar heat gain through wall and transparent surfaces, ventilation and air infiltration, heat load from occupants, heat load from lighting equipment, heat gain from power equipment, heat gain from appliances	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Duct design and air distribution - Duct classification, economic factors influencing duct layout, method of duct design, use of friction chart, dynamic losses and its determination, requirements of air distribution system, air distribution, grills, outlets, application, location	<input type="checkbox"/>	<input type="checkbox"/>

Distribution of Theory Marks

R	U	A	N	E
10%	20%	30%	30%	10%

Legends: R: Rememberance; U: Understanding; A: Application, N: Analyse, and E: Evaluate



Reference Books

- 1. Refrigeration and Air Conditioning by P. D. Kumar, P. D. Patraia P. D. S.
- 2. Refrigeration and Air Conditioning by P. D. Arora, Mc Graw Hill India Publishing Ltd.
- 3. Refrigeration and Air Conditioning by P. D. Stocker and P. D. Jones, Mc Graw Hill
- 4. Refrigeration and Air Conditioning by P. D. Arora, Prentice Hall of India
- 5. Refrigeration and Air Conditioning by Ameen Ahmadul, P. D. India
- 6. Refrigeration and Air Conditioning by Manohar Prasad, New Age International Publisher
- 7. Principles of Refrigeration by P. D. Rossat, Pearson Education

List of experiment

- 1. To understand different components of RAC system and to determine its COP
- 2. To understand construction and working of reciprocating, rotary and centrifugal compressor used for RAC.
- 3. To understand construction and working of window air conditioner / split air conditioner
- 4. To study packaged plant
- 5. To perform sensible heating and cooling & dehumidification process and analyse the same using psychrometric chart.
- 6. To perform heating and humidification process and analyse the same using psychrometric chart.
- 7. To determine COP of air to air heat pump
- 8. To understand working of Electrolux refrigerator and to determine its COP
- 9. To determine COP and apparatus dew point of an air conditioning test rig.
- 10. To calculate cooling load of a confined space using table and compare the same with load estimation sheet.

Open ended design problem

- Evaporative cooling using sand pot

List of Open Source Software/learning website

- 1. <http://nptel.ac.in>
- 2. www.learnerst.com

Subject Name: Computer Aided Process Management
B.Tech.. IV Year-(Sem-VII) Mechanical Engineering

Type of course: Programme Core

Prerequisite: Zeal to learn the subject

Rationale: This course aims to provide an overview of production management, focusing on the computer aided tools applicable in managing automated production. It comprehends about the production systems, facility location and layout, production planning and control, Materials resource planning, scheduling, shop floor control, Simulation of Machine shop and modern approaches.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Evaluation Scheme					Total Marks
				Theory Marks			Practical Marks		
Theory	Tutorial	Practical		ESE (E)	IA	CSE	Viva (V)	Term Work (TW)	
4	---	2	5	50	30	20	25	25	150

Content:

Sr. No.	Content	Total Hrs
1	Fundamentals: System concept, Hierarchical structure, System design, Decision making procedure, Manufacturing Systems, Factors affecting selection of Manufacturing Process, Modes of Production- Jobbing / Intermittent / Continuous/ Mass Production.	02
2	Product / Process Planning and Design : Facilities (Plant) Location - Facility location and layout – Factors to be considered in Plant location, Comparative Study of rural and urban locations Methods of selecting plant layout , Requirements of good layout Principles for better plant lay out, Different Types of layout. Computerized technique for relative allocation of facility , automated layout design program and computerized relationship layout planning for facility location and layout.	12
3	MRP : Material Requirement – Terminology – types of demands – inputs to MRP- techniques of Material Requirement Planning, methods for Lot sizing, benefits and limitations of MRP – Manufacturing Resources Planning (MRP –II).	05



4	Job scheduling : Scheduling – Policies – Types of scheduling – Forward and Backward Scheduling, Gantt Charts, Flow shop Scheduling of n jobs and 2 machines, n jobs and 3 machines, job shop Scheduling, 2 jobs and n machines, Line of Balance.	06
5	Computer Aided Process Planning: feature based and CAD based CAPP, Types of Generative and variant , backward and forward approach,	05
6	Shop Floor Control: Database structures, hierarchical, network, Relational concepts, keys, relational operations, query languages; Shop Floor Data Collection Systems-Types of data, on-line and off-line data collection, Automatic data collection systems.	06
7	Modern approaches in Manufacturing: Cellular Manufacturing, Detailed Group Technology, Composite part, ROC technique (Rank Order Clustering Technique), Hollier method for Group Technology, cell layouts; Flexible Manufacturing- Concept, principles, Lean manufacturing concept, principles.	06
8	Simulation in Manufacturing system : Major activities, purpose, simulation process, methodology, simulation packages, process quality simulator, computer requirements trends, applications simulation of machine shop.	05

Suggested Specification table with Marks (Theory):

Distribution of Theory Marks					
Remembrance	Understanding	Application	Analyze	Evaluate	Create
10	10	30	20	20	10

Reference Books:

1. Production & operations management: Concepts, Models and Behaviour, Adam E.(Jr.), Ebert R J., PHI.
2. Production & operations management, Chary S N, McGraw-Hill.
3. Computer Aided Production Management, Mahapatra P B, PHI.
4. Manufacturing Processes, Kalpakjian, Pearson



5. Facility Layout & location – An analytical approach – Richard L. Francis, John A. white
6. Production & operations management, Nair G N, McGraw-Hill.
7. An Introduction to Computer Aided Production Management, Childe, S., Springer.

Course Outcomes:

Sr. No.	CO statement	Marks % weightage
CO-1	Understand relevance and importance of the Different Production and operations management techniques and their applications.	25
CO-2	Capable to design, analyse and assess production planning and control systems, including those operating within distributed manufacturing environment.	25
CO-3	Be able to develop simulation of machine shop.	30
CO-4	Gain an overall understanding of computer aided production management.	20

List of Experiments:

1. Salient features and facilities of ideal software.
2. Algorithm and program for sequencing / scheduling
3. Forecasting methods and program of any one.
4. Group technology
5. Computerized plant layout design
6. Computer aided process planning
7. Material requirement planning
8. Shop floor control

Equipment / Computational facility:

1. Computational Facility and programming software

List of Open Source Software/learning website: <https://nptel.ac.in/>



Subject Code: 01ME1722
Subject Name: Data Mining and Analysis
B.Tech. IV Year-(Sem-VII) Mechanical Engineering
Type of course: Science

Prerequisite: Basic concept of linear algebra, calculus, probability, Manufacturing Processes

Objective: To understand the implementation of data mining in manufacturing

Teaching and Examination Scheme:

Teaching Scheme(Hours)			Credits	Evaluation Scheme					Total Marks
Theory	Tutorial	Practical		Theory Marks			Practical Marks		
				ESE (E)	IA	CSE	Viva (V)	Term Work (TW)	
4	0	2	5	50	30	20	25	25	150

Course Outcome

1. Able to know data & its structure
2. Able to know importance of data analytics in manufacturing
3. Able to demonstrate data collection & processing techniques
4. Able to select appropriate prediction technique for data analysis
5. Able to suggest appropriate diagnosis approach

Course Contents:

Sr No	Contents	Total hours	Weightage
1	Introduction to Data Analytics in Manufacturing Define data, Type of data, Importance of data in manufacturing, Use of data in manufacturing, Concept of data analyst, Various application of data analyst in manufacturing.	4	15
2	Data Collection and Processing of Data Various approach of data collection, Reduction in data, Processing of data, Selection of variables/parameters, Concept of principal component analysis, Factor analysis, Case study on any of above methods	12	25
3	Prediction Techniques Type of data set, Selection of prediction technique, Different techniques for prediction, Artificial neural network, Controlling parameter of ANN, Selection of ANN, Various algorithm, Back propagation, Momentum learning algorithm, Levenberg-Marquardt algorithm for prediction, Concept of local minima & global minima in ANN, Case study on prediction	12	25

4	Diagnosis approaches Various approaches, Introduction of CART, KNN, Simulated annealing, Genetic Algorithm, Introduction of fuzzy logic in diagnostic, case study on diagnosis	12	25
5	Advances in Manufacturing Data Analytics Concept of Deep Neural Network, Comparative analysis on ANN, DNN, CNN, RNN, Introduction of V surf, Support vector machine, Bayesian Inference	6	10

Distribution of Theory Marks

R Level	U Level	A Level	N Level	E Level
15	20	30	30	5

Legends: R: Remembrance; **U:** Understanding; **A:** Application, **N:** Analyze, **and E:** Evaluate

Reference Books:

1. Data Mining: Practical Machine Learning Tools and Technique by Witten, Ian H. Morgan Kaufmann Publishers
2. TensorFlow Machine Learning Cookbook by McClure, Nick, Packt Publishing Ltd
3. Concise Introduction to Machine Learning by Faul, A.C. CRC Press
4. Machine Learning by Mitchell, Tom M, McGraw Hill Education(India) Private Limited.
5. Pattern Recognition and Machine Learning by Bishop, Christopher M. Springer Science
6. Statistics and Data Analysis: from elementary to intermediate by Tamhane, Ajit C. | Dunlop, Dorothy D Prentice Hall, Inc.
7. Data Mining: concepts and techniques, 2nd ed by Han, Jiawei | Kamber, Micheline
8. Business Analytics: the science of data-driven decision making by Kumar, U. Dinesh Wiley India Pvt. Ltd
9. Data Analysis for Physical Scientists: featuring excel, 2nd ed by Kirkup, Les Cambridge University Press
10. Data Mining Methods and Techniques by Ali, A B M Shawkat | Wasimi, Saleh A Cengage Learning India Private Limited

List of Experiments:

1. Identify the key parameter in the various manufacturing processes
2. To evaluate various data collection methods
3. Python/MATLAB programming on basic data science
4. Python/MATLAB programming on MP neural network
5. Python/MATLAB programming on perceptron neural network
6. Python/MATLAB programming on sigmoid neural network
7. Python/MATLAB programming on KNN
8. Python/MATLAB programming on fuzzy logic
9. Case study on data preprocessing for manufacturing
10. Case study on prediction of process parameter in manufacturing
11. Case study on diagnosis of manufacturing processes
12. Comparative analysis of advanced data analyst tool for manufacturing processes



List of Open Source Software/learning website:**NPTEL Courses**

1. Data Science for Engineer by Prof. Raghunathan Rengasamy IIT Madras
2. Deep Learning by Prof. Prabir Kumar Biswas IIT Kharagpur
3. Deep Learning for computer vision by Prof. Vineeth Balasubramanian IIT Hyderabad
4. Introduction to Machine Learning by Prof. Balraman Ravindran
5. Practical Machine Learning by Prof. Ashish Tendulkar Google, IIT Madras

Open Source Software

1. <https://www.anaconda.com/>
2. <https://www.python.org/>
3. <https://colab.research.google.com/>
4. <https://www.iitk.ac.in/ee/data-mining-lab/>



Subject Code: 01ME0711
Subject Name: Advanced Machine Design
B.Tech. IV Year – (Sem-7) Mechanical Engineering
Type of course: PE
Prerequisite: Machine Design, Strength of Materials

Rationale: - The course is intended to strengthen fundamentals of applied mechanics of solids and help understanding design and analysis of machine components under variable loading. The course explains design procedure and analysis of machine components at elevated temperature. The course teaches fundamentals and application of fracture mechanics and surface failures in mechanical component design.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Evaluation Scheme					Total Marks
				Theory Marks			Practical Marks		
Theory	Tutorial	Practical		ESE (E)	IA	CSE	Viva (V)	Term Work (TW)	
4	2	--	5	50	30	20	25	25	150

COURSE OUTCOME

Students will be able to

1. Students will be able to design mechanical components subjected to static loading.
2. Students will be able to design and analyze mechanical components subjected to dynamic loading.
3. For the design and analysis of components students will be able to incorporate effect of crack and creep.

SR No	CONTENTS	TOTAL HOURS	WEIGHTAGE
1	Review of stresses, Strains and Theories of Failures : Introduction, Plane Stress, Rotation of Coordinate Axes, Generalized Plane Stress, Principal Stresses and Maximum Shear Stress, Three Dimensional state of stress, Stresses on Octahedral plane, Plane strain, and Strain gage rosettes. Introduction to basic Constitutive Relations and Rheological Models: Elastic model-Generalized Hooke's Law, Plastic model Rigid-Perfectly Plastic, Elastic-Perfectly, Elastic-Linear Hardening, Anisotropic and Orthotropic Hooke's Law, Different	09	21%



	<p>Theories of Failures: Distortion Energy, Maximum-Shear Stress, Maximum Normal Stress, Modified Coulomb-Mohr Theory, Comparison of theories of failures.</p>		
2	<p>Fracture Mechanics: Introduction to fracture mechanics, Increase in stresses due to crack, displacement due to Crack tip opening, Effect of crack on strength of ductile and brittle material, Crack opening modes and Griffith theory, Concept of Stress Intensity Factor, Plasticity at Crack Tip , Use of Stress Intensity Factor in design and analysis, Determination of plastic zone, size and shape.</p>	09	21%
3	<p>Fatigue: Introduction, factors affecting fatigue behavior, Theoretical stress concentration factor and notch sensitivity factor, Fatigue under complex stresses, cumulative fatigue design, Linear damage (Miner's Rule), Manson's method, Fatigue crack propagation and life estimation for constant and variable amplitude stress. Fatigue considering Strain: Strain Vs. Life Curve, Strain-Life Equation, effect of Mean stress, Life estimate for structural Components.</p>	10	24%
4	<p>Surface Failures: Rolling Friction, Effect of surface roughness, velocity and lubrication on friction, Wear: Adhesive, Abrasive and Corrosive, Lubrication: Hydrodynamic, hydrostatic and elasto-hydrodynamic lubrication, Surface Fatigue, Contact Stresses in Spherical, Cylindrical under General and Dynamic condition, Surface Fatigue Strength, Methods to avoid surface fatigue.</p>	07	17%
5	<p>Creep : Creep phenomenon, Creep Curve, concept of True stress and true strain, Creep parameters, time-temperature parameters and life estimate under creep. Stress relaxation. Stress-Strain-Time relation, Creep deformation under varying stress, Component stress-strain analysis,</p>	07	17%

Distribution of Theory Marks

Remembrance	Understanding	Application	Analyze	Evaluate	Create
10	10	20	15	25	20



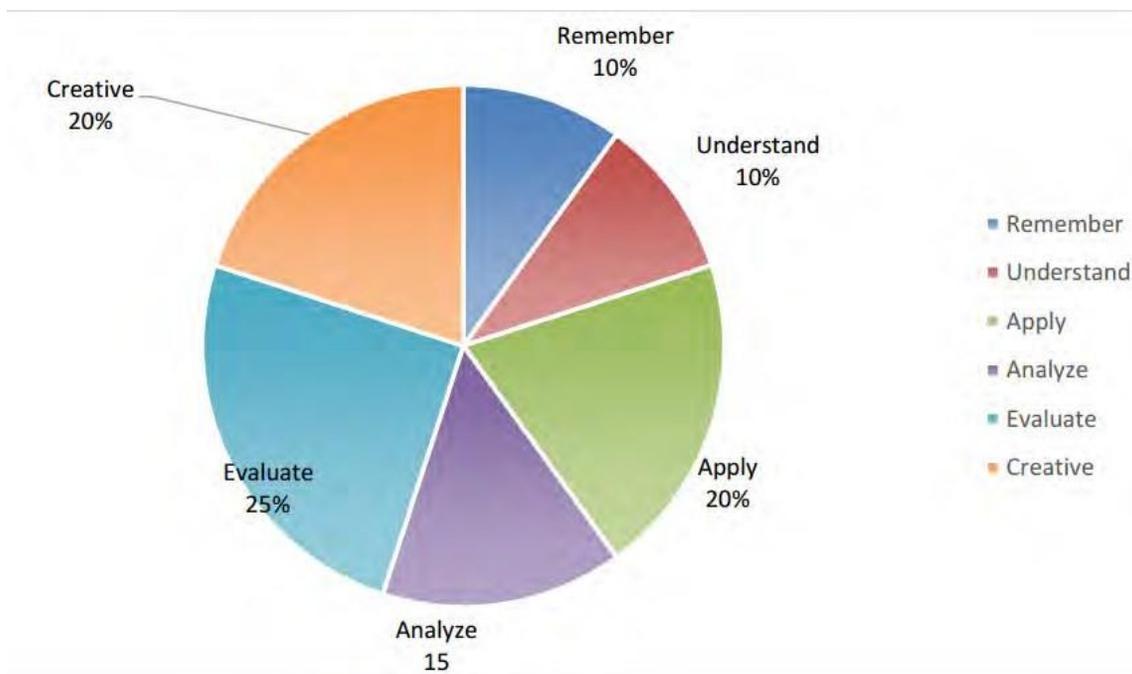
Syllabus for Bachelor of Technology

Reference Books:

1. Machine Design: An Integrated Approach Third addition Norton Pearson Education.
2. Fundamentals of Machine Design 5th Edition R C Juvinall & K M Marshek Wiley India.
3. Mechanical Design of Machine Elements and Machines: H Busby and G Stabb Wiley India.
4. Dislocations and Mechanical Behaviour of Materials M. N. Shetty PHI.
5. Mechanical Behaviour of Materials, 2nd Edition T H Courtney McGraw-Hill / Overseas Press India.
6. Metal Fatigue in Engineering R I Stephens, A Fatemi, R R Stephens and H O Fuchs. John-Wiley.
7. Elements of Fracture Mechanics Prashant Kumar McGraw-Hill.
8. Engineering Design Dieter, G McGraw-Hill
9. Mechanical Behavior of Materials: Engineering Methods for Deformation Fracture and Fatigue Fourth edition Dowling Pearson Education.

List of Experiments:

1. Students should be assigned at least five different case studies related to design of mechanical components which covers all kind of stresses. Students must use design data books and various design standards for design and selection of the components. Students must prepare detail design reports including necessary drawings.



Blooms level distribution



Department of Mechanical Engineering

Department of Mechanical Engineering

Department of Mechanical Engineering

Department of Mechanical Engineering

Department of Mechanical Engineering basic concept of machining

The course is prepared to provide the detailed understanding of production technology.

Department of Mechanical Engineering

Teaching Scheme Hours			Credits	Evaluation Scheme					Total Marks
Theory	Tutorial	Practical		Theory Marks			Practical Marks		
					A		viva	Term work	

Department of Mechanical Engineering

Students will be able to,

- Understand the basic concept of production technology
- Design of jig and fixture for metal cutting
- Apply the knowledge of sheet metal operations in manufacturing industries.
- Analyze the machining processes

Department of Mechanical Engineering

Sl. No.	Topic	Theory Marks	Practical Marks
1	Principles of metal cutting, classification of Metal cutting machining processes orthogonal and oblique cutting, effect of tool geometry and other cutting parameters, Mechanisms of chip formation, different types of chips, chip breakers, specific cutting pressure, the forces acting on the cutting tool, measurement of cutting forces, Merchant's circle diagram, force dynamometer, force and velocity relationship, tool wear, factors causing tool wear, tool life, variables affecting tool life, economical cutting speed, machinability of metals		



Subject Code: 01ME0802
Subject Name: Project -II
B.Tech. IVth Year Semester: VIII
Type of course: Under Graduate

Prerequisite: Basic knowledge of Mechanical Engineering subjects

Rationale: The object of Project Work II is to enable the student to extend further the investigative study taken up under Project work I, either fully theoretical/practical or involving both theoretical and practical work

Course Outcome:

After learning the course, the students will be competent

- To Design and Analyze Mechanical System.
- To perform Product design and development tasks.
- To perform Industry need based project.
- To Conducting preliminary analysis/ Modeling/ Simulation/ Experiment/ Design/ Feasibility

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks					Total Marks
L	T	P		Theory Marks			Practical Marks		
			ESE(E)	IA	CSE	Viva (V)	Term Work (TW)		
0	0	12	6	0	0	0	100	100	200

The objective of Project Work II is to enable the student to perform in depth study of the topic assigned in the light of the Report prepared under project I, either fully theoretical/practical or involving both theoretical and practical work, under the guidance of a Supervisor. This is expected to provide a good initiation for the student(s) in R&D work.

The project may be based on any of the following suggested list:

- Design, analysis and/or fabrication,
- Conducting preliminary analysis/ Modelling / Simulation/ Experiment/ Design/ Feasibility
- Product design and development,



- Design and development of laboratory equipments/test rigs,
- Developing computer programmes /software,
- Industry need based basic survey or Testing or Analysis etc.

- The student can undertake project single handed or in a group of not more than four students.
- The students need to Prepare a Written Report on the Study conducted for presentation to the Department.
- The student also needs to give Seminar /oral Presentation before a Departmental Committee.



Subject Code: 01ME0803

Subject Name: Rapid Casting-2

B.Tech. IV Year – (Sem-8)

Type of course: Engineering

Prerequisite: Casting Processes

Rationale: The course aims to impart basic understanding and practice of inspection, simulation and automation in casting industries

Course Outcome

1. Understanding the basic concept of various destructive, non-destructive and metallurgical testing in casting
2. Application of various testing method in casting
3. Analysis of various testing method used in casting
4. Simulation of different components using AutoCAST.
5. Design of circuits using Arduino and Data Taker.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Evaluation Scheme					Total Marks
Theory	Tutorial	Practical		Theory Marks			Practical Marks		
				ESE(E)	IA	CSE	Viva(V)	Term Work (TW)	
2	0	4	4	50	30	20	25	25	150

Content

Sr. No	Course Content	Total Hours	% Weightage
1	Inspection Introduction, type of data, stages of inspection, classification of inspection, Economics analysis of inspection, basic concept of quality management	3	20
2	Destructive Testing Introduction, tensile test, compressive test, bending testing hardness testing, impact test, various standards for test.	6	20



**Syllabus for Bachelor of Technology
Department of Mechanical Engineering**

3	Non Destructive Testing and metallurgical testing Introduction, Liquid penetration test, magnetic particle test, ultrasonic test, radiography test, Microscope for various ferrous and non ferrous metal	6	20
4	Simulation Introduction to basic parameters of casting, Parting line Selection, Design parameters of core Design parameters of core print, Design of Feeding and Filling System	8	20
5	Automation Introduction to Automation and IoT, Sensors, Data Acquisition, Arduino.	4	20

Distribution of Theory Marks:

R Level	U Level	A Level	N Level	E Level	C Create
10	20	25	25	20	-

Legends: R: Remembrance; **U:** Understanding; **A:** Application, **N:** Analyze, and **E:** Evaluate

Reference Books:

1. Testing of Metallic Materials by Suryanarayana, A.V.K. BS Publicationsx`
2. Mechanical Metallurgy by Dieter, George McGraw Hill publication
3. Textbook of Material Science and Metallurgy by O P Khanna Dhanpat Rai & Co
4. Metal Casting by B. Ravi
5. Getting Started with Arduino by Massimo Banzi and Michael Siloh, Makermedia
6. Getting Started with Sensors by Kimmo Karvinen and tero Carvinen, Makermedia
7. Manufacturing Science by Amitabh Ghosh and Asok Kumar Malik



List of Experiments

1. Perform tensile testing of ferrous and non ferrous metals
2. Perform compressive testing of material
3. Perform bending testing of material
4. Perform hardness testing of metals
5. Perform various non destructive testing of metals
6. Perform grain structure analysis of metal
7. Simulation of different components for Sand Casting Process.
8. Simulation of different components for Investment Casting Process.
9. Designing of Circuit using Arduino
10. Perform Temperature measurement experiment on DataTaker.

Major Equipment:

- 1) Universal testing Machine
- 2) Rockwell and Vickers hardness
- 3) Non destructive testing equipment
- 4) Metallurgical microscope
- 5) AutoCAST Simulation software.
- 6) Arduino MicroController
- 7) DataTaker



Teaching Scheme			Credits	Examination Marks					Total Marks
				Theory Marks			Practical Marks		
				Q	A	Q	Q	Q	
				Q	Q	Q	Q	Q	Q

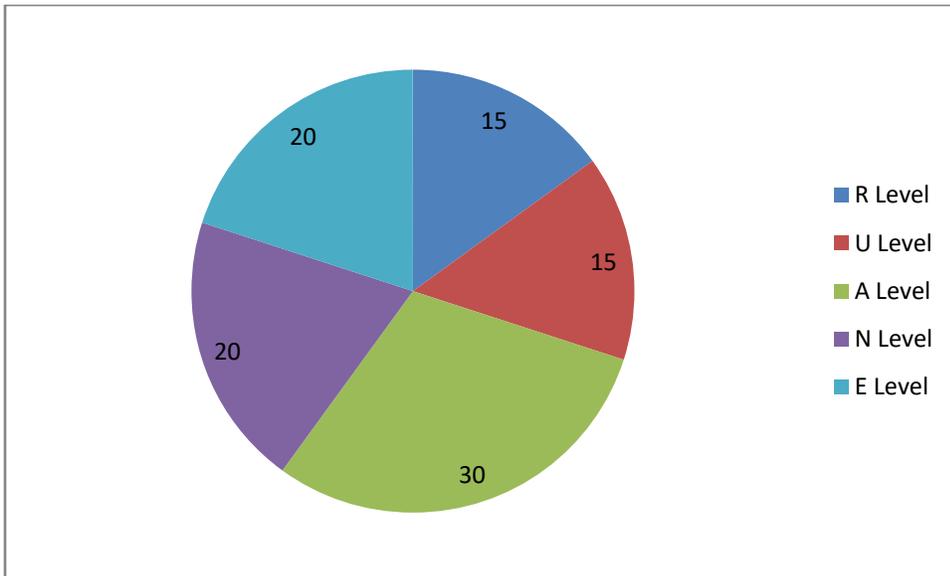
Department of

Q	Mod	Exam Mod	Q	Q
Q	Stresses in Pressure Vessel	Introduction to stresses in pressure vessel and its application, stresses in circular plate, Stresses in cylinder, Thermal stresses, Bending of circular plates of uniform thickness, Bending of centrally loaded circular plates	Q	Q
Q	Pressure Vessel Design Code	Introduction to ASME standard for pressure vessel design, Pressure Vessel and related components design using ASME standard Design of nozzle	Q	Q
Q	Supports design for pressure Vessel	Design of base plate and support lugs, Types of anchor bolt, its material and stresses, Design of saddle supports	Q	8
Q	Design consideration in pressure Vessel	Buckling of pressure vessels Elastic Buckling of circular ring and cylinders under external pressure, Failure of thick walled cylinders or tubes under external pressure, buckling under combined external pressure and axial loading,	25	12



		fatigue failure, high strength, light weight pressure vessels resistant to external high pressures found in undersea exploration		
	Piping design	Flow diagram, Piping layout and piping stress analysis, Reliability factor and stress intensification factor, Design of piping as per ASME piping code, Piping components (ends, tees, elbows and valves). Types of piping supports and their behavior, Introduction to piping codes and standards.		

Attendance	Order			



Department of Mechanical Engineering

- To study the basic design procedure of pressure vessel design
- Application of ASME code for pressure vessel design
- Design the nozzle for pressure vessel
- Design the support for the pressure vessel
- Design the circumferential stiffness in pressure vessel
- To study the design procedure of piping in pressure vessel

Dr. Jyoti Chavhan

- Rowenell, J. and Young, J. "Process Equipment Design, Wiley Eastern Ltd. India
- ASME Pressure Vessel and Boiler Code, Section VIII, I, II, and III, ASME.
- American standard code for pressure piping, VIII, ASME.
- Henry Mednar, Pressure Vessel Design and Book, McGraw-Hill Publishers and Distributors
- Phillip Lengerger, Pressure Vessels ASME Code Simplified, ASME.
- Smith, Fundamentals of Piping Design, Elsevier.

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- Student are able to understand the design consideration of pressure vessel
- Student are able to design the support of the pressure vessel
- Student are able to design nozzle for pressure vessel
- Student are able to design piping system for pressure vessel

Dr. Jyoti Chavhan

<https://www.youtube.com/watch?v=...> list
ASMAA index

<https://www.asme.org>



Teaching Scheme			Credits	Examination Marks					Total Marks
				Theory Marks			Practical Marks		
					A		A		

Sl. No.	Module	Module	Practical	Credits
1	Introduction to Machine Tool Design	General Requirement of Machine tool Design, Type of motion in Machine Tools, Parameter Refining for working motion of machine tool, Machine Tool Types,		
2	Controlling the speed and feed rates	Aim of speed and feed rate controlling, Stepped controlling of speed, Design of Speed Gearbox, Design of feed gearbox, Special cases for gear box design, Determining the number of teeth of gear		
3	Design of Machine tool structure	Properties and material for of machine tool structure, Design criteria for machine tool structure, Static and dynamic stiffness, Basic design procedure of Machine tool structure, Design of Beds, column, housings, Base, table, cross rail, arms, saddles, and carriage, Design of Rams		



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- Machine Tools and Tool design and operation by Joshi, J. J. Tata McGraw Hill Education Ltd.
- Technology of machine tools by Par, Teje Mcraw Hill India Ltd.
- All about Machine tools, 2nd ed. by Erling Reinch New Age Education Limited
- Machine Tool Design and Tool by M., Tata McGraw Hill Education Ltd.
- Machine Tool Practices by Jee, Richard P P P Learning Private Limited

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- Student are able to understand the design consideration of Machine tool elements
- Student are able to design the gear box for machine tool
- Student are able to design structural element of Machine tool
- Student are able to design the guideway for Machine tool

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<https://nptel.ac.in/courses/112102001/112102001.pdf>



Subject Name: Computer Integrated Manufacturing

Subject Code: 01ME0821

B.Tech. Semester VIII (Year-IV) Mechanical Engineering

Type of course: Science

Prerequisite: Basic Manufacturing

Rationale: The course is prepared to provide the detailed understating of Computer Integrated Manufacturing

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Evaluation Scheme					Total Marks
Theory	Tutorial	Practical		Theory Marks			Practical Mars		
				ESE (E)	IA	CSE	Viva (V)	Term Work (TW)	
4	0	2	5	50	30	20	25	25	150

Course Outcome

Students will be able to

1. Apply modeling, manufacturing concepts and management principles.
2. Classify and compare different manufacturing processes and systems.
3. Develop solid models and part program for manufacturing of different machine components.
4. Analyze the behavior of manufacturing system using simulation.

Course Contents

Sr. no.	Contents	Total hours
1	Introduction Introduction, evolution of CIM, types of manufacturing system, components of CIM, CIM Wheel, role of management in CIM. Impact of CIM on personnel, Levels of Automation, Lean Production and Just-In Time Production.	03
2	Geometric Modeling Solid Modeling, solid modeling methods – CSG; B-rep; hybrid modeling, feature based modeling, constraint based modeling, manipulation techniques of solids, assembly.	07



3	Flexible Manufacturing System Introduction & component of FMS, needs of FMS, general FMS consideration, objectives, types of flexibility, FMS layout and advantages. Automated material handling system: Types and Application, Automated Storage and Retrieval System, Automated Guided Vehicles, Automated Tool Management and supply system, Tool Monitoring System, Flexible Fixturing, Flexible Assembly Systems.	06
4	Robot Technology Introduction: Robot Anatomy, Laws of Robot, human System and robotics, coordinate system, specifications of robot, different configurations of robots, power sources, actuators and transducers, robotic sensors, grippers, robot safety, applications, economic considerations of robotics system. Concepts of Computer Vision and Machine Intelligence	06
5	NC/CNC Machine Tools Types, Classification, Specification and components, Construction Details, Controllers, Sensors and Actuators, CNC hardware: Re circulating ball screw, antifriction slides, step/servo motors. Axis designation, NC/CNC tooling. Fundamentals of manual Part programming, absolute and incremental dimensioning Types of format, Part Programming for drilling, lathe and milling operations, subroutines, canned Cycles, parametric sub routines. Software based programming cycles: <ul style="list-style-type: none"> • Turning Cycles Stock Removal, Groove, Undercut, Thread-OD, Cut-off, contour and plunge turning operations • Milling Cycles Face Milling, Pocket, Multi-edge spigot, slot, Thread Milling, Engraving) • Drilling Cycles Centring, Drilling, Deep Hole Drilling, Boring, Threading 	20
6	Programmable Logic Controllers Introduction, Programmable controller architecture, relay device components, programming a programmable controller, tools for PLC logic design.	02



Reference Books:

1. Principles of Computer-integrated Manufacturing by S. Kant Vajpayee
2. Automation, Production Systems and Computer Integrated Manufacturing by Mikell P Groover Pearson Education
3. Robotics Technology and Flexible Automation, by S R Deb, S Deb, McGraw Hill Education Private Limited
4. Ibrahim Zied, CAD / CAM: Theory and Practice, McGraw-Hill
5. Flexible Manufacturing Cells and System -William. Luggen
6. CNC Machines by B.S. Pabla
7. CNC Machines and Automation by J.S. Narang

List of Experiments

1. To study about NC/CNC technology.
2. To prepare the manual part programs for Turning/Milling job and to simulate them with CNC simulator.
3. To prepare the software-based part programs for Turning/Milling job and to simulate them with CNC simulator.
4. Error estimation in CNC machine.
5. Tool Path Optimization.
6. Exercise on Solid modelling.
7. Exercise on Advance Solid modelling.
8. Exercise on Assembly modelling.
9. To study about the Flexible Manufacturing System.
10. To study about Robot Technology.

Equipment / Software facility:

1. CNC Turning centre
2. CNC Vertical Milling Centre
3. Robotic Arm
4. PTC Creo

**List of Open Source Software/learning website:**

1. nptel.ac.in

Subject Code: 01ME0822
Suubject Name: IoT for Manufacturing
B.Tech . IV Year(Sem-VIII) Mechanical Engineering
Type of course: Programme Elective

Prerequisite: NA

Rationale: The course is prepared to provide the detailed understating of IoT in manufacturing

Teaching and Examination Scheme:

Teaching Scheme(Hours)			Credits	Evaluation Scheme					Total Marks
Theory	Tutorial	Practical		Theory Marks			Practical Mar s		
				ESE (E)	IA	CSE	Viva (V)	Term Work (TW)	
4	0	2	5	50	30	20	25	25	150

Course Outcome

Students will be able to

1. Understanding the basic concept of industry 4.0
2. Application of various technology in industry 4.0
3. Implementation of various production philosophy in industry 4.0
4. Analysis of various processes to implement the industry 4.0

Course Content

Sr no	Contents	Total hour	Weightage
1	Introduction of Industries 4.0 Introduction to First, second and third industrial revolution, challenges in third revolution, Opportunity and challenges in Industry 4.0 characteristic of industry 4.0, Industry 4.0 environment, Advantage and disadvantage of industry 4.0	6	14



2	Technologies in Industry 4.0 The vision of ubiquitous Computing, Cyber physical system, Internet of Things and Service (IoTS), Intelligent object, Intelligent system, Automatic identification and localization, Machine to Machine communication , Sensing and actuafing, Data and information processing, Human machine interaction, Artificial Intelligence, Autonomy of action ,Digital integration platform	8	19
3	Sensor ,Actuators and Connectivity in Industry 4.0 Definition, Classification, Principle, Selection Criteria, Signal Conditioning, Calibration , Static and Dynamic characteristics, Introduction of communication protocols i.e. IEEE 802.15.4, Zigbee, 6LoWPAN, Wireless HART, Z- Wave, ISA-100, Bluetooth, NFC, RFID	10	23
4	Production Systems in Industry 4.0 Sustainability assessment of manufacturing, Lean Production system, Just in Time production system, Agile Manufacturing, Smart and Business perspective, collaboration platform and product life cycle	8	19
5	IIoT Application Machining, Casting, and Fabrication industries Factories and assembly line, Food industry, Healthcare, Power plant, Production planning and control Inventory management and quality control, Plant security and safety, facility management	10	23

Distribution of Theory Marks

Remembrance	Understanding	: Application	Analyze	Evaluate
15	20	25	25	15

Reference Books:

1. Bahga and V. Madiseti, Internet of Things, A hands-on approach, CreateSpace Independent Publishing Platform, 1st edition, 2014, ISBN: 978-09960255
2. D. Boswarthick, O. Elloumi, and O. Hersent, M2M communications: A systems approach, Wiley, 1st edition, 2012, ISBN: 978-1119994756
3. K. Laudon and J. Laudon, Management Information Systems, 14th edition, Pearson Higher Education, 2016, ISBN: 9780136093688.
4. A Rajaraman, J. Leskovec, J. Ullmann, Mining of Massive Data sets, Cambridge University Press, 2011, ISBN: 1107015359.



List of experiments

1. Case study on application of IoT in casting industry
2. Case study on application of IoT in fabrication industry
3. Case study on application of IoT in machining industry
4. Case study on application of IoT in forming industry
5. Case study on application of IoT in quality control
6. Case study on application of IoT in production planning
7. Case study on application of IoT in maintenance

List of Open Source Software/learning website:

1. nptel.ac.in
2. <https://www.tinkercad.com>



Subject Code: 01ME0801
Subject Name: Steam and Gas Turbine
B.Tech. IV Year – (Sem-8) Mechanical Engineering
Type of course: Program Core

Prerequisite: Engineering Thermodynamics, Fluid Mechanics, Heat Transfer

Rationale: The course is prepared to provide the detail knowledge of construction and working of steam turbine, gas turbine, nozzles etc.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Evaluation Scheme					Total Marks
Theory	Tutorial	Practical		Theory Marks			Practical Marks		
				Ques	Ans	SA	Ques	Term Work	
0	0	0	0	00	00	00	00	00	00

COURSE OUTCOME

Students will be able to

- Analyze thermodynamic cycles of steam power plant and understand construction, working and significance of its various components
- Analyze thermodynamic cycles of gas turbine power plant and jet propulsion systems

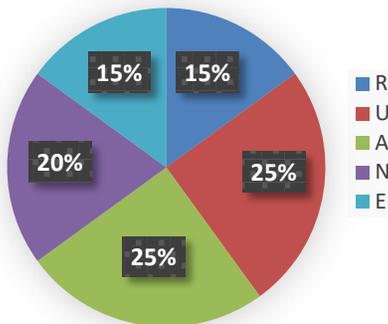
Cr no	Contents	Total hours	Weightage
□	Steam Nozzles – Definitions and applications, classification of nozzles, steady flow energy equation in nozzles, velocity of steam, mass of discharge through nozzle, critical pressure ratio and condition for maximum discharge, physical explanation of critical pressure ratio, nozzle efficiency	0	00
□	Steam Turbine: Principle of operation of steam turbine, classification of steam turbines, velocity diagram and work done, parson's reaction turbine, difference between impulse and reaction turbine, simple impulse turbine, compounding of impulse turbine, pressure compounded impulse turbine, velocity compound impulse turbine, pressure-velocity compounded impulse turbine, impulse reaction turbine, combination turbines, governing of steam turbine.	00	00



	Methods of attachment of blades to turbine rotor, losses in steam turbine, reheating, regeneration and intercooling in steam turbine, stage efficiency of impulse turbines, state point locus of an impulse turbine, state point locus for multistage steam turbine, reheat factor		
□	Gas Turbine - types and application, air standard Brayton cycle, actual Brayton cycle, optimum pressure ratio for maximum cycle thermal efficiency, work ratio, cycle air rate, effect of operating variables on the thermal efficiency and work ratio, and air rate, simple open cycle turbine with regeneration, reheating and intercooling, closed cycle gas turbine, fuel for gas turbine. Combined steam and gas turbine plant, requirements of combustion chamber, classification of combustion chambers.	□□	□□
□	Jet Propulsion: fundamental of propulsion technology, classification of jet propulsion engines, turbojet engine, thrust power, propulsive and thermal efficiency, turbo propulsion, ramjet and pulsejet engines	□	□□

Distribution of Theory Marks

Remembrance	Understanding	Application	Analyze	Evaluate
□□	□□	□□	□□	□□



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Reference Books

- Steam & gas turbine and power plant engineering, P. Sada, Central Publishing House, Allahabad.
- Gas turbines, P. Maneshan, McGraw Hill Education
- Power plant engineering, P. S. Nag, McGraw Hill Education
- Power plant engineering, P. S. Negde, Pearson India Education
- Thermal engineering, P. S. Gupta, Rama Education
- Steam turbine theory and practice, William D. Reardon, Rama Education

Subject Code: 01ME0832
Subject Name: Computational Fluid Dynamics
B. Tech. IV Year – (Sem-8) Mechanical Engineering
Type of Course: Programme core

Pre-requisite of course: Higher Engineering Mathematics, heat transfer and Fluid Mechanics at UG level

Rationale: This course aims to introduce numerical modelling and its role in automotive field; it will enable the students to understand the various discretisation methods and solving methodologies and to create confidence to solve complex problems in the automotive field with the knowledge of Heat transfer and fluid dynamics. Further students can able to develop finite difference and finite volume discretized forms of the CFD equations and to formulate explicit & implicit algorithms for solving the Euler Equations & Navier Stokes Equations.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits (C)	Theory Marks			Practical Marks		Total Marks
Theory (L)	Tutorial (T)	Practical (P)		ESE (E)	IA (M)	CSE (I)	viva (V)	Term work (TW)	
4	2	0	5	50	30	20	25	25	150

Contents:

Sr. No.	Contents	Total Hours	% Weightage
1	Unit 1: Introduction and Basic Concepts: Introduction of CFD, Types of fluids and basic equations of flow, Mass Conservation, Newton's second law of motion, Fluid flow governing equations, Navier- stokes equation, Boundary layer equations, Expanded form of Navier-stokes equations, Conservation of energy principle, Special form of energy equation, Classification of second order partial differential equations, Initial and Boundary conditions, Governing equations in generalized coordinates, Review of essentials of fluid dynamics.	15	30
2	Unit 2: Differential Equations and Discretisation Elementary Finite Difference Equations, Basic aspects of finite difference equations, errors and stability analysis, discretization, Taylor's series expansion, difference equation: explicit and implicit	12	25



	approach, Application to heat conduction and convection , problems on one dimension steady state and unsteady state conduction.		
3	Unit 3: Grid Transformation Introduction, general transformation equations, matrices and Jacobean, transformed version of governing equation particularly suited for CFD, compressed grids, elliptic grid generation, adaptive grids	5	10
4	Unit 4: Introduction to finite element philosophy Basics of finite element method, stiffness matrix, Isoperimetric elements, Formulation of finite elements for flow and heat transfer problems.	9	20
5	Unit 5: Introduction to finite volume philosophy Integral approach, discretization and higher order schemes, Application to complex geometry.	7	15

References:

1. Computational Fluid Dynamics the Basics with Applications, John D Anderson, Jr., McGraw Hill Book Company.
2. An Introduction to Computational Fluid Dynamics: The Finite Volume Method, H K Versteeg, W Malalasekera, Pearson Education Ltd.
3. Introduction to Computational Fluid Dynamics, Anil W Date, Cambridge University Press.
4. Numerical Heat Transfer and Fluid Flow, Suhas V Patankar, Hemisphere Publishing Co.
5. Computational Fluid Dynamics: A Practical Approach, JiyuanTu, Guan HengYeoh, Chaoqun Liu, Elsevier.
6. Principles of Computational Fluid dynamics, Pieter Wesseling, Springer International Edition
7. Fundamentals of Computational Fluid Dynamics, Tapan K. Sengupta, Universities Press.
8. Introduction to Fluid Mechanics, Edward J Shaughnessy,Jr., Ira M Katz, Oxford University press



Course Outcomes:

After completion of this course, student will be able

- To develop perception of major theories, approaches and methodologies used in CFD.
- To apply differential equations to Fluid Dynamic problems.
- To gain the elementary knowledge of finite elements method for flow and heat transfer problems.
- To analyse the numerical simulation to solve major engineering design problems involving fluid flow and heat transfer.
- To build up the skills in the implementation of CFD methods (e.g. boundary conditions.) in actual engineering using commercial CFD codes.

List of experiments:

1. Perform Numerical analysis on flow through pipe.
2. Perform Numerical analysis on flat plate boundary layer.
3. Perform Numerical analysis on compressible flow in nozzle.
4. Perform Numerical analysis on convective heat transfer.
5. Perform Numerical analysis on steady flow past a cylinder.
6. Perform Numerical analysis on unsteady flow past a cylinder.
7. Perform Numerical analysis on flow over an airfoil.
8. Perform Numerical analysis on heat conduction through wall.

Equipment / Computational facility:

To perform various numerical analysis, high configuration / specification computer systems are mandatory.

List of open Source Software / learning website:

Open FOAM and SCILAB, www. Cfd-online.com, <https://fluids.ac.uk/talks>,
<http://www.efluids.com/>



Subject Code: 01ME0406

Subject Name: Creativity, Problem Solving and Innovation

B. Tech. 2nd Year Semester: IV

Prerequisite: Zeal to learn the subject.

Course Objective: To develop creative thinking skill in the students using cone of learning components leading to understanding of various strategies for creativity, problem solving and innovation.

Course Outcome:

After learning the course, the students will be competent

1. Importance of creativity, problem solving and innovation while addressing science, engineering and social issues.
2. Demonstrate the ability to contextualize knowledge related to professional engineering practices.
3. Demonstrate the functioning effectively as an individual and team member.
4. Ability to engage in life-long learning in the context of technological change.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks					Total Marks
L	T	P		Theory Marks			Practical Marks		
			ESE(E)	IA	CSE	Viva (V)	Term Work		
0	0	2	1	0	30	0	20	0	50

Content:

Sr. No.	Content	Total Hrs
1	Phase 1: To introduce the subject of the course: this course as a needed skill for your future. Psychology of problem solving; Vertical versus Lateral thinking	02
2	Phase 2: Strategy of Questioning; Method of questioning; Importance of asking the right question. Who, what, when, where, why, how?	02
3	Phase 3: Learning and its importance; Sources of learning; Methods of learning. Purpose and value of education in future creativity in real life.	02





4	Phase 4: Strategy of Knowing how to see; Making your thought visible; Visualizing thinking; Mapping of mind, Fishbone diagram.	02
5	Phase 5: Strategy of Thinking Fluency; Generating all possibilities; more the better; Quantity without screening is helpful; SCAMPER technique; Creative or divergent idea generating thinking versus Critical or convergent idea selection thinking.	02
6	Phase 6: Strategy of Fusing of ideas; Making novel combinations; Connecting the unconnected.	02
7	Phase 7: Strategy of Looking at the other side, looking in other world, finding what you are not looking for and following it up.	02
8	Phase 8: Strategy of Play, Importance of play; Diversion; Unstructured activities for sheer joy, Activities for joy, Let subconscious figure it out, Various puzzles as play or fun.	02
9	Phase 9: Strategy of Awakening the collaborative spirit, Collaborative thinking, brain storming, Innovation requires collaboration to make it happen.	02
10	Phase 10: Review Strategies for Creative problem solving methods, Five building blocks as per Fogler & LeBlanc, Stanford D school approach.	02
11	Phase 11: Strategy for critical thinking for Choosing, Creative or divergent thinking needs follow up by Critical thinking or Convergent thinking in order to choose the solution for implementation, Kepner-Tregoe (K.T.) method with an example, Edward De Bono CoRT thinking process including PMI (Plus, Minus and Interesting), Also Edward de Bono method of decision making called Six thinking hats.	02
12	Phase 12: Edward de Bono explaining and teaching his ideas having evolved many years ago consisting as CoRT thinking tool, Lateral thinking and the decision making by Six thinking hats method.	02
13	Phase 13: Strategy for Making; From idea to innovation.	02
14	Phase 14: Individual presentation for 75 minutes by 15 students (5 minutes per student).	04

Reference books:

1. Zig Zag, The surprising path to greater creativity by R. Keith Sawyer. 2013.
2. Group Genius by Keith Sawyer, the creative power of Collaboration. 2007
3. Crackling Creativity, The secrets of creative genius by Michael Michalko. 2001
4. Thinkertoys by Michael Michalko, second edition 2006
5. De Bono's Thinking Course by Edward De Bono, Revised Edition 1994
6. Six Thinking Hats by Edward De Bono Revised and updated edition 1999
7. Lateral thinking, Creativity Step by Step by Edward De Bono. 1973
8. How to Mind Map by Tony Buzan. 2002
9. Mapping Inner Space by Nancy Margulies with Nusa Maal. Second edition.2002
10. The Myths of Innovation by Scott Berkun. Expanded and revised edition 2010
11. The art of Innovation by Tom Kelly with Jonathan Littman. 2001
12. Creative Confidence: Unleashing the Creative Potential Within Us All by Tom Kelly and David Kelly. 2013
13. A Whack on the side of the head by Roger von Oech. Revised edition 1998
14. A Kick in the seat of the pants by Roger von Oech.1986
15. They all laughed by Ira Flatow. 1992
16. Imagine, How creativity works by Jonah Lehrer. 2012
17. 101 Creative problem solving techniques by James m Higgins.1994
18. Creative approach to problem solving by Scott G Isaksen, K Brian Dorval, Donald J Treffinger. 2000
19. Creative problem solving An Introduction by Donald J. Treffinger, Scott G Isaksen and K. Brian Stead=Dorval. 4th edition, 2006
20. Strategies for creative problem solving by H. Scott Fogler & Steven E. LeBlanc. Second edition 2008
21. Game storming by Dave Gray, Sunni Brown and James Macanuf.2010
22. Creating minds by Howard Gardner. 1993
23. Creativity –Flow and Psychology of Discovery and Invention by Mihaly Csikzentmihalyi.1996
24. Aha! Insight by Martin Gardner. 1978
25. The Ultimate Lateral & Critical Thinking Puzzle book by Paul Sloane, Des MacHale & M. A. DiSpezio. 2002
26. Test your Lateral Thinking IQ by Paul Sloane. 1994
27. Intriguing Lateral Thinking Puzzles by Paul Sloane & Des MacHale.1996.



Robotics and Automation

Robotics and Automation

Robotics and Automation

Robotics and Automation Programme Core

Robotics and Automation, A.

This subject is useful to understand concepts and techniques in robot manipulator kinematics, enough to evaluate, choose, and incorporate robots in engineering systems. Familiarize with applications of Group Technology, Flexible manufacturing techniques, Materials Requirement Planning and Manufacturing Resource planning to solve manufacturing and other industry related problems.

Department of Mechanical Engineering

Teaching Scheme Courses			Credits	Evaluation Scheme					Total Marks
Theory	Tutorial	Practical		Theory Marks			Practical Marks		
					A		Final	Term Work	

Robotics and Automation

Sl. No.	Topic	Theory Marks	Practical Marks
1	Introduction, fundamentals of robot technology anatomy, work volume, drives system, types of end effectors, robot sensor. Robot and its peripherals basic control systems, controllers sensors.		
2	Introduction to manipulator kinematics, homogeneous transformations and robot kinematics, Matrix representation point, vector, frame and rigid body, representation of transformations of pure translation, rotation and combined, Denavit-Hartenberg matrix representation, concept of forward and inverse kinematics. Robot programming languages, Factory planning of robot motion.		
3	Robot cell design, robot cell layout, multiple robots machine interference, work cell control, robot cycle time analysis Material transfer, Machine loading unloading process applications, Robot implementation integration into manufacturing.		
4	Proximity sensors and their operation, image acquisition and processing, object recognition and interpretation.		
5	Elements of CIM, different modules and information flow, design aspects of CIM, CIM planning implementation process, requirements of CIM, Computerized production activities, Computerized integrated quality		



	concept, inventory management, shop floor control, production costing, computerized maintenance management, MRP, information system		
	definition of concept, flexible automation, productivity, components of CIM, different types of CIM, design problem of CIM, technology required for CIM system, robots and their function, programming in CIM, Bottleneck Model and related formula		
	part family, part classification and coding, production flow analysis, classification system, cellular manufacturing, quantitative analysis in cellular manufacturing, rank order clustering technique, Loller Method, Single linkage cluster Analysis technique		

Mr. Ramesh Kumar

Mr. Ramesh Kumar					
Memorandum	Understanding	Application	Analysis	Evaluate	

Mr. Ramesh Kumar

- Industrial Robotics Technology Programming Applications Mitchell Weiss, Roger S. Vogel, Mcraw Hill International
- Automation, Production Systems and Computer Integrated Manufacturing M. S. Grover Rentice Hall of India
- Robot Engineering textbook Mohsen Chahinpoor Harper Row Publishers
- Introduction to Robotics Analysis, Systems, Applications S. K. Gupta Publishers
- Robotics Technology Flexible Automation S. K. Gupta Mcraw Hill
- Robotics and Control S. S. Mittal, Tata Mcraw Hill
- Robot Technology James R. Ramas, DelMar Cengage Learning

Mr. Ramesh Kumar

- Introduce the state of art technology and products Automation and Robotics to enable the students them to take up challenging assignment in future and spread the learning to the peers and creating professional environment.
- Make familiarize the students with the concepts and techniques in robot manipulator kinematics, enough to evaluate, choose, and incorporate robots in engineering systems.
- Acquaint him/her with applications of group technology and flexible manufacturing techniques to solve manufacturing and other industry related problems.

4. Expose him / her to the significance of various scientific tools and models including Materials Requirement Planning and Manufacturing Resource planning that are available in the subject to take decisions in a complex environment.

List of Experiments:

1. Experiments based on robot kit to make different kind of configuration.
2. Using robot simulation software to perform variety of task.
3. Experiments based on robot manipulator to perform variety of task for example loading and unloading, stacking, decision making, using sensor to test input and output function.
4. Experiments based on programing using C-language and MAT-lab tool.

Design based Problems (DP)/Open Ended Problem:

Student may be given a task to write program for robot.

Major Equipment:

Robot Manipulator, simulation software and virtual reality software or any other robotics kit may be used for the performance of experiments.

List of Open Source Software/learning website:

The website of NPTEL may be utilized for additional learning.

ACTIVE LEARNING ASSIGNMENTS: Preparation of power-point slides, which include videos, animations, pictures, graphics for better understanding theory and practical work. The faculty will assign chapters/ parts of chapters to students so that the entire syllabus to be covered. The power-point slides should be put up on the e resources in library, along with the names of the students of the group.


**Head of the Department
Mechanical Engineering
Marwadi University**

Course Relevance Presented in this
Document by Highlighting with
Following Color-code

Employability/

Entrepreneurship/

Skill Development



FACULTY OF PHYSIOTHERAPY

Program & Subject:

Bachelor of Physiotherapy - B.P.T.
(4½ Year Degree Course)

INTRODUCTION:

The Bachelor of Physiotherapy program shall be under the Faculty of physiotherapy. The name of the Degree program shall be Bachelor of Physiotherapy (or, Bachelor of Physical Therapy) – The Faculty of Physiotherapy is Marwadi University's foray into creating the finest healthcare professionals for the country. With the support of knowledgeable academicians, superlative top management, and strong clinical practice, we are confident of making a mark in this prestigious profession.

Faculty of physiotherapy Marwadi institute build a professional to play a role in health promotion and treatment of the injury. They gain in-depth knowledge of the body and how it works with specialized hands-on clinical skills to assess, diagnose and treat symptoms of disease, illness, and disability.

VISION:

The vision of the Faculty of physiotherapy, Marwadi University is to be the recognized best in education and clinical practice.

MISSION:

1. To deliver world-class, cross-disciplinary, and quality education in the field of Physiotherapy through a well-devised and synchronized delivery structure and system.
2. To serve the patients/clients with efficient and cost-effective care with professional and ethical standards of Physiotherapy practice.
3. To foster knowledgeable, responsible, and skilled professionals.

PROGRAM OUTCOMES:

At the end of the program, graduates graduate must able to...

A handwritten signature in black ink, appearing to read 'Ashish', enclosed within a hand-drawn oval.

1. Do independent physiotherapy assessment and treatment for patient/client.
2. Work in conjunction with a multidisciplinary team to diagnose and treat movement dysfunctions as per red and yellow flags.
3. Develop skills for physical & functional diagnosis, treatment planning, management, and administration of physiotherapy treatment for patient support.
4. Find employment opportunities in Hospitals/Nursing homes/Sports Teams/Fitness Centers /Community Rehabilitation centers/Health planning boards/Health promotions services/Special Schools/Education Institutes/Industrial Sectors in both private and public sectors as well as in independent physiotherapy clinics.
5. Shall be able to pursue further qualifications to attain a senior position in the professional field and to keep abreast with the recent advances and new technology.
6. Ability to communicate effectively and flexibly in a manner that is appropriate for the patients and other healthcare professionals.
7. Acquaint with the basics of research, and involve in the research process.
8. Apply ethical principles and commit to professional ethics and responsibilities and norms of the Physiotherapy practice as provided by national and state council.

1. CRITERIA OF ELIGIBILITY FOR ADMISSION:

- a) As per the rules of the Admission Committee for Professional Medical Educational Courses of Gujarat and/or the Government of Gujarat.
- b) A candidate applying for the degree of B.P.T being eligible for admission to the Physiotherapy College affiliated to UGC recognized University must have passed the Higher Secondary (10+2) or equivalent examination recognized by any Indian University or a duly constituted Board and passed in Physics, Chemistry and Biology, and English.

Or

Candidates who have studied abroad and have passed the equivalent examination as per the guidelines of the Association of Indian Universities to determine the eligibility and must have passed in the subjects: Physics, Chemistry, Biology, and English up to 12th Standard level.

- c) He /She has attained the age of 17 years as of 31st December of the concerned year.
- d) He/she should furnish at the time of submission of the application form, a certificate of Physical fitness from a registered medical practitioner that the candidate is physically fit to undergo the Physiotherapy course.
- e) A candidate fulfilling the above requirements will be provisionally admitted in the First Year of the B.P.T. Degree Program, as per the rules of the Admission Committee for Professional Medical Educational Courses of Gujarat and/or Government of Gujarat.

2. DURATION OF COURSE:

B.P.T is 4½ years regular & full-time degree Program. The 4½ years include **4 academic years for study and 6 months** (minimum 1144 hours) of the compulsory rotatory internship.

3. MEDIUM OF INSTRUCTION:

English shall be the medium of instruction for all the subjects of study and examination of the course.

4. ADMISSION TO THE PROGRAMME:

Admission granted by the Central Admission Committee appointed by the State Government to



any student shall be provisional till the Enrollment/ Registration/ Enlistment is made by the Marwadi University, and in case of admission is granted based on provisional eligibility certificate, the condition & instruction given by the Marwadi University should be complied within the time limit fixed by the University, otherwise, term kept and fees paid by such a student will be forfeited.

5. RE-ADMISSION AFTER BREAK OF STUDY:

All re-admissions of candidates are subject to the approval of the Provost of Marwadi University.

6. ASSESSMENT PROCEDURE/ EVALUATION PROCEDURE:

- ❖ The complete academic performance of a student is evaluated in-house by the concerned teacher /department except in the case of practical work where an external examiner shall be nominated for the practical/ viva voce.
- ❖ The student's performance in each year of BPT, in general, is evaluated based on:
 - ❖ Continuous Semester/Annual Evaluation (CSE)
 - ❖ Internal Assessment (IA)
 - ❖ End-year examination. (University Final Exam)

7. SCHEDULE OF EXAMINATION:

- ❖ The scheme of examination for the B.P.T course shall be divided into 4 professional examinations; each examination will be held at the end of each respective Academic year.
- ❖ There will be 1 internal examination (mid-year) after the completion of 4 months of the onset of the Academic year. There will be 1 Preliminary exam before the University exam.
- ❖ There will be a University examination through written paper and/or practical examination for 80% of the marks of the subject at the end of every Academic year.
- ❖ Internal evaluation is based on Continuous Semester/Annual Evaluation (CSE) and internal/ preliminary examination (IA), for 20% of the marks of the subject.
- ❖ Marwadi University will conduct supplementary exams for failed students after 4 months and before 6 months from the previous exam.

8. ELIGIBILITY CRITERIA TO APPEAR IN UNIVERSITY EXAMINATION:

- ❖ Attendance: A candidate must secure a minimum of 75% of attendance. A candidate is required to attend at least 75% of the total classes conducted in a year in all subjects prescribed for that year (separately), in theory, and practical/clinical to become eligible to appear for the University examination.
- ❖ No relaxation, whatsoever, will be permissible to this rule under any ground including indisposition, etc.
- ❖ Filling of University examination form: Candidates desirous of appearing for University examination must forward their applications in the prescribed form to the registrar through the Principal of the Institutions on or before the date prescribed for the purpose.

9. STUDENTS' ASSESSMENT:

- ❖ The complete academic performance of a student is evaluated in-house by the concerned teacher/department except in the final exam of practical work where an external examiner shall be nominated for the practical/viva voce.
- ❖ The student's performance in each course, in general, is evaluated based on in-year

continuous assessment, internal assessment (preliminary examination), and end-year examination.

- ❖ An in-year Continuous Semester/Annual Evaluation (CSE) is spread through the duration of the course and is done by the teacher teaching the course with a weightage of 10%. The assessment is done through various means.

The performance of every student in each subject will be evaluated as follows:

Subject with only theory components is as follows:

S r. N o. .	Assessment Tool	Weightage
1	❖ IN-YEAR CONTINUOUS SEMESTER/ANNUAL EVALUATION (CSE) WHICH INCLUDES: 1.Attendance 2.Tutorials 3.Assignment 4.Surprise Test 5.Class Test 6.MCQ based quizzes 7.Presentations 8.Projects 9.Field visits 10.Seminars 11.Group discussions/activities etc.	TOTAL 10%
2	INTERNAL ASSESSMENT WHICH INCLUDES (IA) Internal &/Preliminary exam (compulsory) before University exam.	10%
3	END YEAR EXAMINATION (FINAL EXAM) University examination through written paper and/or practical examination	80%

- Subjects with practical components

Sr . N o. .	Assessment Tool	Weightage
1	INTERNAL ASSESSMENT WHICH INCLUDES a) Internal/Preliminary practical exam (10%) b) CSE/Journal (10%)	20%
2	END YEAR EXAMINATION (FINAL EXAM) University examination through practical examination	80%

10. PASSING CRITERIA:

- ❖ Every student should have an aggregate score of a minimum of 50% marks in theory and practical examination i.e., combining internal evaluation and university examination
- ❖ Students should get 35% in Theory and 40% in Practical in both the component combined (IA+CSE) or else he/she has to appear in the exam for that component again.

11. GENERAL INSTRUCTIONS FOR UNIVERSITY PRACTICAL EXAMINATION:

- ❖ The practical examination should be taken and marks should be given by a pair of examiners only and not by a single examiner. For the practical exam of Medical subjects, the number of examiners is as per Marwadi University rules. One examiner should be from the other university.
- ❖ Examiners shall not keep any kind of rough or fair copy of any mark sheet with him/her number of students per examiner examined per day should not exceed 50.

12. REASSESSMENT /REVIEW OF ANSWER PAPERS OF CANDIDATES:

As per the regulations prescribed for review of answer papers by the Marwadi University.

13. INTERNAL EVALUATION FOR REPEATERS:

- a. A candidate who has been declared fail in University examination for either of 1st, 2nd, 3rd, and 4th-year B.P.T is a repeater for said examination/paper/subject.
- b. The eligibility criteria for appearing for the University examination shall be applicable for repeaters. But the candidate may appear for the theory and practical held during that Academic year i.e., preliminary exam (I.A), for the improvement of internal marks for the subsequent University examination in the paper/papers he/she has failed. If a candidate does not wish to appear in a repeat internal examination, marks obtained in the previous internal examination will be counted as final marks.

14. PROMOTION CRITERIA / CARRY OVER SYSTEM:

Promotion Criteria/ Carry Over System is as per Marwadi University Guidelines.

15. GRACE MARKS:

The Grace marks may be awarded by the Marwadi University to a student, who has failed in any paper either theory or practical; but it is subject to the discretion of the Provost.

16. DEFINITION OF TRIAL/ATTEMPT

The first trial/attempt is deemed to take place when the candidate is due to appear as per the regulation of the University for the examination. Similarly, 2nd, 3rd, etc., trials relating to the subsequent examination. There is no limit to the number of trails in any year to pass the examination.

17. EXEMPTION FROM RE-EXAMINATION:

Candidates who have failed in the examination, but obtained pass marks in any subjects shall be exempted from re-examination in those subjects. Candidates who have failed in theory &/or practical in any subject will have to appear in respective component for that particular subject.

18. COMPULSORY ROTATORY INTERNSHIP

- a. Only after passing all the subjects in all years will he/she will be allowed to undergo

- internship. It includes a minimum of 1164 hours. The candidate will have to join the internship within 15 days of declaration of the 4th-year University examination result.
- b. The internships should be done in only Hospitals/Institutions recognized by the Gujarat State Council for Physiotherapy (GSCPT). No candidate shall be awarded a degree certificate without successfully completing six months of Internship.
 - c. The Internship should be rotatory and cover clinical branches concerned with Physiotherapy such as Orthopedics, Cardiothoracic including Intensive Care Unit (ICU), Neurology, Pediatrics, General Medicine, General Surgery, Obstetrics, Geriatrics, Women's health, Community Based Rehabilitation (CBR), and Gynecology both in-patient and out-patient services.
 - d. On completion of all postings, the duly completed logbooks will be submitted to the Principal/Head of the program to be considered as having completed the internship program.

19. DRESS-CODE:

Professionalism with respect to dressing is encouraged throughout the course. It is each student's responsibility to have appropriate dressing during all class assignments and learning activities. Students are supposed to wear an apron compulsorily during practical and clinical hours.

20. MIGRATION/TRANSFER OF CANDIDATES:

The Provost shall have the powers to place any migration/transfer he/she is fit for grant of permission for migration/transfer to candidates undergoing a course of study in another University as prescribed by the University



21. COURSE OF STUDY – SUBJECTS & HOURS DISTRIBUTION

- 1 credit = 1 classroom lecture per week for 20 weeks (1 term) (makes 20 lectures in one term)
or
2 Practical/clinical hours per week for 20 weeks (1 term) (makes 40 practical hours in one term)

FIRST YEAR B. PHYSIOTHERAPY

Serial No.	Course Code	Course name	Theory Hours	Practical Hours	Total Hours	Credits
1	17PT0101	Human Anatomy	160	120	280	11
2	17PT0102	Human Physiology	120	120	240	9
3	17PT0103	Biochemistry	80	-	80	4
4	17PT0104	Psychology	80	-	80	4
5	17PT0105	Sociology	80	-	80	4
6	17PT0112	Exercise Therapy- 1 & Soft Tissue Mobilization	120	160	280	10
7	17PT0107	Biomedical Physics	80	40	120	5
8	17PT0110	Health Care Delivery System + Professional Practice & Ethics*	40	-	40	2
9	17PT0108	English*	40	-	40	2
10	17PT0109	Computer applications*	-	40	40	1
11	17PT0106	Environment Studies*	40	-	40	2
12	17PT0113	Observational Clinical/ Community Orientation/ Clinical Visit/ Study Tour*	-	120	120	3
Total			840	600	1440	57

*Not for university exam.



SECOND YEAR B. PHYSIOTHERAPY

Serial No .	Course Code	Course name	Theor y Hours	Practical Hours	Total Hour s	Credit s
1	17PT0201	Pathology	80	-	80	4
2	17PT0202	Microbiology	80	-	80	4
3	17PT0203	Pharmacology	80	-	80	4
4	17PT0204	Kinesiology	120	-	120	6
5	17PT0205	Electrotherapy	120	120	240	9
6	17PT0206	Exercise Therapy- 2	120	120	240	9
7	17PT0207	Psychiatry	40	-	40	2
8	17PT0208	Radiology/ENT/Ophthalmology*	40	-	40	2
9	17PT0209	Ethics & Allied Therapeutics*	40	-	40	2
10	17PT0210	Clinical Practice*	-	480	-	12
Total			720	720	1440	54

*Not for university exam.

THIRD YEAR B. PHYSIOTHERAPY

Serial No.	Course Code	Course name	Theory Hours	Practical Hours	Total Hours	Credits
1	17PT0301	Medicine (General Medicine & Skin)	100 (80+20)	-	100	5
2	17PT0302	Neurology & Pediatrics	100 (80+20)	-	100	5
3	17PT0303	Surgery (General Surgery, Plastic Surgery, Neurosurgery, Cardiothoracic Surgery, Obstetrics & Gynecology)	160 (40+20+20+40+40)	-	160	8
4	17PT0304	Physical & Functional Diagnosis	80	80	160	6
5	17PT0305	Orthopedics (Traumatic & Non-traumatic)	80	-	80	4
6	17PT0306	Preventive Healthcare and Community Medicine	80	-	80	4
7	17PT0307	Professional Practice & Ethics + Evidence Based Practice & ICF*	40	-	40	2
8	17PT0308	Clinical Hours*	-	720	720	18
Total			640	800	1440	52

*Not for university exam.

22. SCHEME OF EXAMINATION: SUBJECTS AND DISTRIBUTION OF MARKS

First Year B. Physiotherapy						
Sr . N o.	Subject	Theory Marks		Practical Marks		Total Marks
		External	Internal	External	Internal	
1	Human Anatomy	80	20	80	20	200
2	Human Physiology	80	20	80	20	200
3	Biochemistry	40	10	----	----	50
4	Psychology	40	10	----	----	50
5	Sociology	40	10	----	----	50
6	Exercise Therapy- 1 & Soft Tissue Mobilization	80	20	80	20	200
7	Biomedical Physics	40	10	----	----	50
Total		400	100	240	60	800

Second Year B. Physiotherapy						
Sr . N o.	Subject	Theory Marks		Practical Marks		Total Marks
		External	Internal	External	Internal	
1	Pathology	40	10	----	----	50
2	Microbiology	40	10	----	----	50
3	Pharmacology	40	10	----	----	50
4	Exercise Therapy 2	80	20	80	20	200
5	Kinesiology	40	10	----	----	50
6	Psychiatry	40	10	----	----	50
7	Electrotherapy	80	20	80	20	200
Total		360	90	160	40	650



Third Year B. Physiotherapy						
S r · N o ·	Subject	Theory Marks		Practical Marks		Total Marks
		External	Internal	External	Internal	
1	Medicine (General Medicine & Skin)	80	20	----	----	100
2	Neurology & Pediatrics	80	20	----	----	100
3	Surgery (General Surgery, Plastic Surgery, Neurosurgery, Cardiothoracic Surgery Obstetrics & Gynecology)	80	20	----	----	100
4	Physical & Functional Diagnosis	80	20	80	20	200
5	Orthopedic (Traumatic & Non- traumatic)	80	20	----	----	100
6	Preventive Healthcare and Community Medicine	40	10	----	----	50
Total		440	110	80	20	650



23. STRUCTURE OF QUESTION PAPERS

Paper-style for 80 marks subjects for University (External) examination

Duration: 3 Hours		
Que. 1 Long Answer	02 x 10 = 20	(Any 2 out of 3)
Que. 2 Short Answer	02 x 05 = 10	(Any 2 out of 3)
Que. 3 Very Short Answer	05 x 02 = 10	(Any 5 out of 6)
Que. 4 Long Answer	02 x 10 = 20	(Any 2 out of 3)
Que. 5 Short Answer	02 x 05 = 10	(Any 2 out of 3)
Que. 6 Very Short Answer	05 x 02 = 10	(Any 5 out of 6)

Paper-style for 40 marks subjects for University (External) examination

Duration: 2 Hours		
Que. 1 Long Answer	02 x 10 = 20	(Any 2 out of 3)
Que. 2 Short Answer	02 x 05 = 10	(Any 2 out of 3)
Que. 3 Very Short Answer	05 x 02 = 10	(Any 5 out of 6)



FIRST YEAR SYLLABUS

A. HUMAN ANATOMY

Course Outcomes

In the end, of course, the candidate will be able to...

1. Acquire the knowledge of the structure of the human body in general.
2. Understand the regional anatomy in detail.
3. Understand anatomical changes right from the embryonic period till old age.
4. Understand histological features of various organs.
5. Understand its application in medical science.
6. Apply the concept of functional Anatomy in physiotherapy practice.

THEORY

SR. N O.	TOPICS
1	General Anatomy
1.1	Introduction & anatomical terms
1.2	Skin, Superficial Fascia & deep fascia
1.3	Cardio-Vascular System (CVS), Portal system, collateral circulation & arteries
1.4	Lymphatic system
2	Histology
2.1	Cell
2.2	Epithelia
2.3	Connective tissue general
2.4	Cartilage
2.5	Bone
2.6	Muscles
2.7	Nerves
2.8	Blood and phagocytic system
2.9	Lymph and lymphatic system
2.10	Blood vessels
2.11	Skin and its appendages
2.12	Central nervous system
3	General Embryology
3.1	Spermatogenesis
3.2	Structure of Spermatozoon
3.3	Oogenesis
3.4	Ovarian follicle
3.5	Fertilization
3.6	Formation of germ layers
3.7	Placental development
3.8	Brachial arches
3.9	Development of the skeletal system
3.10	Development of all type muscular system

3.11 Development of the locomotor system

3.12 Development of the nervous system

4 Myology, Osteology & Arthrology

4.1 Fascia & muscles of scalp and face

4.2 Muscles of mastication

4.3 Temporomandibular joint

4.4 Muscles of orbit & related nerves

4.5 Superficial and lateral cervical muscle

4.6 Platysma, trapezius, Sternocleidomastoid (SCM)

4.7 Anterior triangle of neck-suprahyoid & infrahyoid

4.8 Anterior and lateral vertebral muscles

4.9 Cervical plexus

4.10 Cranial nerves

4.11 Suboccipital triangle & sub occipital muscles

4.12 Joints of the vertebral column to the cranium

4.13 Muscles of thorax and movement of respiration

4.14 Joints of thorax including sternochondral & chondrocostal joints

4.15 Muscles of abdomen

4.16 Muscles of pelvis & perineum

4.17 Vertebral joint

4.18 Joints of the pelvis (lumbosacral, sacrococcygeal, pubic symphysis)

4.19 Deep muscles of the back

4.20 Muscles connecting upper limb to the vertebral column with regional structures

4.21 Scapular muscles including regional structures

4.22 Axilla and brachial plexus

4.23 Joints of the shoulder girdle

4.24 Shoulder joint

4.25 Muscles of arm

4.26 Elbow joint & cubital fossa

4.27 Anterior antebrachial muscles (front of the forearm) with regional structure

4.28 Posterior antebrachial muscles (back of forearm) with regional structures

4.29 Radioulnar joint (superior, middle, and inferior)

4.30 The retinacula, fascia, and synovial sheath of wrist and hand

4.31 Radiocarpal / wrist joint

4.32 Muscles of hand

4.33 Other joints of the hand

4.34 Muscles connecting lower limb to the vertebral column with regional structures

4.35 Muscles of the iliac region (psoas muscle) and lumbar plexus

4.36 Anterior femoral muscles (front of thigh) including regional structures

4.37 Medial femoral muscles (adductor compartment) including regional structures

4.38 Muscles of the gluteal region including regional structures

4.39 Posterior femoral muscles (back of thigh) including regional structures

4.40 Hip joint

- 4.41 Anterior crural muscles including regional structures
- 4.42 Lateral crural muscles including regional structures
- 4.43 Posterior crural muscles including regional structures
- 4.44 Knee joint
- 4.45 Popliteal fossa
- 4.46 Muscles of foot
- 4.47 Tibiofibular joint (superior, middle, and inferior)
- 4.48 Talocrural joint (Ankle joint)
- 4.49 Joints of foot & Arches)

5 Nervous System

- 5.1 Introduction to nervous system & meanings
- 5.2 Spinal cord & peripheral nerves and vertebral canal
- 5.3 Brain stem
- 5.4 Cerebellum
- 5.5 Diencephalon with basal ganglia
- 5.6 The limbic system with the olfactory region
- 5.7 Cerebrum & functional areas
- 5.8 Spinal tracts & overview of Central Nervous System (CNS)

6 Respiratory System

- 6.1 Thoracic cage.
- 6.2 Respiratory organs - lungs, pleura, bronchial tree, broncho-pulmonary segments.
- 6.3 Diaphragm: Origin, insertion, nerve supply, and action, openings in the diaphragm.
- 6.4 Intercostal muscles and Accessory muscles of respiration: Origin, insertion, nerve supply, and action.

7 Cardiovascular System (Heart & Vessels)

- 7.1 Blood, lymph, and tissue fluid- characteristic, composition, function.
- 7.2 The heart – position, shape, and parts; main arteries, veins, capillaries.
- 7.3 Lymph circulation.

8 Digestive System

- 8.1 Anatomy of digestive organs– Esophagus, Stomach, Intestine, Rectum, etc.
- 8.2 Digestive glands, Liver, Pancreas, Gall bladder.

9 Urinary System

- 9.1 Anatomy of urinary organs, kidneys, ureters, urinary bladder, urethra in males and females, etc.
- 9.2 Types of bladder especially in paraplegics.

10 Endocrine System

- 10.1 Glands -classification, sites, and secretion.
- 10.2 Hormones.

11 Reproductive System

- 11.1 A brief outline of genital organs.
- 11.2 Outline of the male and female reproductive system.

12 Special Sensory Organs & Sensations

- 12.1 Emphasis on skin, ear, and eyes.

12.2 Less detail on smell and taste.

A handwritten signature or set of initials, possibly 'Ashley', written in a cursive style with a large initial 'A'.

PRACTICAL

SR. NO.	TOPICS
1	Dissection of upper and lower limbs & back.
2	Identification of anterolateral abdominal wall, posterior abdominal wall & thoracic cage.
3	Anatomical position & description of all bones.
4	Surface marking in cadaver and living body.
5	Radiological examination of the upper limb, lower limb & other special X-rays.
6	In Brain: Identification of all parts and various sections at different levels.
7	In Histology Practical: Identification of basic tissues of the body.

Recommended Study Materials:

Textbooks:

1. Human Anatomy by B.D. Chaurasia, Vol.1, 2, 3 and general anatomy handbook Latest edition; CBS publications.

Reference books:

1. Textbook of Anatomy by Inderbir Singh; Latest edition; Jaypee Publications.
2. Handbook of Osteology by Poddar; Latest edition; Scientific Book Company.
3. Principles of anatomy and physiology by Tortora; Latest edition; Harper& Row Publications.
4. Cunningham's Manual of Practical Anatomy; Latest edition, Vol: 1, 2, 3; Oxford Publications.
5. Clinical Anatomy for Medical Students by Richard Snell, Latest edition, Lippincott, Williams & Wilkins.
6. Anatomy & Physiology by Ross & Wilson's, Latest edition, Churchill Livingstone.
7. Gray's Anatomy, Latest edition, Elsevier Publications.
8. Grant's atlas of anatomy, Anne MR; Latest edition.



B. HUMAN PHYSIOLOGY

Course Outcomes

In the end, of course, the candidate will be able to...

1. Understand the contribution of various organs & systems in maintaining homeostasis and body functions.
2. To involve a detailed study of the physiology of the various systems of the body including functional physiology of the cell, blood, neuromuscular, cardiovascular, and pulmonary systems, nervous system, special senses, excretory system, digestive system, reproductive system, and endocrine system at a microscopic and macroscopic level.
3. Understand the role of hormones, enzymes, and other different types of cells in the human body.
4. Understand how these separate systems interact to yield integrated physiological responses to challenges such as exercise, fasting, and ascent to high altitude, and how they can sometimes fail.
5. To relate the concept of human physiology in physiotherapy application including exercise physiology.

THEORY

SR. NO	TOPIC
1.	General Physiology
1.1.	Cell: Morphology. Organelles: their structure and functions.
1.2.	Transport Mechanisms across the cell membrane
1.3.	Body fluids: Distribution, composition
2.	Blood
2.1.	Introduction: Composition and functions of blood.
2.2.	Plasma: Composition, formation, functions. Plasma proteins.
2.3.	Red Blood Cell (RBC): Count and its variations. Erythropoiesis-stages, factors regulating. Reticulo-endothelial system (in brief). Hemoglobin-structure, function, and derivatives Anemia (in detail), types of Jaundice. Blood indices, Packed Cell Volume (PCV), Erythrocyte Sedimentation Rate (ESR).
2.4.	White Blood Cell (WBC): Classification. Morphology, functions, count, its variation of each. Immunity.
2.5.	Platelets: Morphology, functions, count, its variations. Hemostatic mechanisms: Blood coagulation-factors, mechanisms. Their disorders Anticoagulants.
2.6.	Blood Groups: Landsteiner's law. Types, significance, determination, Erythroblastosis foetalis.
2.7.	Blood Transfusion: Cross-matching. Indications and complications.
2.8.	Lymph: Composition, formation, circulation, and functions.



3. Cardiovascular System (CVS)

- 3.1 Introduction: Physiological anatomy and nerve supply of the heart and blood vessels. Organization of CVS. Cardiac muscles: Structure, the Ionic basis of the action potential, and pacemaker potential. Properties.
- 3.2 Conducting system: Components. Impulse conduction Cardiac Cycle: Definition. Phases of the cardiac cycle. Pressure and volume curves. Heart sounds—causes, character. ECG: Definition, Different types of leads. Waves and their causes. P-R interval. Heart block.
- 3.3 Cardiac Output: Definition. Normal value. Determinants. Stroke volume and its regulation. Heart rate and its regulation. Their variations. Cardiovascular reflex.
- 3.4 Arterial Blood Pressure: Definition. Normal values and their variations. Determinants.
- 3.5 Peripheral resistance. Regulation of Blood Pressure (BP).
- 3.6 Hemorrhage and shock.
- 3.7 Regional Circulation: Coronary, Cerebral, and Cutaneous circulation.
- 3.8 Cardio-vascular changes during exercise.

4. Respiratory System

- 4.1 Introduction: Physiological anatomy—Pleura, tracheobronchial tree, alveolus, Respiratory membrane, and their nerve supply. Dead Space: Types and their definition. Functions of the respiratory system. Respiratory muscles.
- 4.2 Mechanics of breathing: Intra-pleural and Intra-pulmonary pressure changes during respiration. Chest expansion. Lung compliance: Normal value, pressure-volume curve, factors affecting compliance and its variations. Surfactant—Composition, production, functions. Respiratory Distress Syndrome (RDS).
- 4.3 Spirometry: Lung volumes and capacities. Timed vital capacity and its clinical significance, Peak Expiratory Flow Rate (PEFR), Maximum ventilation volume, Respiratory minute volume.
- 4.4 Pulmonary Circulation. Ventilation-perfusion ratio and its importance.
- 4.5 Transport of respiratory gases: Diffusion across the respiratory membrane. Oxygen transport—Different forms, oxygen—hemoglobin dissociation curve. Factors affecting it.
- 4.6 Regulation of Respiration: Neural Regulation. Factors affecting respiration, Voluntary control. Chemical Regulation.
- 4.7 Hypoxia: Effects of hypoxia. Types of hypoxia. Hyperbaric oxygen therapy. Acclimatization Hyper-capnoea, Asphyxia, Cyanosis—types and features.
- 4.8 Disorders of Respiration: Dyspnea, orthopnea. hyperpnea, hyperventilation, apnea, tachypnoea. periodic breathing—types of Artificial respiration.
- 4.9 Respiratory changes during exercise.



5	Digestive System
5.1	Introduction: Physiological anatomy and nerve supply of alimentary canal. Enteric nervous system.
5.2	Salivary Secretion: Saliva Composition. Functions. Regulation. Mastication (in brief). Swallowing: Definition. Different stages. Function.
5.3	Stomach: Functions. Gastric juice: Gland, composition, function, regulation. Gastrin: Production, function, and regulation. Peptic ulcer. Gastric motility. Gastric emptying. Vomiting. Pancreatic Secretion: Composition, production, function. Regulation.
5.4	Liver: Functions of the liver. Bile secretion: Composition, functions, and regulation. Gallbladder: Functions.
5.5	Intestine: Succus entericus: Composition, function, and regulation of secretion. Intestinal motility and its function and regulation.
5.6	Mechanism of Defecation.
6	Nutrition:
6.1	Digestion, absorption, and metabolism of carbohydrates.
6.2	Digestion, absorption, and metabolism of fats.
6.3	Digestion, absorption, and metabolism of proteins.
6.4	Vitamins, sources, functions, and resources.
6.5	A balanced diet in different age groups and occupations.
7	Endocrine System
7.1	Introduction: Hormone. Classification, mechanism of action, the function of hormones.
7.2	Pituitary Gland: Anterior Pituitary and Posterior Pituitary hormones: Secretory cells action on target cells, regulation of each hormone. Disorders: gigantism, acromegaly, dwarfism, diabetes insipidus. Physiology of growth and development hormonal and other influences. Pituitary-hypothalamus relationship.
7.3	Thyroid Gland: Thyroid hormone and calcitonin: secretory cells, synthesis, storage action, and regulation of secretion. Disorders- myxedema, cretinism, grave's disease.
7.4	Parathyroid hormones: secretory cell, regulation of secretion. Disorders- hypothyroidism and hyperthyroidism.
7.5	Adrenal Medulla: Secretory cells, action, regulation of secretion of adrenaline and noradrenaline.
7.6	Adrenal Gland: Adrenal Cortex: Secretory cells, synthesis, action, regulation of secretion of aldosterone, cortisol, and androgens.
7.7	Endocrine Pancreas: Secretory cells, action, regulation of secretion of insulin and glucagon. Glucose metabolism and its regulation. Disorders- diabetes mellitus.
7.8	Calcitriol, thymus, and pineal gland (in brief)



8	Reproductive System
8.1	Introduction: Physiological anatomy reproductive organs. Sex determination. Sex differentiation. Disorder.
8.2	Male Reproductive System: Functions of testes. Pubertal changes in males. Spermatogenesis. Testosterone: action. Regulation of secretion. Semen.
8.3	Female Reproductive System: Functions of ovaries and uterus. Pubertal changes in females. Oogenesis. Hormones: estrogen and progesterone-action.
8.4	Menstrual Cycle: Phases. Ovarian cycle. Uterine cycle. Hormonal basis. Menarche. Menopause.
8.5	Pregnancy: Pregnancy tests. Physiological changes during pregnancy. Functions of the placenta. Lactation. Contraception method.
9	Excretory System
1.1	Introduction: Physiological anatomy. Nephrons—cortical and juxtamedullary. Juxtaglomerular apparatus. Renal blood flows and its regulation. Functions of kidneys.
1.2	Mechanism of Urine Formation: Glomerular Filtration: Mechanism of glomerular filtration. Glomerular Filtration Rate (GFR): Normal value and factors affecting. Renal clearance. Creatinine clearance.
1.3	Mechanism of concentrating and diluting the Urine: Counter-current mechanism. Regulation of water excretion. Diuresis. Diuretics.
1.4	Micturition: Mechanism of micturition. Atonic bladder, automatic bladder.
1.5	Acid-Base balance (very brief).
1.6	Artificial Kidney: Principle of hemodialysis.
1.7	Skin and temperature regulation
10	Neuromuscular Physiology
10.1	Structure of neuron, membrane potential, and generation of the action potential, nerve impulse conduction, saltatory conduction.
10.2	Neuromuscular junction and drugs affecting it, myasthenia gravis, Lambert Eaton syndrome.
10.3	Degeneration and regeneration.
10.4	Types of muscles and their gross structures.
10.5	Strength duration curve, stimulus, and chronaxie rheobase.
10.6	Structure of sarcomere- basis of muscle contraction, starlings' law, changes during muscle contraction.
10.7	Electrical- biphasic and mono-phasic action potential.
10.8	Isometric and isotonic contractions. Chemical, thermal and physical changes.
10.9	Motor unit and its properties.
10.10	Nature of voluntary contraction. Fatigue.
11	Nervous System
11.1	Introduction: Organization of Central Nervous System (CNS) and Peripheral Nervous System (PNS) including Autonomic Nervous System (ANS). Functions of the nervous system.
11.2	Synapse: Functional anatomy, classification, Synaptic transmission.
11.3	Sensory Mechanism: Sensory receptors: function, classification, and properties. Sensory

pathway: The ascending tracts—Posterior column tracts, lateral spinothalamic tract, and the anterior spinothalamic tract—their origin, course, termination, and functions. The trigeminal pathway. Sensory cortex. Somatic sensations: crude touch, fine touch, tactile localization, tactile discrimination, stereognosis, vibration sense, kinesthetic sensations. Pain sensation: mechanism of pain. Cutaneous pain—slow and fast pain, hyperalgesia, deep pain, Visceral pain, referred pain. Gate control theory of pain. Tabes dorsalis, sensory ataxia.

- 11.4 Motor Mechanism: Motor Cortex. Motor pathway: The descending tracts— pyramidal tracts, extrapyramidal tracts—origin, course, termination, and functions. Upper motor neuron and lower motor neuron.
- 11.5 Reflex Action: Monosynaptic and polysynaptic reflexes, superficial reflexes, deep reflexes. Stretch reflex— the structure of muscle spindle, pathway, higher control, and functions. Inverse stretch reflex. Muscle tone—definition, and properties: hypotonia, atonia, and hypertonia.
- 11.6 **Spinal cord Lesions:** Complete transaction and Hemisection of the spinal cord.
- 11.7 Cerebellum: Functions. Cerebellar ataxia.
- 11.8 Posture and Equilibrium: Postural reflexes—spinal, medullary, midbrain, and cerebral reflexes.
- 11.9 Thalamus and Hypothalamus: Nuclei, functions. Thalamic syndrome.
- 11.10 Reticular Formation and Limbic System: Components and Functions. Basal Ganglia: Structures included and functions. Parkinson's disease.

12 Special Senses

- 12.1 Vision: Introduction: Functional anatomy of the eyeball. Functions of the cornea, iris, Pupil, aqueous humor—glaucoma, lens—cataract, vitreous humor, rods, and cones. Photopic vision. Scotopic vision.
- 12.2 Visual Pathway and the effects of lesions.
- 12.3 Refractive Errors: myopia, hypermetropia, presbyopia, and astigmatism.
- 12.4 Visual Reflexes: Accommodation, Pupillary, and Light. Visual acuity and Visual field.
- 12.5 Light adaptation. Dark adaptation. Color vision—color blindness. Nyctalopia.
- 12.6 Audition: Physiological anatomy of the ear. Functions of the external ear, middle ear, and inner ear. Structure of Cochlea and organ of Corti. Auditory pathway. Types of Deafness. Hearing tests. Audiometry.
- 12.7 Taste: Taste buds. Primary tastes. Gustatory pathway.
- 12.8 Smell: Olfactory membrane. Olfactory pathway.
- 12.9 Vestibular Apparatus: Crista ampullaris and macula. Functions. Disorders.



PRACTICAL/DEMONSTRATION

SR. NO.	TOPIC
1	Nerve Muscle physiology (Chart & Video demonstration) Gastrocnemius Muscle-Sciatic Nerve Prep. Action Potential etc. Effect of Temperature on Simple Muscle Curve (SMC) Effect of Load on Skeletal Muscle Contraction
2	Cardio-Vascular System (CVS) Electrocardiogram (ECG) Blood Pressure (BP) Radial Pulse Spirometry/Respiratory Efficiency Test Examination of CVS and Respiratory system
3	Instruments Recording Body Temperature
4	Hematology Total red Cell Count Total White Blood Count Cells in Peripheral blood film Differential WBC count Absolute count, Arneth count Blood grouping Bleeding time/Clotting Time, Blood, Packed Cell Volume (PCV), Erythrocyte Sedimentation Rate (ESR)
5	Central Nervous System Examination of sensory function Examination of motor functions Examination of reflexes Cranial nerves

Recommended Study Materials:

Textbooks:

1. Human Physiology, Sembulingam: 4th Edition, Jaypee Brothers.

Reference books:

1. Concise Medical Physiology by Chaudhari, 4th Edition: New Central Book Agency.
2. Textbook of Medical Physiology by Guyton & Hall, 11th edition; Elsevier Publication.
3. Human Physiology, Chatterjee. Vol: 1 & 2: 10th Edition: Medical & Allied Agency.
4. Practical Physiology by Vijaya Joshi: Vora Medical Publication.
5. A Textbook of Practical Physiology, Ghai C L, Jaypee Brothers.
6. Medical Physiology for undergraduate student: Indu Khurana Elsevier Publication



C. BIOCHEMISTRY

Course Outcomes

In the end, of course, the candidate will be able to...

1. Describe the structure and function of the cell in brief.
2. Describe basal metabolic rate and factors affecting basal metabolic rate.
3. Describe nutritional aspects of carbohydrates, lipids, proteins, vitamins, and minerals and their metabolism.
4. Understand the basics and clinical aspects of enzymes and regulation of enzymatic activity and diagnostic use of enzymes.
5. Describe in detail the biochemical aspects of muscle contraction.
6. Understand how to apply clinical biochemistry tests like blood, liver, and renal functions and their importance in body functions.
7. Acquire knowledge in brief about the electrolyte balance and acid-base balance and their importance.

SR. NO	TOPICS
1.	Biochemical Characteristics of Living Mater.
1.1	Biochemistry, the morphology of cell
1.2	Membrane structure and function
1.3	Functions of intracellular organs
2.	Nucleic Acids
2.1	Deoxyribose Nucleic Acid (DNA), Ribose Nucleic Acid (RNA): Definition, structure, catabolism of purines: Gout.
3.	Proteins & Amino Acids
3.1	Chemistry, definition, classification of amino – acids, protein.
3.2	Metabolism, digestion and absorption, decarboxylation, deamination, transmethylation, transamination, and their importance and detoxification of ammonia including the urea cycle.
3.3	Neurotransmitters & Plasma proteins including immunoglobulins
3.4	Hemoglobin, Myoglobin, their functions, hemoglobinopathies, thalassemia.
3.5	Structural proteins: Collagen, Elastin.
4.	Enzymes
4.1	Definitions, classification, factors.
4.2	Coenzymes.
4.3	Inhibition and type of inhibitors
4.4	Isoenzymes.
4.5	Clinical and therapeutic uses of enzymes.
5.	Carbohydrates
5.1	Chemistry, definition, classification with examples
5.2	Function of mucopolysaccharide
5.3	Reducing properties of sugars of clinical and diagnostic importance (e.g.: Benedict's test, Barfoed's test, etc.)

5.4	Metabolism, digestion, and absorption of carbohydrates, glycolysis: aerobic and anaerobic, energetics and regulation.
5.5	Krebs's cycle, its energetics regulation Gluconeogenesis
5.6	Hormonal regulation of blood sugar level and diabetes mellitus.
6.	Lipids
6.1	Chemistry, definition, classification, and function.
6.2	Metabolism, digestion, and absorption of lipids, beta-oxidation of fatty acids and their energetics, regulation of fat metabolism in adipose tissue, ketone bodies formation and its utilization, cholesterol, and importance of lipoproteins.
7.	Vitamins
7.1	Definition, classification, functions.
7.2	Deficiency symptoms, Recommended Dietary Allowance (RDA)
8.	Hormones
8.1	Definition, composition & functions
9.	Nutrition
9.1	Importance of nutrition, nutritional aspects of Carbohydrates.
9.2	Proteins, Fats and Fibers, Classification of fibres, calorimetry, energy values, respiratory quotient.
9.3	Basal Metabolic Rate (BMR), Protein Energy Malnutrition (PEM), Balanced diet.
10.	Biochemistry of connective tissues, nerve tissue, and muscle.
11.	Water, electrolyte, and acid-base balance and Minerals.
11.1	Phosphate, calcium, and iron. Magnesium fluoride, Zinc, Copper, Selenium, Molybdenum Recommended Dietary Allowance (RDA), iodine sources, absorption, transport, excretion, function, and disorders.
11.2	Acid-base balance, water and electrolyte balance.
12.	Chemistry of biological materials. Biochemistry of connective tissue – Collagen, Glycoprotein, Proteo-glycans
13.	Physicochemical Phenomenon.
14.	Common procedures used in biochemistry.
14.1	Liver function test.
14.2	Renal function test.

Recommended Study Materials:

Textbooks:

1. Essentials of Biochemistry by U. Satyanarayan, Latest Edition, Books and Allied Publications.
2. Medical Biochemistry for Physiotherapy students by Harpreet Kaur, Jagmohan Singh, Latest edition, Jaypee Publications.

Reference books:

1. Textbook of Medical Bio-Chemistry– Dr M. N. Chatterjea, Latest Edition, Jaypee Publication.
2. Textbook of Biochemistry for medical students: DM Vasudevan: Jaypee Publication.
3. Medical Biochemistry by N. Mallikarjuna Rao, Latest Edition, New Age International Publication.

D. PSYCHOLOGY

Course Outcomes

In the end, of course, the candidate will be able to...

1. Define the term psychology and its importance in the health delivery system and gain knowledge of psychological maturation during human development and growth and alteration during the ageing process.
2. Understand behavioural patterns of individuals, theories of development, normal and abnormal aspects of motor, social, emotional, and language development, communication, and interaction skills appropriate to various age groups.
3. Understand the importance of the psychological status of the person in the health and diseases, environmental and emotional influence on the mind and personality.
4. Acquire the knowledge as to how to deal with the patient.

SR. NO	TOPICS
1.	The Art & Science of Psychology
1.1	Beginning the study of psychology & Subfields of psychology.
1.2	Methods of psychology.
2.	Evolution, Genetics & Behavior
2.1	Genetics & Behavior.
2.2	Nature & Nurture.
3.	The Development of Behavior
3.1	Early Development.
3.2	Cognitive Development.
3.3	Social Development.
4.	The Principles of Learning
4.1	Beginning the study of Learning
4.2	Classical Conditioning
4.3	Operant Conditioning
4.4	Cognitive Learning
5.	Thinking & Problem Solving
5.1	The Thinking Process.
5.2	Solving Problems.
5.3	How We Learn Concepts.
6.	Drives & Motivation
6.1	The Nature of Motivation.
6.2	Primary Motives.
6.3	Social Motives
6.4	Need
6.5	Hierarchy theory of Maslow.
7.	Arousal, Emotion & Awareness
7.1	Physiological basis of arousal & emotion.
7.2	Emotional feelings & Situations.

7.3	Altered Feelings & Awareness
8.	The Senses
8.1	Sensory Mechanisms.
8.2	Vision.
8.3	Hearing.
9.	Perception
9.1	Objective Perception.
9.2	Perceptual Constancies.
9.3	Depth Perception
9.4	Influences on Perception.
10.	Psychological Testing
10.1	Uses of Tests.
10.2	Intelligence & Aptitude Tests.
10.3	Differences in Intelligence.
10.4	Personality tests.
11.	Personality
11.1	What is Personality?
11.2	Theories of Personality.
11.3	The Shaping of Personality.
11.4	Coping Behavior.
12.	Memory
12.1	Phases of memory
12.2	Short-term storage memory and perception thinking, etc.
12.3	Forgetting testimony and recall of events.
12.4	Memory and ageing
13.	Behaviour Disorders & Their Treatment
13.1	Defining the Behavior Disorders.
13.2	Psychoneurotic Reactions.
13.3	Psychotic Reactions.
13.4	Personality Disorders.
13.5	Psychotherapies.
13.6	Behaviour Modification
14.	Attitudes & Prejudice
14.1	The Nature of Attitudes.
14.2	Prejudice & Discrimination.
14.3	Development of Attitudes.
14.4	Social Movements.
15.	Interpersonal Behavior
15.1	Experimental analysis on social interaction, studies of the interview situation
15.2	Behaviour in formal and informal groups
15.3	Group norms and roles.
15.4	Leadership in formal and informal groups, group morale.
15.5	Behaviour therapy, behaviour modification techniques, token economy.

16. Stress
16.1 Stress and response.
16.2 Disorders.
16.3 Coping with stressors.
16.4 Four maxims.
16.5 Meditational yoga
17. Pain
17.1 Physiological and psychological pain
17.2 Types of pain
17.3 Pain measurement
18. Psychotherapy & Counseling
18.1 Goals, Psychodynamic therapy.
18.2 Humanistic therapy.
18.3 Behaviour therapy- Relaxation training (Jacobson training), Hypnosis, Biofeedback.
18.4 Behaviour Modification Therapies (BMT)
18.5 Cognitive therapy- Elli's rational/ emotive therapy, Beck's cognitive, Meichenbaum's self-instructional training

Recommended Study Materials:

Textbooks:

1. Introduction to psychology by–Morgan and King, 7th Edition, Tata McGraw-Hill. Edition.
2. Psychology for Physiotherapists by Thangamani Ramalingam A, Latest Edition, Jaypee Publications.

Reference books:

1. Psychology for Physiotherapists by E. Naomi Dunkin, Latest Edition, British Psychology Society.
2. Beginning Psychology by Charles Stangor, Latest Edition, Flat World Knowledge Publisher.



E. SOCIOLOGY

Course Outcomes

In the end, of course, the candidate will be able to...

1. Define the term sociology and its importance in the health delivery system.
2. Understand the basic sociological concepts, principles and social process, social institutions about the individual family and community, and the various social factors affecting the family in the rural and urban communities in India.
3. Understanding the various social factors affecting health and diseases.
4. Understand the effects of disease on a patient's behaviour affected by social factors and how to deal with a patient.

SR. NO	TOPICS
1.	Introduction
1.1	Meaning–definition and scope of sociology. Its relation with anthropology, psychology, social psychology, and ethics.
1.2	Methods of sociology–case study, social serve, questionnaire interview, and opinion Methods.
1.3	Importance of its study with special reference to health care professionals.
2.	Social Factors in Health & Disease
2.1	The meaning and nature of socialization.
2.2	The role of social factors in health and illness.
3.	Socialization
3.1	Meaning and nature of socialization.
3.2	Primary, secondary and anticipatory socialization.
3.3	Agencies of socialization.
4.	Social Groups
4.1	Concepts of social groups.
4.2	Influence of formal and informal groups on health and sickness.
4.3	Role of primary groups and secondary groups in the hospital and rehabilitation settings.
5.	Family
5.1	The family-Meaning, Definition & Function.
5.2	Types & Changing family patterns.
5.3	Influence of family on individual health, family and nutrition, the effect of sickness on family and psychosomatic diseases, and their importance to physiotherapy.
6.	Community
6.1	Rural community–meaning and features–health hazards of rural ties.
6.2	Urban community–meaning and features–health hazards of urbanities
7.	Culture & Health
7.1	Concept of culture.
7.2	Culture and behaviour.
7.3	The cultural meaning of sickness.
7.4	Culture and Health Disorders.

8.	Social Change
8.1	Meaning of social changes.
8.2	Factors of social changes.
8.3	Human adaptation and social change.
8.4	Social change and stress.
8.5	Social change and deviance.
8.6	Social change and health program.
8.7	The role of social planning in the improvement of rehabilitation.
9.	Social Problems of Disabled
9.1	Consequences of the following social problems about sickness, disability and remedies to prevent this problem.
9.2	Population explosion.
9.3	Poverty and unemployment.
9.4	Beggary.
9.5	Juvenile delinquency.
9.6	Prostitution.
9.7	Alcoholism.
9.8	Problems of women in employment
10.	Social Security
10.1	Social security and social legislation concerning the disabled.
11.	Social Worker
11.1	Meaning of social work, the role of a medical social worker

Recommended Study Materials:

Textbooks:

1. Sociology for Physiotherapists by Dibyendunaryan Bid, 1st edition, Jaypee Publication.
2. Textbook of Sociology for Physiotherapy Students by KP Neeraja, 1st Edition, Jaypee Publication.

Reference books:

1. An introduction to sociology by Sachdeva and Bhushan, 32nd Edition, Kitab Mahal Publication.
2. Indrani T K, Text Books of Sociology for Graduates Nurses and Physiotherapy Students, JP Brothers.



F. EXERCISE THERAPY-I & SOFT TISSUE MANIPULATION

Course Outcomes

In the end, of course, the candidate will be able to...

1. Understand the basic mechanical principles and effect of exercises in the restorations of physical function.
2. Describe and acquire the skills of application and demonstration of the use of various tools of the therapeutic gymnasium and various starting and derived positions.
3. Describe the movements- Classification, Principles, Technique & its Uses.
4. Describe the physiological and therapeutic effect of various movements and demonstrate them in various anatomical planes.
5. Acquire the skills of application of various massage manipulations and describe the physiological effect, therapeutic uses, merit – demerits of the same.
6. Acquires the skills of application of various exercise therapeutic modalities in the restoration of physical function and describes the physiological effect, therapeutic uses, merits/demerits of the same.

EXERCISE THERAPY-I

SR. NO.	TOPICS
1.	Introduction to exercise therapy. Physiological effects and uses of exercise. Use of apparatus in exercise therapy.
2.	Force of gravity, the centre of gravity, line of gravity, and base. Axes and planes of movement and gravity.
3.	Simple machine: Lever, mechanical advantage, angle of pull, pulley, wheel and axle, fixed and movable pulley, pendulums, elasticity, spring properties of spring.
4.	Joint movement: Terminology and range axes and planes of movement, levers.
5.	Fundamental starting positions, derived positions-effects and uses, pelvis tilt & Muscle work for all positions.
6.	Classification of movements, types of muscle work
7.	Active movements: Definition, types, techniques, effects, and uses.
8.	Free Exercises: Classification, technique, effects of free exercises - application for shoulder, neck, hip, and knee joints, techniques of mobilization for stiff joints
9.	Passive movements: Definition, Types, techniques of relaxed passive movements and uses, comparison of both movements.
10.	Posture (Outlines only)
11.	Resisted Exercises: Techniques and types of resistance, Oxford method, Delorme method, Macqueen's method.
12.	Measurement of joint movements: Goniometry, types of the goniometer, bubble, and gravity goniometer.
13.	Causes of restriction of range of movement, Distinguish between skin, muscles, Capsular

	contractures. Capsular pattern, End feel.
14.	Suspension therapy: Definitions of suspension and point of suspension, types of suspension, pulleys, and use of pulleys in suspension therapy, application of suspension therapy either to increase the joint range or to increase muscle power.
15.	Breathing: Mechanism of breathing (normal), Muscles of respiration, changes in the thoracic cage during the process of respiration Diaphragmatic breathing, segmental breathing, Pursed lip breathing & Glossopharyngeal Breathing - significance.
16.	Group work: Criteria of selection of patients, advantages, and disadvantages of group class exercises. Home exercises: trick movements.
17.	Normal gait cycle: Phases of gait
18.	Walking Aids: Introduction, types, measurement, uses, precautions, progression.
19.	Measurement of limb length, methods of measurements.
20.	Maintenance and record of volume, range of motion, resistance, limb length. Girth measurement.

SOFT TISSUE MANIPULATION

SR. NO .	TOPICS
21.	Massage Manipulation
21. 1	Introduction-brief history, definition, classification.
21. 2	Physiological effects and therapeutic uses, contra-indications.
21. 3	Preparation of patient, basic points to be considered before and during massage procedure.
21. 4	Technique, effects, and uses of each manipulation and contra-indications. The practice of soft tissue manipulation in subjects.
21. 5	Specific effects of certain manipulations.
21. 6	Massage for arm, leg, neck, and upper back face.
21. 7	Massage for oedema, scar, tendinitis, fibrosis (tight fascia)
21. 8	Mobilization of soft tissues, joints, and fluid collection.

Recommended Study Materials:

Textbooks:

- Principles of Exercise Therapy by Dena Gardiner, 4th Edition, CBS Publication.



2. Therapeutic Exercise by Kisner & Colby, 4th Edition; Jaypee Publication.
3. Principles and Practices of Therapeutic Massage, Sinha A G, Jaypee Publication

Reference books:

1. Handbook of Clinical Massage latest edition Casser M P, Elsevier Publication.
2. Measurement of Joint Motion – a guide to Goniometry by Cynthia Norkin, Latest Edition; Jaypee Publication.
3. Practical Exercise Therapy by Margaret Hollis, 4th Edition; Blackwell Sciences Publication.

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G. BIOMEDICAL PHYSICS

Course Outcomes

In the end of course, the candidate will be able to...

1. Understand the physics principles & Laws of Electricity, Electromagnetic Spectrum & ultrasound.
2. Describe effects of environmental & man-made electromagnetic fields at the cellular level & risk factors on prolonged exposure.
3. Describe the main electrical supply, electric shock –precautions.
4. Enumerate types & production of various therapeutic electrical currents. Describe the panel diagrams of the machines.
5. Describe in brief, certain common electrical components such as transistors, valves, capacitors, transformers, etc. & the simple instruments used to test/calibrate these components (such as a potentiometer, oscilloscope, etc.) of the circuitry & will be able to identify such components.
6. Describe & identify various types of electrodes used in therapeutics, describe electrical skin resistance & the significance of various media used to reduce skin resistance.
7. Understand the fundamentals of physics, its relation in Physiotherapy sciences, and basic physical principles of sound, light, and heat and their application in the physiotherapy field.

SR. NO	TOPIC
1.	General Mechanics & Properties of Matter
1.1	Force – Definition, unit, resolution of forces, Newton’s laws of motion. Types of motion, direction and quantity of motion, Speed, Velocity, Work, Energy and Power.
1.2	Reaction forces, ground reaction force, Equilibrium, determination of equilibrium of a body, Inertia, Acceleration, Momentum and Torque.
1.3	Friction – the force of friction, static and dynamic friction, the limit of friction, friction a necessity, and evil.
1.4	Fluid mechanics: Viscosity, definition, coefficient of viscosity, streamline and turbulent flow, the effect of temperature and pressure on viscosity. Principle of Archimedes, laws of floatation, hydrostatic pressure, buoyancy, surface tension, Physical property of water.
2.	Heat & Temperature:
2.1	Heat transfer, properties of thermal radiation, Specific heat, thermal capacity, Energy conversion, I and II law of thermodynamics, physical effects of heat: expansion, evaporation, thermionic emission, etc.
2.2	Concept of heat and temperature, measurement of heat thermometry, thermometer. Method of measuring body temperature. Human body temperature
2.3	Biophysics of superficial heat and cold.

3. Waves & Sound
 - 3.1 Sound: Origin of sound, Characteristics of sound waves (Intensity of Sound, loudness, pitch and frequency, noise, echo, Factors affecting sound propagation)
 - 3.2 Simple Harmonic Motion Revisited: Damping and Resonance, Wave Concepts, Traveling Waves, Waves at a Boundary: Interference, Standing Waves and Resonance
 - 3.3 The Human Ear: Physiology and Function, The Doppler Effect in Sound, Ultrasound, Ultrasonic – production and its application, Piezoelectricity.
 - 3.4 Frequencies of sound waves, Infrasonic, Normal hearing band and Ultrasonics, Reflection, Refraction, and Attenuation of Sound waves, Acoustic Impedance, Interference of sound waves, Resonance, Echo, Doppler effect and Fresnel and Fraunhofer zones in Ultrasonics.
4. Modern Optics
 - 4.1 Electromagnetic Spectrum: Electromagnetic Radiation (EMR): Laws Governing EMR, Laws of Reflection, Refraction, Absorption, Cosine law, Attenuation, Inverse-square law. Grotthuss law etc.
 - 4.2 Light: Emission and absorption spectra. Electromagnetic spectrum. Laws of transmission, reflection, refraction, absorption. Internal reflection and fiberoptics, Interference of light. LASER and its application.
5. Electricity & Magnetism
 - 5.1 Structure of atom, Isotopes, States of matter; Compound formation (covalent formation).
 - 5.2 Static Electricity: Theories of Electricity, Production of Electric Charge, Characteristic of a Charged body, Potential and Capacity, Potential Difference.
 - 5.3 Current Electricity: Energy sources for electricity, Electromotive Force (EMF), Resistance, Intensity, Ohm's Law, resistance in Series / Parallel, Devices for regulating Intensity (Types, Construction, and working of Rheostat), Electric energy and power, Thermal Effects of Electric (Joule's Law).
 - 5.4 Magnetism: Nature, Type, Molecular Theory of Magnetism, Property of Magnet, Magnetic Effect of Electric Current, Electromagnets, Milliamperemeter & Voltmeter (Construction and working), Meters for measuring AC.
 - 5.5 Capacitor / Condenser: Principles, Capacity (Measurement and factors determining), Types and Construction, Electric field, lines of force and characteristics of lines of force, Charging and discharging of the condenser, Duration of discharge, discharge through inductance, capacitive reactance, and uses of a condenser.
 - 5.6 Electromagnetic Induction: Principles (Faraday's/Lenz's law), Production, Direction of Induced EMF, Strength of induced EMF, Types (Self and Mutual) and inductive reactance. Eddy Currents, Dynamo, Transformers (Functions, Types, Constrictions), Choke coil.
 - 5.7 Thermionic Valves (Diode and Triodes), Types of rectification (Half and full-wave– Voltage halving and Westinghouse Bridge), Semi-Conductors: Types, semiconductor diodes, Metal rectifier & Transistors, Integrated circuits (IC)
 - 5.8 Main Supply: Production of Electricity, Types, Distribution, Earthing, Types of Plugs & Switches. Fuse.

- 5.9 Electric and electronic circuits: Oscillating circuit, Smoothing Circuit, surging circuit, CR circuit, multivibrator circuit, faradic coils (Lewis Jones and Smart Bristow), panel diagram of an electrical stimulator, Production of high-frequency current by a klystron, magnetron.
- 5.10 Frequencies of Current – Low, Medium and High-frequency currents and their characteristics, Biological Cell as a capacitor and resistor, frequency of current and its relation to capacitive reactance (resistance)
- 5.11 Types of current – Direct Current (DC) and Alternating Current (AC), Sources of DC, Necessity for rectification of AC, Use of DC as a therapeutic current and its dangers, Electrical Skin Resistance, Electrolysis, acidic and alkaline reactions under anode and cathode, Electrolytic burns and its prevention
- 5.12 Shock: Types (Electric Shock, Earth Shock), Definition, Severity, Effects, Causes, and Precautions.

Recommended Study Materials:

Textbooks:

1. Clayton's electrotherapy- Theory and Practice, Forster and Palastanga; 8th edition.
2. Fundamental of Electrotherapy and Biomedical Physics, Ashish Kakkad; Jaypee Brothers.
3. Biomedical Physics. Jignasha Patel; New Popular Publication

Reference books:

1. Physics-Foundation & frontiers by George Cramow & John M. Cleveland
2. Physics of the life sciences by Jay Newman. 2008.



H. HEALTH CARE DELIVERY SYSTEM + PROFESSIONAL PRACTICE & ETHICS

(Not For University Exam, Only Internal Exam)

COURSE OUTCOMES

At the end of course, the candidate will be able to...

1. Understand basic health care delivery systems in India and abroad.
2. Act for referral of patients depending on requirements in clinical practice.

INTRODUCTION TO NATIONAL HEALTHCARE DELIVERY SYSTEM IN INDIA

SR. NO.	TOPIC
1.	Introduction to healthcare delivery system
1.1	Healthcare delivery system in India at a primary, secondary and tertiary care
1.2	Community participation in healthcare delivery system
1.3	Health system in developed countries.
1.4	Private Sector
1.5	National Health Mission
1.6	National Health Policy
1.7	Issues in Health Care Delivery System in India
2.	National Health Program -Background objectives, action plan, targets, operations, achievements, and constraints in various National Health Program
3.	Introduction to AYUSH system of medicine
3.1	Introduction to Ayurveda.
3.2	Yoga and Naturopathy
3.3	Unani
3.4	Siddha
3.5	Homoeopathy
3.6	Need for integration of the various system of medicine
4.	Health scenario of India- past, present, and future
5.	Demography & Vital Statistics-
5.1	Demography – its concept
5.2	Vital events of life & its impact on demography
5.3	Significance and recording of vital statistics
5.4	Census & its impact on health policy
6.	Epidemiology
6.1	Principles of Epidemiology
6.2	Natural History of disease
6.3	Methods of Epidemiological studies
6.4	Epidemiology of communicable & non-communicable diseases, disease transmission, host defence immunizing agents, cold chain, immunization, disease monitoring, and surveillance.



PROFESSIONAL PRACTICE & ETHICS

SR. NO .	TOPIC
1.	Introduction to the history of physiotherapy.
2.	Orientation to the curriculum, clinical areas, and geographical location
3.	Concept of morality & ethics.
4.	Concept of professionalism and professional dress code.

Recommended Study Materials:

Textbooks:

1. Textbook of Preventive & Social Medicine- Dr K. Park
2. Textbook of Community Medicine: V. K. Mahajan
3. Physical Therapy Ethics by Donald L. Gabard, Mike W. Martin, F.A. Davis, 2003
4. GSCPT (Gujarat state council for Physiotherapy)- rules and regulations-full text
5. The Indian Association of Physiotherapists memorandum of the association rules and regulations-full text

Reference books:

1. Population studies – Asha Bhendre
2. Effective communication methods – Asha Kaul
3. Hospital Administration - Tabish
4. Medical Ethics by CM Francis, the second edition



I. COMPUTER APPLICATIONS
(Not for University Exam)

Course Outcomes

At the end of course, the candidate will be able to...

1. Understand the fundamentals of computers and their applications in clinical setups.

SR. NO.	TOPIC
1.	Introduction to Data Processing: 1.1 Features of computers. What are Hardware and Software? 1.2 Advantages of using computers. Role and uses of computers. What is data processing? 1.3 Application areas of computers and common activities in data processing. Types of data processing, characteristics of the application.
2.	Hardware Concepts: 2.1 The architecture of computers – characteristics of discs, tapes, terminals, printers, network. 2.2 Types of storage devices. 2.3 Concept of damage. Application of networking concept of PC system care, floppy care, data care, etc.
3.	Concept of Software 3.1 Classification of software: System software. 3.2 Application of software, Operating System, Computer System, computer virus, precautions against viruses, dealing with viruses, computers in medical electronics.
4.	Basic anatomy of Computers: 4.1 Principles of Programming: Computer application – principles in scientific research, word processing, medicine, libraries, museum, education, information system. 4.2 Data processing 4.3 Computers in Physical Therapy – Principles of EMG, Exercise testing equipment, Laser.

Recommended Study Materials:

Textbooks:

1. Computing Fundamentals by Faithe Wempen, Latest Edition, Wiley Publications

Reference books:

1. Microsoft Office 2019 all-in-one by Peter Weverka, Latest Edition, Wiley Publication.



J. ENGLISH

(Not for University Exam)

Course Outcomes

At the end of course, the candidate will be able to...

1. Understand, read and communicate in the English language grammatically correct English.
2. Appreciate the value of the English language in professional life.

SR. NO.	TOPIC
1.	Introduction:
1.1	Study techniques
1.2	Organization of effective note-taking and logical processes of analysis and synthesis.
1.3	Use of the dictionary
1.4	Enlargement of vocabulary
1.5	Effective diction
2.	Applied Grammar:
2.1	Correct usage
2.2	The structure of sentences
2.3	The structure of paragraphs
2.4	Enlargement of vocabulary
3.	Written Composition:
3.1	Precise writing and summarizing
3.2	Writing of Bibliography
3.3	Enlargement of vocabulary
4.	Reading and Comprehension: Review selected materials and express oneself in one's words and enlargement of vocabulary.
5.	The study of various forms of composition: Paragraph, essay, letter, summary, practice in writing.
6.	Verbal Communication: Discussions and summarization, debates, oral reports, use in teaching.

Recommended Study Material:

Reference Books:

1. Effective Communication Skills – Cornell Local Roads Program, New York LTAP Program
2. Improve Your Communication Skills – Alan Barker, Koganpage



K. ENVIRONMENTAL SCIENCES

(Not for University Exam)

Course Outcomes:

At the end of course, the candidate will be able to...

1. Be aware of the environment around us and develop an understanding of sustainable development Acquire a basic scientific understanding of environmental issues and their possible solutions

SR. NO.	TOPIC
1.	Multidisciplinary Nature of Environmental Studies
1.1	Definition, scope and importance
1.2	Need for public awareness.
2.	Natural Resources: Renewable & Non-Renewable Resources: Natural Resources & Associated Problems. Use & overexploitation of ...
2.1	Forest resources: Use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams, and their effects on forest and tribal people.
2.2	Water resources: Use and over-utilization of surface and groundwater, Floods, drought, conflicts over water, dams-benefits, and problems.
2.3	Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies.
2.4	Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, waterlogging, salinity, case studies.
2.5	Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources. Case studies.
2.6	Land resources: Land as a resource, land degradation, man-induced Landslides, soil erosion, and desertification.
2.7	Role of an individual in conservation of natural resources.
2.8	Equitable use of resources for sustainable lifestyles.
3.	Ecosystems
3.1	Concept of an ecosystem.
3.2	Structure and function of an ecosystem.
3.3	Producers, consumers, and decomposers.
3.4	Energy flow in the ecosystem.
3.5	Ecological succession.
3.6	Food chains, food webs, and ecological pyramids.
3.7	Introduction, types, characteristic features, structure, and function of the following ecosystem: • Forest ecosystem • Grassland ecosystem • Desert ecosystem • Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)
4.	Biodiversity & Its Conservation
4.1	Introduction – Definition: genetic, species, and ecosystem diversity.
4.2	Biogeographical classification of India
4.3	Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic, and option values
4.4	Biodiversity at global, national, and local levels.

4.5	India as a mega-diversity nation
4.6	Hot-spots of biodiversity.
4.7	Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts.
4.8	Endangered and endemic species of India
4.9	Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.
5.	Environmental Pollution
5.1	Definition, Cause, effects, and control measures of air pollution, Water pollution, Soil pollution, Marine pollution, Noise pollution, Thermal pollution, nuclear hazards
5.2	Solid waste Management: Causes, effects and control measures of urban and industrial wastes.
5.3	Role of an individual in prevention of pollution.
5.4	Pollution case studies.
5.5	Disaster management: floods, earthquakes, cyclones, and landslides.
6.	Social Issues & The Environment
6.1	From Unsustainable to Sustainable development (Already covered in module 2)
6.2	Urban problems related to energy
6.3	Water conservation, rainwater harvesting, watershed management
6.4	Resettlement and rehabilitation of people; its problems and concerns.
6.5	Case Studies
6.6	Environmental ethics: Issues and possible solutions.
6.7	Climate change, global warming, acid rain, ozone layer depletion, nuclear
6.8	Accidents and holocaust. Case Studies.
6.9	Wasteland reclamation.
6.10	Consumerism and waste products.
6.11	Environment Protection Act. l) Air (Prevention and Control of Pollution) Act. m) Water (Prevention and Control of Pollution) Act n) Wildlife Protection Act o) Forest Conservation Act p) Issues involved in the enforcement of environmental legislation. q) Public awareness.
7.	Human Population & The Environment
7.1	Population growth, variation among nations.
7.2	Population explosion – Family Welfare Program.
7.3	Environment and human health.
7.4	Human Rights.
7.5	Value Education.
7.6	Human Immunodeficiency Virus (HIV)/Acquired Immunodeficiency Syndrome (AIDS).
7.7	Women and Child Welfare.
7.8	Role of Information Technology in Environment and human health.
7.9	Case Studies.
8.	Field Work
8.1	Visit a local area to document environmental assets river/ forest/grassland/hill/mountain.
8.2	Visit a local polluted site-Urban/Rural/Industrial/Agricultural.
8.3	Study of common plants, insects, birds.
8.4	Study of simple ecosystems-pond, river, hill slopes, etc.

Recommended Study Materials:

Textbooks:

1. Agarwal, K.C. 2001 Environmental Biology, Nidhi Publications Ltd. Bikaner
2. Clark R.S. Marine Pollution, Clarendon Press Oxford

Reference books:

1. Miller T G. Jr Environmental Science, Wadsworth Publishing Co
2. Odum, EP. 1971 Fundamentals of Ecology. WB Saunders Co.
3. Townsend C, Harper J and Michael Begon, Essentials of ecology, Blackwell Science.

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SECOND YEAR SYLLABUS

A. PATHOLOGY

Course Outcomes

At the end of course, the candidate will be able to...

1. Learn the pathological changes in various conditions, diseases and disorders, which are commonly treated by physiotherapy.
2. Understand how to protect themselves and their patients from infections during their interactions.
3. Students should be able to understand disease processes and their clinical significance (with special emphasis on Neuro Musculoskeletal and Cardiovascular -Respiratory systems).

SR. NO .	TOPIC
1	General Pathology: 1.1 Importance of pathology in physiotherapy 1.2 Definition of health, the pathological basis of health, disease 1.3 Inflammation: general aspects, types 1.4 Tissue repair: wound healing, fracture 1.5 Cell injury-degeneration: physical and chemical irritants; ionizing radiations –cellulitis 1.6 Disturbances of circulation: edema, thrombosis, embolism 1.7 Necrosis, gangrene 1.8 Growth cellular adaptation: atrophy, hypertrophy, hyperplasia 1.9 Cellular ageing 1.10 Tumors: definitions, classification, etiology and spread 1.11 Infection: acute/chronic, Acquired Immuno-Deficiency Syndrome (AIDS) 1.12 Blood: Anemia, definition, classification, etiology, laboratory investigations, blood picture, hemorrhagic disorders (causes and classification), Autoimmune disorders: Rheumatoid Arthritis (RA), Systemic Lupus Erythematosus (SLE)
	Systemic Pathology: (Including causes, risk factors, pathogenesis or pathophysiology, sign and symptoms, diagnosis, and gross and microscopic picture for morphology study for following system)
2	Respiratory systems 2.1 Bronchitis 2.2 Bronchial 2.3 Asthma 2.4 Emphysema 2.5 Pneumonia 2.6 Carcinoma of lung
3	Cardiovascular system 3.1 Rheumatic Heart Disease (RHD) 3.2 Myocardial Infarction (MI) 3.3 Atherosclerosis

3.4	Congenital Heart Diseases (CHD)
4	Alimentary system
4.1	Tuberculosis intestine
4.2	Peptic ulcer
5	Liver
5.1	Hepatitis
5.2	Cirrhosis
6	Central nervous system
6.1	Meningitis
6.2	Encephalitis
6.3	Cerebral hemorrhage
6.4	Central Nervous System (CNS) tumor
7	Peripheral nerves
7.1	Neuritis,
7.2	Neuralgia,
7.3	Guillain-Barre syndrome,
7.4	Neuropathies
8	Bones-joints
8.1	Osteomyelitis,
8.2	Osteoarthritis,
8.3	Septic arthritis,
8.4	Gout arthritis,
8.5	Osteomalacia
8.6	Bone tumors - giant cell tumor, osteosarcoma, Ewing's sarcoma
9	Muscle & neuro-muscular disorders
9.1	Poliomyelitis
9.2	Myopathies
9.3	Myasthenia gravis
10	Skin
10.1	Scleroderma
10.2	Psoriasis
11	Urinary system
11.1	Nephritis
11.2	Glomerulonephritis
11.3	Nephrotic syndrome
12	Endocrine system
12.1	Thyroid: thyroiditis, thyroid tumors
12.2	Diabetes

Recommended Study Materials:

Textbooks:



1. Textbook of pathology – Harsh Mohan
2. General Pathology - Bhende
3. General Pathology review - Dr M L Gupta (2nd Ed.)
4. Textbook of Pathology - Dr Dutta

Reference books:

1. Pathologic basis of disease - Cortran, Kumar, Robbins
2. General and systemic pathology - JCE, Underwood
3. Pathology - Boyd
4. Pathology –

Anderson

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B. MICROBIOLOGY

Course Outcomes

At the end of course, the candidate will be able to...

1. Understanding the microbiology of common diseases that therapists would encounter in their daily practice.
2. Understand agents responsible for causing human infections, of CNS, CVS, musculoskeletal and respiratory system.

SR. NO	TOPIC
1	General Bacteriology
1.1	Introduction, historical background
1.2	Basics of morphology and physiology of bacteria
1.3	Staining of bacteria
1.4	Sterilization and disinfection
1.5	Cultivation and culture media
2.	Systemic Bacteriology
2.1	Gram-positive cocci: Staphylococci, Streptococci and Pneumococci
2.2	Gram negative cocci: Gonococci and Meningococci
2.3	Gram-positive bacilli
2.4	Aerobic: Diphtheria, Tuberculosis, Leprosy
2.5	Anaerobic: Tetanus, Gas gangrene, Botulism
2.6	Gram-negative bacilli: Typhoid, Cholera, Dysentery
2.7	Gram-negative Spiral: Syphilis
3.	General Virology
3.1	Poliomyelitis
3.2	Rabies
3.3	Introduction to Bloodborne Viral infections
3.4	Demonstration of tests: Diagnosis of AIDS, Hepatitis B & C
3.5	Corona
3.6	Herpes
4.	Immunology
4.1	Immunity
4.2	Antigen and Antibodies
4.3	Agglutination, Precipitation
4.4	Basic of hypersensitivity reactions
5.	Parasitology
5.1	Introduction to important parasitic infections
5.2	Malaria
5.3	Amoebiasis
5.4	Roundworm and hookworm
5.5	Scabies
6.	Mycology

6.1	Introduction to important fungal infections
6.2	Candidiasis,
6.3	Ringworm
7.	Applied Microbiology concerning systemic, Parasitology, Mycology, Immunology, hypersensitivity tests
7.1	Infection of bones/joints
7.2	Infection of burns case
7.3	Serological test – interpretation of Antistreptolysin O (ASO), Rheumatoid Arthritis (RA), Venereal Disease Research Laboratory (VDRL), C-Reactive Protein (CRP), Widal, Enzyme-Linked Immunoassay (ELISA) (HIV, HBsAg), PCR based diagnosis
7.4	Demonstration of gross/microscopic appearance of various parasites
8	Aseptic universal precautions & practices
8.1	Biomedical waste and universal precautions

PRACTICALS: (Demonstration only)

Staining, Microscopy, Sterilization, Media, Stool sample, Serology tests

Recommended Study Materials:

Textbooks: -

1. Microbiology for Physiotherapy students – B.S. Nagoba

Reference books: -

1. Textbook of Microbiology – R. Ananthnarayan & CK Jayram Panikar

2. Textbook of Microbiology – Chakraborty

3. Textbook of Microbiology – Dr Arora

4. Essentials of Medical Microbiology – Rajesh Bhatia, Rattan Lal Ichhpujani

5. Essentials of Medical Microbiology – Apurba Sankar Sastry and Sandhya Bhat



C. PHARMACOLOGY

Course Outcomes

At the end of course, the candidate will be able to...

1. Possess relevant knowledge in basic principles of pharmacology and its recent advances.
2. Understand the basic pharmacology of common drugs used, their importance in the overall treatment including Physiotherapy.
3. Understand the general principles of drug action and the handling of drugs by the body.
4. Understand the contribution of both drug and physiotherapy factors in the outcome of treatment.

SR. NO	TOPIC
1.	<p>General Principles</p> <p>1.1 Introduction and scope of pharmacology (definitions)</p> <p>1.2 Routes of drug administration (With more emphasis on oral, sublingual, IV, IM and SC routes)</p> <p>1.3 Pharmacokinetics: Factors affecting absorption, bioavailability, the volume of distribution, plasma protein binding, Prodrugs, drug metabolism, first-pass metabolism, elimination kinetics, biological half-life ($t_{1/2}$) and steady-state concentration (in brief)</p> <p>1.4 Pharmacodynamics: Concept of receptors and signal transduction mechanisms</p> <p>1.5 Adverse drug reactions</p> <p>1.6 Factors influencing drug actions (in brief)</p>
2.	<p>Drug acting on the peripheral nervous system (autonomic nervous system)</p> <p>Classification, mechanism of action, Pharmacological action of Prototype, ADR and uses</p> <p>2.1 Adrenergic agonists and antagonists (prototype agents – Adrenaline, Propranolol)</p> <p>2.2 Cholinergic agonists and antagonists (Prototype agents – Acetylcholine, Atropine)</p> <p>2.3 Skeletal muscle relaxants (Prototype – d-Tubocurarine)</p>
3.	<p>Autacoids related drugs</p> <p>Classification, mechanism of action, Pharmacological action of Prototype, ADR and uses</p> <p>3.1 Non-steroidal anti-inflammatory drugs (NSAID) (prototype agents – Aspirin, paracetamol)</p> <p>3.2 Drug therapy of Rheumatoid arthritis</p> <p>3.3 Gout</p>
4.	<p>Drugs for respiratory disorders</p> <p>Classification, mechanism of action, Pharmacological action of Prototype, ADR and uses</p> <p>4.1 Drug therapy of cough</p> <p>4.2 Drug therapy of bronchial asthma, Chronic Obstructive Pulmonary Disease (COPD)s</p>
5.	<p>Drugs for cardiovascular diseases</p> <p>Classification, mechanism of action, Pharmacological action of Prototype, ADR and uses</p> <p>5.1 Drugs used in the management of hypertension</p> <p>5.2 Angina pectoris (prototype- Nitroglycerine), congestive heart failure (prototype - Digitalis), cardiac arrhythmias,</p> <p>5.3 Diuretics</p>

6. Drugs used in central nervous system (CNS) disorders

Classification, mechanism of action, Pharmacological action of Prototype, ADR and uses

- 6.1 Sedatives and hypnotics & antianxiety drugs (Prototype – Barbiturates & benzodiazepines)
- 6.2 Antiepileptic drugs (Prototype – Phenytoin, Carbamazepine)
- 6.3 Opioid analgesics (Prototype - Morphine)
- 6.4 Antidepressants (Prototype – TCA, SSRI)
- 6.5 Antipsychotics (Prototype – Chlorpromazine, Clozapine)
- 6.6 General and local anaesthetic agents (In brief)
- 6.7 Drugs used in the treatment of parkinsonism (Prototype – Levodopa – Carbidopa combination)

7. Chemotherapy

- 7.1 General classification of antibiotics and mechanisms of resistance

Classification, mechanism of resistance, mechanism of action, ADR and uses

- 7.2 Antitubercular drugs
- 7.3 Antileprosy drugs

Other chemotherapeutic drugs:

Classification, mechanism of action, ADR and uses

- 7.4 Antibacterial drugs: Sulfonamides & cotrimoxazole, fluoroquinolones, beta-lactam antibiotics (prototype – Penicillin G, cephalosporins – classification and uses), aminoglycosides (Prototype – Streptomycin), tetracyclines, chloramphenicol, macrolide antibiotics.

8. Endocrine pharmacology

Classification, Pharmacological actions of Prototype, mechanism of action, ADR and uses

- 8.1 Thyroid (Prototype - Thyroxine) and antithyroid drugs
- 8.2 Insulin (insulin release, actions & preparations) and other antidiabetic drugs
- 8.3 Drugs used in the treatment of osteoporosis
- 8.4 Glucocorticosteroids (in brief)

9. Drugs used in gastrointestinal disorders

Classification, mechanism of action, ADR and uses

- 9.1 Diarrhoea,
- 9.2 Vomiting,
- 9.3 Constipation,
- 9.4 Peptic ulcer

10. Miscellaneous drugs

- 10.1 Drugs used in the management of anaemia (classification based on the type of anaemia)

Classification, mechanism of action, ADR and uses

- 10.2 Immunomodulators (more emphasis on Calcineurin inhibitors, Antimetabolites and glucocorticoids), vaccines and sera (brief)

Recommended Study Materials:

Textbooks:

1. Essentials of Medical Pharmacology – KD Tripathi
2. Pharmacology for Physiotherapy students - Padmaja Udaykumar, Jaypee Publication.
3. Pharmacology & Pharmacotherapeutics - RS Satoskar, SD Bhandarkar & Nirmala N Rege

Reference books:

1. Clinical Pharmacology - D.R. Laurence, PN Bennet, MJ Brown
2. Goodman & Gilman's the pharmacological basis of therapeutics
3. Basic and Clinical Pharmacology- Bertram G Katzung

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D. EXERCISE THERAPY 2

Course Outcomes

At the end of course, the candidate will be able to...

1. Provide high quality, ethical, effective, and cost-efficient practices by students and gain expertise in the exercise prescription to patients.
2. Understand principles and procedures, indications, contraindications and precautions, appropriate methods of application of each of the assessment strategy and treatment techniques hands-on and on models with Application of different exercise therapeutic modality to patients.
3. Understand the effect of exercise therapeutic modality in the restoration of physical function.
4. Describe the physiological and therapeutic effects of various movements and acquire the skills of using various tools of the therapeutic gymnasium.

SR. NO .	TOPIC
1.	Stretching: 1.1 Definitions related to stretching, types of contractures and differentiation properties of soft tissues affecting elongation and aims of stretching 1.2 Manual and mechanical stretching 1.3 Cycle mechanical stretching, indications and aims of stretching 1.4 Principles and contraindications
2.	Continuous Passive Movement (CPM) unit: 2.1 Definition 2.2 Method of application 2.3 Indications 2.4 Contra-indications and 2.5 Precautions
3.	Traction: 3.1 Types 3.2 Effects 3.3 Principles of application for cervical and lumbar spine 3.4 Traction to soft tissues of joints – gliding movements
4.	Mobilization: 4.1 Causes of restriction of Range of Motion (R.O.M.) 4.2 Prevention of restrictions 4.3 Techniques of mobilization of various joints of limbs to mobilize joint R.O.M. through functional diagonal patterns 4.4 Joint mobilization; manipulation-definition 4.5 Types 4.6 Joint shapes 4.7 Types of motion 4.8 Stretching 4.9 Glides

4.10	Compression
4.11	Traction
4.12	Indications
4.13	Contraindications
4.14	Precautions
5.	Advance soft tissue Mobilization:
5.1	Basic principles of Muscle Energy Techniques (MET)
5.2	Myofascial Release Techniques (MFR)
5.3	Positional Release Therapy (PRT)
5.4	Neural Tissue Mobilization (NTM)
6.	Manual Muscle Testing (M.M.T.):
6.1	Uses
6.2	Fundamental principles
6.3	Anatomical and physiological basis
6.4	Oxford scale of muscle gradation
6.5	Principles of isolation, substitution, stabilization
6.6	Grading procedure for muscles of upper and lower extremities (group and individual)
6.7	Neck and trunk
6.8	Voluntary control of movement gradation by Bobath, Brunnstrom
7.	Crawling exercises:
7.1	Principles
7.2	Types
7.3	Effects & Uses.
8.	Progressive Resisted Exercise (PRE) /Strengthening of muscles:
8.1	Principles involved to prevent muscle wasting
8.2	Rood's technique of initiating muscle contraction
8.3	Progressive strengthening of muscles (loads assisted and resisted exercises)
8.4	Use of equipment
8.5	Reeducation of muscles and restoration of functions
8.6	The practice of strengthening of muscles of limbs; Neck, Trunk and face, Emphasis on hand and foot muscles, Quadriceps, Glutei, Triceps, Deltoid and face muscles
8.7	Use of manual and mechanical resistance
8.8	Contraindications
8.9	Plyometrics
8.10	Muscle Energy Techniques (MET)
8.11	Dynamic exercise: Concentric and eccentric
8.12	Dynamic exercise- Constant versus variable resistance
8.13	Isokinetic exercise
8.14	Open chain and closed chain exercise
8.15	De-Lormes, Oxford, Mac Queen, circuit weight training
8.16	Multiple angle isometrics, isokinetic regimens
9.	Proprioceptive Neuromuscular Facilitation (PNF):
9.1	Introduction
9.2	Principles
9.3	Basic procedures for Facilitation
9.4	Basis techniques of PNF patterns: Arm, Leg, Neck, Head and trunk, Face

9.5	Techniques for emphasis
10.	Relaxation:
10.1	Muscle tone,
10.2	Postural tone
10.3	General and local relaxation techniques of relaxation
11.	Neuromuscular coordination:
11.1	Factors governing co-ordination
11.2	Principles of re-education
11.3	Frenkel's exercises and its techniques
12.	Balance:
12.1	Background and concept
12.2	Key Terms and Definitions
12.3	Balance Control
12.4	Sensory Systems and Balance Control
12.5	Motor Strategies for Balance Control
12.6	Balance Control under Varying Conditions
12.7	Impaired Balance: Sensory Input Impairments Sensorimotor Integration
12.8	Biomechanical and Motor Output Deficits
12.9	Deficits with Aging
12.10	Deficits from Medications
12.11	Health and Environmental Factors
13.	Functional Re-education:
13.1	Mat activities for the re-education of hemiplegics, paraplegics and cerebral palsy
13.2	Walking re-education in neurological and orthopedic conditions.
14.	Aerobic exercises:
14.1	Physiological effects and therapeutic uses
14.2	Fitness testing
14.3	Stress testing for healthy and convalescent individuals
14.4	Pharmacological aspects of exercises.
15.	Postural Drainage:
15.1	Indications and Contraindications,
15.2	Forced Expiration Technique (FET),
15.3	Assistive devices,
15.4	Techniques.
16.	Hydrotherapy:
16.1	Physiological properties of water and hydrodynamics
16.2	Physiological and applications of Bad- Ragaz Technique
16.3	Indications and contraindications
17.	Yoga-Asana, Pranayama and their scientific uses

Recommended Study Materials:

Textbooks:

1. Principles of Exercise Therapy by Dena Gardiner, 4th Edition, CBS Publication.
2. Therapeutic Exercise by Kisner & Colby, 4th Edition; Jaypee Publication.

3. Practical Exercise Therapy by Margaret Hollis, 5th Edition; Blackwell Sciences Publication.
4. Manual Muscle Testing by Daniel and Worthingham

Reference books:

1. Muscle testing - Kendall
2. PNF - Knott and Voss
3. PNF in practice - Susan Adler
4. Muscle Energy Technique - Leon Chaitow.
5. Tidy's Physiotherapy – Stuart Porter
6. The Myofascial Release Manual. - Carol J. Manheim



E. KINESIOLOGY

Course Outcomes

At the end of course, the candidate will be able to...

1. Analyse normal human movement from a global perspective, integrating biomechanics, force, muscle mechanics and motor control theory.
2. Experience quantitative methods of movement analysis using various methods.
3. Apply the analytic methods to specific examples of normal human motor performance.
4. Use these methods for the evaluation and treatment of disorders of the Musculoskeletal system.
5. Apply the analytic methods of different muscles and their effects on specific joints in the human body.

SR. NO .	TOPIC
1.	General bio-mechanics: Kinematics and Introduction to Kinetics
1.1	Determinants of motion (Kinematics): Types of motion, Laws of motion, Location of motion, Direction of motion, Magnitude of motion
1.2	Determinants of force (Kinetic): Definition of force, Magnitude of force, Point of application, Direction of force, Components of force, Composite effects of two or more forces, Torque, Force of friction, Force of inertia, Force of gravity, Equilibrium
1.3	Work
1.3.1	Lever: definition, orders of the lever, anatomical lever, levers in Physiotherapy
1.3.2	Anatomical pulley, anatomical wheel & axis
1.4	Principles of stability The base of support, Center of Mass (COM), Center of Gravity (COG), Segmentation, Visual factors, Psychological factors, Physiological factors
1.5	Mechanism of joint motion
1.5.1	Types of joints, the structure of joints, joint function and motion,
1.5.2	General Properties of Connective Tissue
1.5.3	General Changes with Disease, Injury, Immobilization, Exercise, and Overuse on joints
1.6	Mechanics of muscle action
1.6.1	Classification of muscle,
1.6.2	Types of muscle contractions,
1.6.3	Functional characteristics of muscle,
1.6.4	Line of pull,
1.6.5	The angle of pull,
1.6.6	Length-tension relationship,
1.6.7	Group action of muscles, Action of two joint muscle,
1.6.8	Effects of Immobilization, Injury, and Aging on muscle
2.	Skilled Movements:
2.1	Rope climbing,
2.2	Cycling,
2.3	Running,

2.4	Ballistic and
2.5	Volitional movements
3.	Impetus: The impetus to external objects and receiving impetus
4.	Locomotion:
6.1	Normal gait analysis: definition of gait, phases of normal gait, normal gait with kinetic and kinematics,
6.2	Abnormal pathological gaits,
6.3	Gait training
5.	Biomechanics of joints: Kinetics, kinematics and pathomechanics of joints:
5.1	Hip,
5.2	Knee,
5.3	Ankle,
5.4	Foot,
5.5	Shoulder,
5.6	Elbow,
5.7	Wrist,
5.8	Hand,
5.9	Temporomandibular
6.	Biomechanics of spinal column (Spinal curves, articulations, the non-contractile soft tissue of column, Inter- Vertebral (IV) disc, ligaments, intrinsic equilibrium, movements of the spinal column and muscle mechanics):
6.1	Cervical
6.2	Thoracic
6.3	Lumbar
6.4	Sacral & Coccyx
7.	Mechanics of pelvic complex:
7.1	Pelvis at rest, in standing body and motion,
7.2	Pathomechanics of the pelvis
8.	Mechanics of thorax:
8.1	Movements between ribs and vertebrae, sternum and ribs,
8.2	Patho mechanics of respiration
9.	Postural strain and occupational hazards: Correct use of body mechanics at home, at school and work, recreation, particular application for patients, physiotherapists and other staff.
10.	Kinetics and kinematics of Activities of Daily Living (ADL):
10.1	Supine to sitting,
10.2	Sitting to standing,
10.3	Squatting,
10.4	Climbing up and down,
10.5	Pushing & Pulling,
10.6	Overhead activities,
10.7	Walking,
10.8	Running
11.	Posture:
11.1	Types

11.2 Factors influencing posture

11.1 Regulation of posture and posture mechanism

11.2 Pelvic tilt and postural deviations of the spine and its treatment.

PRACTICALS: Skills to be practised on peer/model for required topics/units

Recommended Study Materials:

Textbooks:

1. Joint structure and function - Cynthia Norkin

Reference books:

1. Therapeutic exercise - Kisner and Colby

2. Principles of exercise therapy - Dina Gardiner

3. Clinical kinesiology – Brunnstrom

4. Muscles: Testing & Function with posture & pain. Florence Peterson Kendall

5. Kinesiology: The Mechanics & Pathomechanics of human movement – Carol A. Otis

6. Kinesiology - Wells, Katharine F.

7. The Physiology of Joints: I. A. Kapanji

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F. PSYCHIATRY

Course Outcomes

At the end of course, the candidate will be able to...

1. Describe various psychiatric disorders with special emphasis on movement/pain and ADLs & describe the methods of assessment and management.
2. Acquire the knowledge as to how to deal with the patient.

SR. NO .	TOPIC
1.	Mental health: 1.1 Normal Mental Health 1.2 Criteria of normality or matured personality 1.3 Factors contributing to normal mental health.
2.	Study of Abnormal Personality: 2.1 Neurotic 2.2 Hysterical 2.3 Psychotic 2.4 Paranoid 2.5 Schizoid 2.6 Psychopathic etc.
3.	General Etiological Factors: 3.1 Hereditary 3.2 Genetical Constitutional 3.3 Acquired 3.4 Traumatic 3.5 Infective 3.6 Toxic 3.7 Degenerative 3.8 Social and Environmental including pathogenic family patterns 3.9 Precipitating causes 3.10 Frustration and conflicts.
4.	Symptomatology and Treatment of Psychoses: 4.1 Functional: Functional Schizophrenic, reaction group, simple, paranoid, catatonic, hebephrenic paranoid state, paranoia, juvenile, schizophrenia, autistic thinking, dementia. 4.2 Organic: Toxic confused states, senile psychoses, arteriosclerotic, degenerative, General Paralysis/paresis of the Insane (G.P.I.) 4.3 Affective Disorders: Dynamics of Mania, hypomania, chronic mania, Multiple Personality Disorder (M.P.D.) 4.4 Involutional depression, senile depression, postpartum depressive reactions, reactive and neurotic depression, endogenous depression, suicide (egoistic, Altruistic, Anomic) 4.5 Epileptic Disorders: Epileptic Psychosis.

5.	Neurosis: Symptomatology, Diagnosis and Treatment and Psychodynamics of
5.1	Anxiety State
5.2	Hysteria, Conversion Reaction
5.3	Dissociative Reaction
5.4	Dual Personality
5.5	Obsessional Neurosis
5.6	Phobias
5.7	Hypochondriasis
5.8	Neurasthenia and Mental fatigue.
6.	Mental Retardation:
6.1	Definition, Etiological factors - Prenatal, postnatal, infective, hormonal, congenital.
6.2	Types of mental retardation,
6.3	Clinical types-microcephaly, hydrocephalus, mongolism, family idiocy, phenylketonuria etc. Symptomatology of various grades of retardation, differential diagnosis and treatments.
7.	Child Psychology:
7.1	Behaviour Disorders: Nail biting, Enuresis, Truancy, Thumb sucking, Speech difficulties, Pica, Vomiting, Anorexia, delinquency.
8.	Introduction to dynamics of Psychophysical disorders:
8.1	Asthma, Skin rashes, Hypertension, Bowel disorders.
8.2	Introduction to treatment in psychiatry: Electro-Convulsive Therapy (ECT), Insulin, coma therapy.
8.3	Drug therapy - Tranquilizer, Mood elevators, hypnotics and sedatives, Psychotherapy - Deep and superficial, individual and group, expressive, suppressive, environmental manipulation, re-educative.
8.4	Introduction to Physiotherapy in psychiatric conditions
8.5	Introduction to Psychodrama in psychiatric conditions
8.6	Introduction to Play Therapy in psychiatric conditions

Recommended Study Materials:

Textbooks:

1. A short textbook of Psychiatry by Niraj Ahuja, Latest Edition, Jaypee Publications

Reference books:

1. Psychiatry and Behavioural Science by David Baron, Latest Edition, Temple University Press.
2. Shorter Textbook of Psychiatry by Paul Harrison, Latest Edition, Oxford University Press.



G. ELECTROTHERAPY

Course Outcomes

At the end of course, the candidate will be able to...

1. Know the principles, production, physiological effects, therapeutic uses, merits/ demerits, technique and effects of electrotherapy as a therapeutic modality in the restoration of physical function in conditions like nerve injuries.
2. List the indications and contraindications of various types of electrotherapy, demonstrate different techniques and describe their effects.
3. Apply different electrotherapeutic modality to patients.

SR. NO	TOPIC
1.	Low Frequency Currents
1.1	Faradic Current: Definition, Characteristic and modified faradic current, Parameters of faradic stimulation, Physiological and therapeutic effects of faradic-stimulation. Indication, Contra-indications and precautions, Techniques of stimulation- group muscle stimulation, Faradic foot bath, Faradism under pressure and pelvic floor muscle re-education
1.2	Galvanic Current: Introduction, types, characteristics, Parameters of stimulation, Physiological and therapeutic uses of stimulation, Precautions
1.3	Iontophoresis: Definition, principles of iontophoresis, physiological and therapeutic uses, indications, techniques of iontophoresis, principles of treatment, contraindications and dangers.
1.4	Transcutaneous Electrical Nerve Stimulation (TENS): Definition, types, Theories of pain modulation emphasizing on "Pain gate" theory, techniques of treatment, indication and contraindications
1.5	Other Current: Sinusoidal current
2.	Medium Frequency Current
2.1	Interferential current: Definition, characteristics, physiological & therapeutic effects, techniques of application, indications, contraindications and precautions
2.2	Other Currents: Introduction to Russian current, Di-dynamic current, High Voltage Pulsed Galvanic Stimulation (HVPGS) and Micro-currents
3.	High-Frequency Current
3.1	Short Wave Diathermy (SWD): Introduction, physiological effects and Therapeutic effects, methods of application (capacitor field method and cable method etc.) Techniques of treatment, indication, contra-indications and dangers.
3.2	Pulsed SWD: Definition, characteristics, mechanism of work, physiological effects and therapeutic effects, indications, techniques of application, principles of treatment and contra-indications
3.3	Ultrasonic Therapy (US): Introduction and characteristics, parameters, coupling media, therapeutic effects, indications contra-indications and dangers, testing of apparatus, techniques of application & dosage, Phonophoresis
3.4	Infrared Rays (IRR): Production of infrared rays, luminous and non-luminous generators, penetration, the technique of application, physiological effects and therapeutic uses of infra-red rays, duration and frequency of treatment, indications and contraindications,

dangers and precautions.
3.5 Ultra Violet Rays (UVR): Production, test dose, physiological effects of UVR dosimetry in UVR. Psoralen UVA (PUVA)
3.6 LASER: Introduction and characteristics, effects on tissue, therapeutic effects, principles of application, indications, contra-indications and dangers
3.7 Microwave Diathermy (MWD): Introduction and characteristics, physiological effects, therapeutics effects, techniques of application and principles of treatment, indications, contra-indications and dangers
4. Electro-Diagnosis
4.1 Faradic-Galvanic (FG) Test
4.2 Strength Duration (SD) Curve: Methods of Plotting SD Curve, Apparatus selection, Characters of Normally innervated Muscle, Characters of Partially Denervated Muscle, Characters of Completely denervated Muscle, Chronaxie & Rheobase.
4.3 Nerve conduction velocity studies: Introduction, physiology and basics of its application and uses
4.4 Electromyography (EMG): Introduction, physiology and basics of its application and uses
4.5 Late Responses: F-wave, H-reflex
5. Superficial Heating & Cryotherapy
5.1 Superficial heat modalities: Paraffin Wax Bath, Heating pad, Moist heat, Fluidotherapy, Whirlpool bath: Construction, Method of application, Therapeutic uses, Indications & Contraindications.
5.2 Cryotherapy: Definition, Principles, Latent heat of fusion, Physiological & Therapeutics effects, Techniques of Applications, Indications & Contraindications, Dangers, Methods of application with dosages.
5.3 Contrast Bath: Methods of application, Therapeutic uses, Indications & Contraindications.
6. Recent Advances
6.1 Computerization in electrotherapy
6.2 Combination therapy: Principles, therapeutic uses and indications like Ultrasound therapy with stimulation or Trans-Cutaneous Electrical Nerve Stimulation (TENS) etc.
6.3 Advanced Therapies: High-intensity Laser Amplification by Stimulated Emission of Radiation (LASER), Shockwave, Pulsed Electromagnetic Energy (PEME), Long Wave Diathermy (LWD), Variable Muscle Stimulation, Spinal Decompression, Pneumatic Compression therapy, Functional Electrical Stimulation (FES), Virtual Reality (VR) training.
6.4 Biofeedback: Introduction, principles, therapeutic effects, indications and contra-indications, techniques of treatment

Recommended Study Materials:

Textbooks:

1. Textbook of Electrotherapy - Jagmohan Singh
2. Electrotherapy explained - Low & Reed
3. Basics of Electrotherapy - Subhash Khatri

Reference books:

1. Clayton's electrotherapy (6th and 9th Ed.)
2. Clinical electrotherapy - Nelson & Currier



3. Clinical electrophysiology: Electrotherapy & electrophysiological testing – Andrew J. Robinson & Lynn Snyder Mackler

A handwritten signature in blue ink, appearing to read "A. Robinson", enclosed within a hand-drawn oval.

H.

RADIOLOGY
(Not for University Exam)

Course Outcomes

At the end of course, the candidate will be able to...

1. Identify the differences between normal and abnormal X rays of extremities, spine and chest and also in specific conditions like OA.
2. Understand other radio imaging techniques like MRI, CT, USG etc.
3. Apply the use of interpretation of radiography findings for assessment and treatment of the patients.

SR. NO	TOPIC
1.	Introduction to Radiology
2.	Importance of Radiology in Physiotherapy
3.	X-rays of fractures of different bones in the body
4.	X-rays of different stages of fracture healing
5.	X-rays of different Orthopedic conditions - Osteoarthritis, Rheumatoid arthritis
6.	Cervical & lumbar spondylosis, foot deformities etc.
7.	X-rays of common chest conditions
8.	Other imaging techniques
8.1	C.T. Scan,
8.2	M.R.I.,
8.3	Ultrasound,
8.4	Endoscopy,
8.5	Fluoroscopy,
8.6	Angiography,
8.7	3D reconstruction of bones & joints (What is it, Indication, Contraindication, Technique, Benefits vs. Risks, and Cost)

Recommended Study Material:

Reference books:

1. Chest X-ray interpretation - Michael Darby et al.
2. Bone and joint imaging - Donald Resnick



I. EAR, NOSE, AND THROAT (ENT)

(Not for University Exam)

Course Outcomes

At the end of course, the candidate will be able to...

1. Describe the anatomy and physiology of hearing and the use of audiometry in the assessment of hearing.
2. Understand diseases of E.N.T. emphasis on otitis media, Bell's palsy, sinusitis and rhinitis

SR. NO .	TOPIC
1.	Anatomy & Physiology of Hearing:
1.1	Assessment & Management of Hearing Loss
2.	Introduction to Disease of ENT:
2.1	Otitis media,
2.2	Sinusitis &
2.3	Rhinitis
3.	Facial Nerve Palsy:
3.1	Causes & Management
4.	Larynx & Associated functional paralysis with tracheostomy & Care of tracheostomy
5.	Vertigo:
5.1	Causes, Assessment & Management.

Recommended Study Materials:

Textbooks:

1. Principles and practice of medicine by – Davidson, 20th Edition, Churchill Livingstone Publication
2. Principles of Internal medicine - Harrison



J. OPHTHALMOLOGY

(Not for University Exam)

Course Outcomes

At the end of course, the candidate will be able to...

1. Describe the anatomy and physiology of hearing and the use of audiometry in the assessment of hearing.
2. Describe Common eye diseases, vitamin A deficiency, Eye lesion in leprosy and disorders of ocular movements in myasthenia gravis, progressive supranuclear palsy and lower motor neuron diseases.

SR. NO	TOPIC
1.	Common eye diseases, including Refractory errors, Conjunctivitis, and Trachoma.
2.	Cataract and glaucoma.
3.	Squint and ptosis.
4.	Eye lesions in leprosy, including causes treatment and complications of lagophthalmos.
5.	Causes, clinical features and treatment of disorders of ocular movement occurring in diseases such as myasthenia gravis, progressive supranuclear palsy and lower motor neuron diseases.
6.	Causes, clinical features, treatment and prognosis in inflammatory disorders, vitamin A deficiency, emphasis on preventable causes and prophylactic measures.
7.	Definition of blindness, and visual disability evaluation, investigative procedures used for testing visual failures.

Recommended Study Materials:

Textbooks:

1. Principles and practice of medicine by – Davidson, 20th Edition, Churchill Livingstone Publication
2. Principles of Internal medicine - Harrison



K. ETHICS & PROFESSIONAL PRACTICE & ALLIED THERAPEUTICS
(Basics only) (Not for University exam)

ETHICS

Course Outcomes

At the end of course, the candidate will be able to...

1. Appraise the evidence, do an economic evaluation of evidence and communicate the evidence to clients, managers and funders.

SR. NO .	TOPIC
1.	Ethical code of concept
2.	Communication skills
3.	Physiotherapist-patient relationship
4.	Interviews – Types of the interview, skills of interviewing

EVIDENCE-BASED PRACTICE & ICF

Course Outcomes

At the end of course, the candidate will be able to...

1. Able to critically appraise the evidence, do an economic evaluation of evidence and communicate the evidence to clients, managers and funders.
2. Understand the concept of Evidence-Based Practice and its implementation in Physiotherapy.
3. Search, review and use the evidence in Physiotherapy

SR. NO .	TOPIC
1.	Introduction to Evidence-Based Practice
1.1	Definitions, Evidence-Based Practice, Evidence-Based Physiotherapy Practice
2.	Concepts of Evidence-based Physiotherapy Awareness, consultation, judgment, creativity
2.1	Development of Evidence-based knowledge
2.2	The individual professional, professionals within a discipline, professionals across disciplines
3.	Evidence-Based Practitioner
3.1	The reflective practitioners, the E model
4.	The Disablement Process,
4.1	Models of Disablement,
4.2	Use of Disablement Models,
4.3	Classifications in Physical Therapy.

ALLIED THERAPEUTICS

Course Outcomes

At the end of the course, the candidate will be able to...

1. Incorporate dry needling as a treatment modality in their practice as clinically indicated.
2. Describe the various principles of Naturopathy concerning the body, health, disease and therapy, diagnosis, and management.
3. Analyse the therapeutic values of magnets in the treatment of various diseases.

SR. NO	TOPIC
1.	Acupuncture and acupressure: 1.1 Definition, 1.2 Principles, 1.3 Techniques, 1.4 Physiological and therapeutic effects, 1.5 Contraindications and dangers
2.	Introduction to Naturopathy
3.	Introduction to Magneto therapy
4.	Dry Needling (DN) 4.1 Introduction, 4.2 General practice 4.3 Guidelines, 4.4 Safety, 4.5 Principles, 4.6 Hygiene, 4.7 Patient-skin preparation, 4.8 Correlation with acupuncture 4.9 Electrical stimulation and dry needling

Recommended Study Materials:

Textbooks:

1. Alternative Therapies – Swati Bhagat
2. Trigger Point Dry needling – Paras Joshi

Reference books:

1. Physical rehabilitation, Susan B. O'Sullivan
2. Tidy's Physiotherapy – Stuart Porter

THIRD-YEAR SYLLABUS

A. GENERAL MEDICINE

Course Outcomes

At the end of course, the candidate will be able to...

1. Acquire the knowledge of Etiology, Pathophysiology, signs and symptoms and management in brief, of the infectious diseases, cardiovascular and respiratory disorders, auto-immune conditions, endocrinal disorder and nutritional disorder.
2. Acquire the knowledge in medicine that is required to be practised in the community and at all levels of the health care system.
3. Understand relevant investigations which will help to know about the important medical conditions.
4. Able to describe the principles of management at the medical intensive care unit including the practice of first aid/Cardiopulmonary Resuscitation (CPR)

SR. NO.	TOPICS
1.	Respiratory Diseases
1.1	Lung function tests
1.2	Pneumonia
1.3	Interstitial Lung Disease (ILD)
1.4	Cystic fibrosis
1.5	Respiratory failure
1.6	Upper Respiratory Tract Infection (URTI)
1.7	Pulmonary oedema
1.8	Pulmonary embolism lung abscess
1.9	COPD (Bronchiectasis, Emphysema, Chronic Bronchitis)
1.10	Asthma
1.11	Pleural effusion
1.12	Pneumothorax
1.13	Empyema
2.	Cardio Vascular Diseases
2.1	Rheumatic fever
2.2	Valvular lesions
2.3	Congestive cardiac failure
2.4	Ischemic heart diseases (Angina pectoris and myocardial infarction) stress test
2.5	Cardiac arrest hypertension
2.6	Peripheral vascular diseases (TAO, Raynaud's disease)
2.7	Cardiomyopathy
2.8	Congenital heart disease
2.9	Myocarditis
3.	Endocrinal Disorders
3.1	Diabetes mellitus
3.2	Obesity
3.3	Thyroid disorder

4.	Gastrointestinal Disorders
4.1	Peptic ulcer
4.2	Pancreatitis
4.3	Dysenteries and Diarrhea
4.4	Inflammatory bowel diseases
4.5	Jaundice
4.6	Cirrhosis of liver
5.	Infectious Disease
5.1	Tuberculosis
5.2	Malaria
5.3	Typhoid
5.4	Infective hepatitis
5.5	Tetanus
5.6	Covid-19
5.7	Mucormycosis
6.	Nutritional Disorder
6.1	Vitamins and their deficiencies
6.2	Disorders including rickets and osteomalacia
7.	Rheumatology
7.1	Rheumatoid arthritis
7.2	Ankylosing spondylitis
7.3	Gout
7.4	Osteoarthritis
7.5	Spondyloarthritis
7.6	Systemic lupus erythematosus
7.7	Polyarteritis nodosa
7.8	Mixed connective tissue disorders
7.9	Scleroderma.
8	Blood disorder
8.1	Anaemia
8.2	Hemophilia

Recommended Study Materials:

Textbooks:

1. Textbook of medicine by Golwala, 18th edition
2. Principles and practice of medicine by – Davidson, 20th Edition, Churchill Livingstone Publication

Reference books:

1. Practical medicine by – P J Mehta, 20th Edition.
2. P.C.DAS and P.K. DAS textbook of Medicine, 6th Edition, Current Books International Publication.
3. ACP Medicine by – Davis C Dale, 2004-2005 Edition, Churchill Livingstone Publication.



A. SKIN (DERMATOLOGY)

Course Outcomes

At the end of course, the candidate will be able to...

1. Acquire knowledge of the structure and function of the skin.
2. The student will also be able to describe etiology, clinical features and management of bacterial, fungal, viral, allergic, autoimmune skin diseases.
3. The student will acquire knowledge in sexually transmitted diseases and leprosy.

SR. NO	TOPIC
1.	Structure and functions of normal skin, primary and secondary skin lesions.
2.	Scabies and pediculosis.
3.	Fungal infections of the skin: Dermatophytosis, Pityriasis, Versicolor, Candidiasis.
4.	Bacterial infections of skin-impetigo / Boil.
5.	Viral infections of skin-Herpes zoster.
6.	Eczema / Dermatitis / Allergies.
7.	Psoriasis / Acne / Alopecia / Vitiligo and Leukoderma.
8.	Leprosy / Lepra - reaction/Physiotherapy in leprosy.
8.	Sexually transmitted diseases: Syphilis: primary & secondary, Gonorrhoea, Chancroid, AIDS.

Recommended Study Materials:

Textbooks:

1. Dermatology and sexually transmitted disease, Neena Khanna

Reference books:

1. ABC of dermatology. P. K. Buxton



B. NEUROLOGY

At the end of course, the candidate will be able to...

1. Understand the basic neurological conditions which commonly cause disability and their management.
2. Know the etiology, Classification, Pathology, Clinical Features, Relevant Investigations, Complications, Surgical & Non-Surgical Management of various Neurological Conditions.
3. Understand the importance of various investigations like haematological, biochemical, electrophysiological & radio imaging investigations in diagnosis as well as in the management of neuro conditions

SR. NO	TOPIC
1.	Lesions and diseases of various areas of the brain 1.1 Pyramidal system, 1.2 Extra-pyramidal system, 1.3 Cerebellar system, 1.4 Spinal cord, 1.5 Upper and lower motor neuron, 1.6 Cranial nerves, 1.7 Brachial plexus, 1.8 Lumbosacral plexus and peripheral nerves.
2.	Causes, Clinical features, management of various conditions: 2.1 Unconscious patient, 2.2 Hemiplegia, 2.3 Paraplegia, 2.4 Quadriplegia, 2.5 Cerebral diplegia, 2.6 Spastic child, 2.7 Foot drop and wrist drop.
3.	Disorders of cerebral circulation.
4.	Infections: 4.1 Encephalitis, 4.2 Meningitis, 4.3 Poliomyelitis, 4.4 Transverse myelitis, 4.5 Slow viral diseases.
5.	Diseases of Peripheral nerves: 5.1 Peripheral neuropathy, 5.2 Other neuropathies.
6.	Muscle disorders: 6.1 Myopathy, polymyositis, 6.2 Muscular dystrophies.

7.	Degenerative diseases:
7.1	Parkinsonism,
7.2	Myasthenia gravis,
7.3	Motor neuron diseases,
7.4	Spinocerebellar degenerations and diseases of anterior horn cell,
7.5	Dementia.
8.	Costo-clavicular syndrome.
9.	Demyelinating disorders including multiple sclerosis.
10.	The basic concept of electrophysiology and electromyography.
11.	Giddiness and vertigo.

Recommended Study Materials:

Textbooks:

1. Neurology and neurosurgery illustrated, Lindsay
2. Textbook of medicine by Golwala, 18th edition
3. Practical Medicine by P J Mehta
4. Physical rehabilitation, Susan B. O'Sullivan

Reference books:

1. Clinical Neuroanatomy by Vishram Singh, Latest Edition, Elsevier
2. Cash's Textbook of Neurology for Physiotherapists by Patricia A. Downie, Latest Edition, Jaypee Publication
3. Physiotherapy in Neuro-conditions by Gladys Samuel Raj, Latest edition, Jaypee Publication



D. PAEDIATRICS

Course Outcomes

At the end of course, the candidate will be able to...

1. Describe the normal development and growth of a child.
2. Describe neuromuscular, Musculoskeletal and cardiopulmonary conditions in children and also acquire the skill of clinical examination of a child concerning neurological musculoskeletal and respiratory functions.

SR. NO	TOPIC
1.	Growth and development of a child from birth to 12 years, including physical, social, adaptive development.
2.	The maternal and neonatal factors contributing to high-risk pregnancy, the neonate, inherited diseases, maternal infections - viral and bacterial, maternal diseases incidental to pregnancy, induced hypertension, chronic maternal diseases such as heart diseases, renal failure, tuberculosis, diabetes, epilepsy, bleeding in the mother at any trimester.
3.	Community programs: International (WHO), national and local, for prevention of poliomyelitis, blindness, deafness, mental retardation and hypothyroidism, the immunization schedule for children.
4.	Cerebral Palsy: Etiology - prenatal, perinatal and postnatal causes, pathogenesis, types of cerebral palsy (classification), findings on examination, general examination, examination of C.N.S., musculoskeletal system, respiratory system, G.I. Tract and nutritional status.
5.	Downs syndrome, Mental retardation, microcephaly, blindness, hearing and speech impairment, squint and convulsions.
6.	Prevention: Appropriate management of high-risk pregnancies, prevention of neonatal and postnatal infections, metabolic problems.
7.	Muscular Dystrophy: Various forms, modes of inheritance and clinical manifestation, physical findings concerning disabilities, progression of various forms and prognosis, treatment goals in forms that are not fatal.
8.	Spina Bifida: 8.1 Meningomyelocoele: Development, clinical features - lower limbs, 8.2 Bladder and bowel complications – Urinary Tract Infection (UTI). and 8.3 Hydrocephalus, medical management.
9.	Still's Disease: Classification, pathology, in brief, physical findings, course and prognosis, treatment, prevention and correction of the deformity.
10.	Acute C.N.S. infections: Classification (Bacterial and Viral), the acute illness, C.N.S. sequelae leading to mental retardation, blindness, deafness, speech defect, motor paralysis, bladder and bowel problems, seizure disorder and specific problems such as subdural effusion, hydrocephalus, pressure sores, feeding difficulties.
11.	Arnold Chiari Malformation, Basilar Impression, Klippel-Feil Syndrome, Achondroplasia, Cerebral Malformation, Autism, Dandi Walker Syndrome
12.	Normal diet of newborn and child: List dietary calorie, fat, protein, mineral and vitamin requirement in normal child and a child with malnutrition. childhood obesity. Etiology, findings, and treatment of rickets, vitamin D deficiency and resistant rickets.

13. Lung infections: Clinical findings, complications and medical treatment of bronchiectasis

Recommended Study Materials:

Textbooks:

1. Essential of paediatric, OP Ghai

Reference books:

1. Nelson textbook of Paediatrics



E. SURGERY

Course Outcomes

At the end of course, the candidate will be able to...

1. Able to describe preoperative evaluation, surgical indications and various surgical approaches in various abdominal, neurological & cardiothoracic conditions.
2. To remember surgical approaches in the form of line diagram and will be able to describe the components of soft tissue, cut to reach the target tissue and possible post operative complications in the movement & posture.
3. Describe the management of head injury, spinal surgeries, intracranial tumors, peripheral nerve injury, pain, wound, ulcer, burns.

GENERAL SURGERY & PLASTIC SURGERY & NEUROSURGERY

SR. NO	TOPIC
1.	Acute infections, Inflammatory fever, bacteremia, septicemia, pyemia, toxemia. Specific types - Cellulitis - sites lymphangitis, abscess with special reference to hand infection, carbuncle.
2.	Specific types continued: Tetanus, gas gangrene, hospital infection, cross-infection with modes of spread and prevention, General survey of chronic inflammations, Syphilis (reference to other venereal diseases) leprosy, actinomycosis.
3.	General survey of trauma, pathology and clinical features of wound repair - primary, secondary and tertiary wound healing, Clean wounds, contaminated wounds and infectious wounds, Principles of treatment, survey of factors affecting wound healing, Ulcers and gangrene, Post-operative complications of abdominal surgery specifically chest, wound infection, oedema.
4.	Burns as a specific type of severe trauma, classification, early and late complications, management & reconstructive surgery - skin grafting as an example of the plastic procedure.
5.	Types of skin grafting - take of grafting - healing of grafting, Post-operative care of plastic surgery with the specific role of physiotherapy.
6.	Outline of surgical disorders of brain-head injuries. A general survey of surgical disorders of the spine and spinal cord problem of paraplegia, malignancy - spread and its behaviour, various abdominal incisions, abdominal drainage tubes, catheters and nasogastric tubes, ward demonstration for an hour a day for one week.
7.	Anesthesia, O.T. demonstrations.
8.	Neck, skin contractures and correction.
2.	Problems of trauma to hand and their management
3.	Principles of cineplasty, tendon transplant, cosmetic surgery types of grafts, surgery of hands with emphasis on management of traumatic and leprosy hand.
4.	Breast – Surgery
5.	Neurophysiology - Neurophysiology, basis of tone, disorders of tone and posture, bladder

control, muscle contraction, movement and pain with clinical features and management of the following:
12.1 Congenital and childhood disorders - hydrocephalus spina bifida
12.2 Trauma - Broad localization, first aid and management of squeal of head injury and spinal cord injury.
12.3 Diseases of the Spinal Cord - Craniovertebral junction anomalies, syringomyelia, cervical and lumbar disc disease, tumors.
12.4 Peripheral nerve disorders - Peripheral nerve injuries, localization & management.
12.5 Entrapment neuropathies.
12.6 Intracranial tumors - Broad classification, signs and symptoms.
12.7 Pre-operative Assessment and indications and contraindication for neurosurgery in intracranial tumors.
12.8 Management of pain, electrical stimulation of the brain and spinal cord.
12.9 Miscellaneous.
Clinical: Operation Theater (O.T.) Visit

CARDIOTHORACIC SURGERY

SR. NO .	TOPIC
1.	Basic anatomy chest wall, trachea and bronchial tree, lungs and bronchopulmonary segments, pleura and mediastinum.
2.	Physiology and mechanics of breathing and use of mechanical breathing - ventilator: (respirators).
3.	Investigation of lung diseases including endoscopies.
4.	Chest injury.
5.	Common suppurative diseases of lung - Bronchiectasis, lung abscess.
6.	Bronchogenic carcinoma.
7.	Common surgeries of the chest.
1.1	Thoracoplasty,
1.2	Pulmonary dissections,
1.3	Thoracotomy
1.4	Pneumothorax,
1.5	Hydrothorax-Pneumothorax,
1.6	Empyema.
2.	Common diseases of the oesophagus and related conditions causing dysphagia.
2.1	Cholecystectomy,
2.2	Colostomy,
2.3	Ileostomy,
2.4	Gastrectomy,
2.5	Hernias,
2.6	Appendicectomy,
2.7	Mastectomy,
2.8	Nephrectomy,



2.9	Prostatectomy.
3.	Surgery of portal hypertension.
4.	Surgery of pulmonary tuberculosis.
5.	Surgery of heart and great vessels.
6.	Investigation of a patient undergoing cardiac surgery.
7.	Basic principles of open-heart Surgery, Heart-lung bypass (Extra Co-portal circulation).
8.	Common diseases of the heart requiring surgery both congenital and acquired including open-heart surgery.
9.	Common drugs used in cardiac surgery, their uses, side effects.
10.	Common vascular surgery:
1.1	Embolectomy,
1.2	Vascular reconstructive surgery, (Thrombosis, Embolism, atherosclerotic and occlusive vascular diseases including coronary artery bypass).
Clinical:	
1.	Examination of patients as regards chest & heart diseases.
2.	Demonstration - Acquaintances with C.T. Surgery.
3.	Equipments, I.C.C.U., O.T.
4.	Radiology - X-ray studies - X-ray chest in various lung diseases.

Recommended Study Materials:

Textbooks:

1. A manual on Clinical Surgery, S Das
2. Neurology and neurosurgery illustrated, Lindsay

Reference books:

1. Short practice of surgery, Bailey and Love

G. PHYSICAL & FUNCTIONAL DIAGNOSIS

Course Outcomes

At the end of course, the candidate will be able to...

1. Acquire the skill of detection & objective documentation of the Neuro-Musculoskeletal dysfunction such as Pain, altered muscle power, mobility, endurance, limb length, posture, gait, hand function & A.D.L.s.
2. Analyse & discuss the Physiological & Biomechanical bases of movement dysfunction
3. Acquire the skill of performance and interpretation of electrodiagnostic tests and Pulmonary Function Test
4. Analyse Arterial Blood Gas analysis and Exercise Tolerance Test

SR. NO	TOPIC
1.	<p>General principles of Human development & maturation</p> <p>1.1 Aspects: physical, motor, sensory, cognitive, emotional, cultural, social.</p> <p>1.2 Factors influencing human development & growth: Biological, environmental, inherited.</p> <p>1.3 Principles of maturation - in general - in anatomical directional pattern cephalocaudal proximodistal, centro-lateral, mass to a specific pattern, gross to fine motor development.</p> <p>1.4 Reflex maturation tests</p> <p>1.5 Development in specific fields: Oromotor development, sensory development, neurodevelopment of hand function.</p>
2.	<p>Electrodiagnosis</p> <p>2.1 Bioelectricity-Physiology of generation & propagation of action potential, volume conduction.</p> <p>2.2 Therapeutic current as a tool for Electrodiagnosis.</p> <p>2.3 Physiological principles, use of alternating & direct currents in electro-diagnosis such as sensory & Pain threshold, Pain tolerance, Short & long pulse test, S.D. curves, Chronaxie & Rheobase, accommodation ratio.</p> <p>2.4 Principles of nerve conduction studies, late responses.</p> <p>2.5 E.M.G. instrumentation, basic components, panel diagram, types of electrodes.</p> <p>2.6 Principles of Electromyography, motor unit –Normal characteristics-activity at rest, recruitment/frequency pattern at minimal activity, Interference pattern.</p>
3.	<p>Assessment of Neurological dysfunction</p> <p>3.1 Higher functions, cranial nerves, sensations & sensory organization, body image, tone, reflexes: superficial & deep, voluntary control, muscle strength, coordination, balance, posture, gait.</p> <p>3.2 Scales: Functional Reach Test (FRT), Berg's Balance, modified Ashworth, Glasgow Coma, Time Up & Go Test (TUG), Functional Independence Measure (FIM).</p> <p>3.3 Functional diagnosis using ICF.</p> <p>3.4 Interpretation of electrodiagnostic findings, routine biochemical investigations.</p>
4.	<p>Assessment of Musculoskeletal Dysfunction</p> <p>4.1 Tightness, deformity, joint mobility, muscle strength, limb length, trick movement, girth, posture, gait, special tests in various clinical conditions</p>

4.2	Functional diagnosis using ICF.
4.3	Interpretation of X-ray of extremities & spine, routine biochemical investigations, CT scan, MRI.
4.4	Assessment of pelvic floor muscle strength and function
4.4.1	Digital evaluation of vagina
4.4.2	Perineometer
4.4.3	Pad test.
4.5	Disability Evaluation: Gait and gait parameters, percentage of disability (temporary and permanent).
5.	Assessment of cardio-pulmonary dysfunction
5.1	Vital parameters, chest expansion, chest excursion, breath-holding test, breathe sounds, Rate of Perceived Exertion (RPE), Peak Flow Rate (PFR).
5.2	Exercise Tolerance: six minutes' walk test, shuttle test, theoretical bases of Bruce's protocol, step test.
5.3	Ankle Brachial Index, tests for peripheral arterial & venous circulation.
5.4	Functional diagnosis using ICF.
5.5	Interpretation of X-ray chest, routine biochemical investigations, ABG, PFT, ECG (normal values).
6.	Assessment of pain
6.1	Intensity & quality.
6.2	Objective assessment & documentation: VAS, Numerical Rating Scale. Other scales.
7.	Assessment of Hand
7.1	Sensations, mobility of joints, strength.
7.2	Special tests.
7.3	Hand function: Precision & power grips.
8.	Assessment of Obesity
8.1	Classification.
8.2	Assessment – BMI, Waist circumference, Waist – Hip Ratio.
8.3	Introduction to Quality-of-Life Questionnaire.
9.	Assessment of wounds.
Practicals: Skills to be practised on peer/model.	

Recommended Study Materials:

Textbooks:

1. Orthopaedic Physical Assessment, David J Magee
2. Muscles: Testing and Function, with Posture and Pain: 5th edition. Kendall FP; McCreary E. K. et al. Lippincott Williams and Wilkins

Reference books:

1. Practical Exercise Therapy: 3rd edition. Hollis M; Cook PF. Wiley-Blackwell



H. ORTHOPEDICS

Course Outcomes

At the end of course, the candidate will be able to...

1. Understand the pathophysiology, clinical manifestations and conservative/surgical management of various traumatic, non-traumatic & infectious cases of the musculoskeletal conditions.
2. Able to gain the skill of clinical examination and interpretation of the preoperative cold cases and all the post-operative cases.
3. Able to read and interpret pathological/biochemical studies and radio imaging of orthopaedic conditions and able to correlate the findings with the clinical findings

ORTHOPEDICS (TRAUMATIC)

SR. NO.	TOPIC
1.	Introduction:
1.1	Fracture,
1.2	Dislocation and injuries of the upper limb.
1.3	Briefly mention general principles of orthopedic surgery,
1.4	Definition and scope,
1.5	Brief history.
2.	Fracture & dislocations:
1.1	Causes,
1.2	Types,
1.3	Mechanisms,
1.4	Displacement,
1.5	General symptoms,
1.6	Healing,
1.7	Principles of treatment,
1.8	Complications,
1.9	Malunion,
1.10	Delayed union,
1.11	Non-union,
1.12	Myositis Ossificans,
1.13	Volkman's ischemic contracture,
1.14	Fat embolism,
1.15	Sudeck's osteodystrophy.
2.	Injuries to the hand:
2.1	Types (open, closed),
2.2	Principles of treatment,
2.3	Injuries to the phalanges,
2.4	Sprains,
2.5	Dislocations of MP & IP joints,
2.6	Fractures of the phalanges,
2.7	Metacarpals,
2.8	Bennet's fracture,
2.9	Mallet's finger,

2.10	Tendon injuries (flexor & extensor).
3.	Wrist & Forearm injuries:
3.1	Wrist dislocation,
3.2	Colle's fracture,
3.3	Displaced epiphysis,
3.4	Smith's fracture,
3.5	Barton's fracture,
3.6	Injuries to carpal,
3.7	Scaphoid and sprains,
3.8	Fractures of forearm bones – greenstick fracture.
3.9	Infraction injury,
3.10	Galeazzi,
3.11	Monteggia fracture dislocation.
4.	Injuries to the elbow:
4.1	Traumatic synovitis,
4.2	Sprain,
4.3	Dislocation of the elbow joint.
5.	Fractures involving elbow joint:
5.1	Supracondylar fracture,
5.2	Intercondylar fracture,
5.3	Fracture medial epicondyle,
5.4	Fracture of the lateral condyle,
5.5	Myositis ossificans,
5.6	Volkman's Ischemic Contracture,
5.7	Fracture of the head of the radius,
5.8	Fracture of Olecranon.
6.	Injuries of shoulder and arm:
6.1	Fractures of the proximal end,
6.2	Neck and shaft of humerus,
6.3	Fractures of clavicle,
6.4	Acromioclavicular and sternoclavicular dislocations,
6.5	Fractures of the scapula.
7.	Injuries of the spine and thoracic cage:
7.1	Injuries to the cervical spine (Both upper and lower), atlantoaxial injuries
7.2	Dorso Lumbar spine: classification, mechanism and types of injuries, stable fracture without paraplegia, fracture-dislocation with paraplegia, management of fracture, management of paraplegia, bedsores and bladder care.
7.3	Fracture of rib and sternum.
8.	Injuries of the pelvis:
8.1	Fractures,
8.2	Mechanism,
8.3	Classification,
8.4	Management,
8.5	Fractures of Acetabulum,
8.6	Sacrum and coccyx.

9.	Injuries of the lower limb:
9.1	Dislocations of the hip joint,
9.2	Intracapsular and trochanteric fractures of femur,
9.3	Fractures of the neck of femur,
9.4	Fracture of the shaft of the femur,
9.5	Fracture femur in children Fracture of femoral condyles,
9.6	Tibial condyles and patella.
9.7	Injuries to extensor mechanism,
9.8	Contusion,
9.9	Hemarthrosis,
9.10	Knee joint dislocation and traumatic dislocation of the patella
9.11	Fracture and fracture-dislocation of the ankle,
9.12	Epiphyseal injury lower end of tibia Foot fracture of talus,
9.13	Calcaneum,
9.14	Metatarsals and phalanges.
10.	Soft tissue injuries:
10.1	Ligamentous injuries of ankle,
10.2	knee and injury to Muscles.
10.3	Orthopedic splints and appliances for injuries to muscles and tendons.
11.	Tendon transfer:
11.1	Principles,
11.2	Indications,
11.3	Common tendon transfer surgeries.
12.	Amputation:
12.1	Types,
12.2	Site,
12.3	Ideal stump,
12.4	Complications,
12.5	General principles of treatment
12.6	Upper extremity and lower extremity amputations – prosthesis and prosthetic service
12.7	Principles of operative management,
12.8	Indications and contraindications for arthroplasty,
12.9	Osteotomy,
12.10	Arthrodesis,
12.11	Spinal stabilization,
12.12	Arthroscopy.
13.	Limb reattachment:
13.1	Principles,
13.2	Indications,
13.3	Technique.
Clinical: Operation Theater (O.T.) Visit	



ORTHOPEDECS (NON-TRAUMATIC)

SR. NO	TOPIC
1.	General Orthopedics
1.1	Clinical examination of an orthopedic patient, investigation, radiological and imaging techniques (salient features)
1.2	Deformities, acquired deformities, causes and principles of management, splinting
1.3	Traction: procedures, materials
1.4	Preventive orthopedics
1.5	Geriatric orthopedics
2.	Congenital disorders
2.1	Torticollis, wry neck, kyphosis, lordosis, scoliosis, spina bifida, myelomeningocele, congenital dislocation of the hip, congenital genu recurvatum, talipes equinovarus
2.2	Elevation of scapula, Madelung's deformity, coxa vara
2.3	Endocranialdystosis, superior radio-ulna dysostosis, sternocleidomastoid tumor
3.	Infection of bones & joints
3.1	Osteomyelitis (acute and chronic), Brody's abscess as a complication of open fracture
3.2	Skeletal tuberculosis, principles of treatment, T.B. of the shoulder, elbow and wrist T.B. of hip, knee ankle, and foot
3.3	Dactylitis, caries rib
4.	Arthritis
4.1	Osteoarthritis, Rheumatoid arthritis, A.S, Gouty arthritis, acute pyogenic arthritis, septic arthritis of infancy, smallpox arthritis, Syphilitic infection of joint.
5.	Bone tumors
5.1	Classification, true bone tumors- osteosarcoma, giant cell tumor, Ewing's sarcoma, chondroblastoma, chondrosarcoma, fibrosarcoma, lymphoma of bone, plasmacytoma
5.2	Bone metastasis: synovial sarcoma, hemangioma of bone, adamantinoma of long bones and chondroma
5.3	Tumor like lesions: osteoid osteoma, benign osteoblastoma, non-osteogenic fibroma, osteoma, osteochondroma and enchondroma
6.	Neurological and Muscular disorders
6.1	Definition, causes, clinical feature, complications, management (Multidisciplinary approach) medical and surgical of the following conditions: Cerebral palsy, Poliomyelitis, Leprosy
6.2	Muscular dystrophy – types and treatment
6.3	Injuries to plexus and nerves: Radial, Ulnar, Median, Brachial plexus, Sciatic and Lateral Popliteal
7.	Regional conditions of Spine and Lower limb
7.1	Back: Kyphosis, Scoliosis, Spondylolisthesis, Lumbosacral strain, intervertebral disc prolapse, fibrositis back, Lumbar canal stenosis, sacroiliac strain, spondylosis, spondylolysis
7.2	Hip: Slipped capital femoral epiphysis, idiopathic chondrolysis of the hip

7.3	Knee: Genu valgum, genu varum, tibia varum, genu recurvatum, quadriceps fibrosis, recurrent dislocation of patella, bursa around the knee, loose bodies in the knee, chondromalacia patella, Plica syndrome, Hoffa's pad syndrome,
7.4	Foot: Painful heel (calcaneal spur) Plantar fasciitis, Posterior heel pain, flat foot, foot strain, pain in the forefoot, Hallux valgus, anterior metatarsalgia, tarsal tunnel syndrome, Morton's neuroma
8.	Regional conditions of Neck and Upper limb
8.1	Neck: Cervical spondylosis, intervertebral disc prolapses, Cervical rib, torticollis, Brachialgia
8.2	Shoulder: Supraspinatus tendinitis, calcification, rupture of the rotator cuff, peri-arthritis shoulder, deltoid fibrosis, subarachnoid bursitis, Bicipital tendinitis
8.3	Elbow: Tennis elbow, Golfer's elbow, recurrent slipping of ulnar nerve, cubitus varus and Valgus
8.4	Wrist and Hand: Ganglion, De Quervain's disease, trigger finger, trigger thumb, carpal tunnel syndrome and Dupuytren's contracture
8.5	Miscellaneous: metabolic disease, rickets, osteomalacia, osteoporosis, parathyroid osteodystrophy, scurvy etc.

Recommended Study Materials:

Textbooks:

1. Essential Orthopaedics, Maheshwari

Reference books:

1. Essential Orthopaedics for Physiotherapist, John Ebnezar
2. Clinical Orthopaedic rehabilitation, S Bent Brotzman



I. PREVENTIVE HEALTHCARE AND COMMUNITY MEDICINE

Course Outcomes

At the end of course, the candidate will be able to...

1. Able to describe the concept of health and diseases, the natural history of diseases.
2. Able to describe the health care delivery system and able to describe the health problems of vulnerable groups and national health programmes.
3. Able to identify occupational health hazards and their management and describe the role of various health agencies, Non-Government Organisation (NGOs) at the international and national level.
4. Acquire the knowledge in preventive and curative measures that are required to be practised in the community and at all levels of the health care system

SR. NO	TOPIC
1.	The general concept of health & disease: Regarding the natural history of disease with pre-pathology phase
2.	The role of social economics in communities
2.	Epidemiology and scope
3.	Public health administration Overall view of the health administration setup and central and state levels. Health care delivery programs in urban and rural areas, health and population Statistics
4.	The national health programs Highlighting the role of social, economic and cultural factors in the implementation of the national programs
5.	Health problems of vulnerable groups Pregnant and lactating women, infants and pre-school children, occupational groups and geriatrics
6.	Occupational health
7.1	Definition, scope, occupational diseases and hazards
7.2	Social security and other measures for the protection from occupational hazards, accidents and diseases
2.	Family planning
8.1	Objectives of national family planning programs and family planning methods
8.2	The general idea of advantages and disadvantages of methods
3.	Mental health Community aspects of mental health: role of physiotherapists/therapists in mental health problems such as mental retardation
4.	Nutrition and Health Classification of foods, nutritional profiles of principal foods, nutritional problems in public health, community nutrition program
5.	Environment and Health Components of environment, water and air pollution and public health:

Pollution control, disposal of waste, medical entomology	
12.	Communicable diseases & Non-communicable disease:
12.1	Communicable disease: Respiratory infections, Intestinal infections, Arthropod-borne infections, Zoonoses, Surface infections, Hospital-acquired infections
12.2	Non-communicable diseases and conditions: Cardiovascular diseases, Coronary heart disease, Hypertension, Stroke, Rheumatic heart disease, Cancer, Diabetes, Obesity, Blindness, Accidents and Injuries.
2.	An overall view of communicable diseases classified according to the principle mode of transmission. Role of insects and other vectors
3.	International health agencies
4.	Principles and process of communication
5.	Information Education and Communication (IEC)
6.	Health education
17.1	Philosophy, main principles and objectives
17.2	Methods and tools of health education individual and group methods
17.3	The role of the profession in health education
17.4	Role of another person in health education, co-ordination and co-operation, health education with other members of the health team
17.5	Elements of planning health education program
7.	Hospital waste management Sources of hospital waste, health hazards, waste management
8.	Disaster Management Natural and manmade disasters, disaster impact and response, relief phase, epidemiologic surveillance and disease control, nutrition, rehabilitation, disaster preparedness.
9.	Preventive medicine in obstetrics, pediatrics and geriatrics
10.	MCH problems, antenatal, intranatal and post-natal care, care of children, child health children, rights of the child and national policy for children, MCH services and indicator and MCH care.
11.	Preventive practice for various conditions
22.1	Prevention practice for musculoskeletal conditions
22.2	Prevention practice for cardiopulmonary conditions
22.3	Prevention practice for neuromuscular conditions
22.4	Prevention practice for integumentary disorders
22.5	Prevention practice for individuals with developmental disabilities

Recommended Study Materials:

Textbooks:

1. Park's textbook of preventive and social medicine

Reference books:

1. Textbook of Preventive Practice and Community Physiotherapy, Bellare Bharati Vijay
2. Essentials of Community-based Rehabilitation, Satya Bhushan Nagar

J. PROFESSIONAL PRACTICE & ETHICS
(Not for University exam)

Course Outcomes

At the end of course, the candidate will be able to...

1. At the end of the course, students should be able to critically appraise the evidence, do an economic evaluation of evidence and communicate the evidence to clients, managers and funders.

ETHICS

SR. NO	TOPIC
1.	Collecting data on psychosocial factors in Medicine/Surgery/Reproductive Health/Pediatrics
2.	Inter-professional communication
3.	Ethics in clinical practice

EVIDENCE-BASED PRACTICE & ICF

SR. NO	TOPIC
1.	Finding the Evidence Measuring outcomes in Evidence-Based Practice, measuring health outcomes, measuring clinical outcomes, inferential statistics and causation
2.	Searching for the Evidence: Asking questions, identifying different sources of evidence
3.	Assessing the Evidence Evaluating the evidence; levels of evidence in research using quantitative methods, levels of the evidence classification system, outcome measurements, biostatistics, the critical review of research using qualitative methods
4.	Systematically reviewing the evidence Stages of systematic reviews, Meta-analysis, the Cochrane collaboration
5.	Using the evidence Building evidence in practice, Critically Appraised Topics (CATs)
6.	International Classification of Function, Disability and Handicap

Recommended Study Materials:

Textbooks:

1. Practical evidence-based Physiotherapy (English, Paperback, Sir Iain Chalmers)

Reference books:

1. Guide to Evidence-Based Physical Therapist Practice (English, Hardcover, Jewell Dianne)


 Principal
 Faculty of Physiotherapy

Course having focus on
Employability
Entrepreneurship
Skill development
during last five years in
B.Tech Civil Engineering
(2017-2022)

Elements of Civil Engineering
01CI1101
Objective of the Course:

- To impart brief fundamental concept related to various materials and their use in building construction
- To acquaint about the concept of linear, angular and elevation measurements.
- To verse about current and modern constructional practices.

Credit Earned: 04
Students learning outcomes:

After successful completion of the course it is expected that student will be able to,

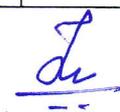
1. Recognize importance of civil engineering and its day to day applications
2. Interpret the plan/map; locate the objects on ground from map and from site to on paper plan/map.
3. Describe qualitative comparison between different materials and its selection.
4. Create & interpret building planning and will be able to draw plan, section and elevation.
5. Acquaint with the various modes of transportation.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA (M)	CSE (I)	Viva (V)	Term Work (TW)	
03	0	02	04	50	30	20	25	25	150

Detailed Syllabus

Sr No.	Title of the unit	Number of hours
1	Overview of Civil Engineering	03
	Evolution and broad disciplines of civil engineering, works of eminent civil engineers, scopes for a career as a civil engineer, construction as an industry, building & town planning, development of smart cities, common units used in practice of civil engineering & unit conversion, Construction Project Management.	





2	Surveying & Leveling	17
	Introduction: Applications, fundamental principles and classification of surveying, classification of plans & maps. Linear Measurement: Methods, instruments used in linear measurement, selection of stations, ranging, offsetting. Angular Measurement: Instruments used types of compass, types of meridians and bearings, measurement of bearings, computation of angles, compass traversing and correction of bearings for local attraction. Leveling: Aims and applications, definition of various terms, instruments for leveling, methods of leveling, recording observations in level-book, computing reduced levels by HI and rise & fall method, definition of contour, characteristics of contours of different terrains and application of contour maps. Modern Surveying Tools: Introduction to theodolite, total station, GIS, GPS & remote sensing.	
3	Building Materials	09
	Stone: Introduction to stone, uses of stone, characteristics of good building stone, availability, suitability and properties of different stone. Bricks: Comparison between stone work and brick work, advantages of bricks, characteristics of good brick, standard test for brick along with field test for brick. Lime: Classification of lime, precautions in handling lime. Cement: Basic ingredient of ordinary cement, physical properties of cement, field examinations of cement, storing of cement and its uses. Timber: Introduction to timber, importance of seasoning, wood base product. Steel: Introduction, use of different form of steel, marketable forms of steel. Aggregates: Classification, source, mechanical properties. Bitumen: Classification, properties. Plastic: Properties of plastics, types and uses of plastic.	
4	Building Planning & Construction	06
	Classification of buildings, types of load acting on building, building components & their functions, principles of planning, conceptual planning of residential & public building	
5	Transportation Engineering	05
	Role of transportation in national development, modes of transportation, types of roadways, introduction to traffic engineering, introduction to urban transportation system	
6	Advancement in Civil Engineering	02
	Building automation, green building, advanced materials, sky scrapers, civil engineering wonders in the world	
	Total	42

List of Practical

- 1) **Linear Measurement.**
- 2) **Perimeter Measurement.**
- 3) **Area Measurement.**
- 4) **Angular Measurement.**

- 5) Profile Leveling Survey Project.
- 6) Basics sign & conventional symbols.
- 7) **Building planning drawing sheet.**

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
30%	30%	10%	10%	10%	10%

Instructional Method and Pedagogy:

1. At the start of course, the course delivery pattern, prerequisite of the subject will be discussed.
2. Lectures will be taken in class room with the use of multi-media presentations, black board – mix of both.
3. Attendance is compulsory in lectures and laboratory which carries a 5% component of the overall evaluation.
4. Minimum two internal exams will be conducted and average of two will be considered as a part of 15% overall evaluation
5. Assignments based on course content will be given to the students at the end of each unit/topic and will be evaluated at regular interval. It carries a weightage of 5%.
6. Surprise tests/Quizzes will be conducted which carries 5% component of the overall evaluation.
7. The course includes a laboratory, where students have an opportunity to build an appreciation for the concepts being taught in lectures. Minimum 8 experiments are planned based on the course content.

Recommended Study Material**Text Books:**

1. Introduction to civil Engineering by Bhogayata, Shah & Vora – Tata McGraw hill.





Reference Books:

1. Surveying Vol. I by B.C. Punamia.
2. Building construction by B.C. Punamia.
3. Building Material by S.C.Rangwala.
4. Highway & Transportation engineering by Khanna & Justo.

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DIFFERENTIAL AND INTEGRAL CALCULUS
01MA2101
B.Tech. (Sem I)
Objective of the Course:

This subject aims to provide an essential background of differential and integral calculus to students of science and engineering courses at graduate level. A good science or engineering graduate is expected to have a sound knowledge of these two areas of mathematics as Differential and integral calculus are essential tools for learning Technology, Engineering and Sciences.

Credit Earned: 5
Course outcomes:

After successful completion of the course, it is expected that student will be able to

1. Appreciate and apply the concepts of convergence and divergence of infinite series in problem of science, technology and engineering.
2. Solve first order differential equations and will be able apply them to solve real life problems.
3. Explain the Euler's theorem and Modified Euler's theorem and will be able to verify it for given function of several variables.
4. Understand the role of multiple integral in finding volume of three dimensional objects, finding area between to two curves, finding moment of inertia etc.
5. Understand the key role of vector integral calculus in finding flux in vector field, finding potential function, etc.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
3	2	0	5	50	30	20	25	25	150



Contents:

Sr No.	Title of the unit	Number of hours
1	Infinite Series and Expansion of functions: Concept of sequence, nature of infinite series, Properties for convergence, geometric series, Tests for convergence of positive term series, Concept of Expansion of functions, Taylor's series expansion, and Maclaurin's series expansion.	12
2	Ordinary Differential Equations: Reorientation, order and degree, Variable separable method, Linear differential equations, Bernoulli's and Exact differential equations.	08
3	Partial differentiation and Applications of Partial differentiation: Partial derivatives, Euler's theorem, Modified Euler's theorem and their applications, Implicit functions, Chain rule, Total differentials, Tangent plane and normal line to a surface, Constrained optimization using Lagrange's multiplier.	12
4	Multiple Integrals: Calculation of double and triple integrals, reverse the order of integration, Jacobian, change into polar.	10
5	Vector differential calculus and Vector Integral calculus: Recall the concept of vector algebra, Scalar and vector functions, gradient of a scalar point functions, Divergence and Curl of a vector point function, Physical meaning of gradient, divergence and curl, directional derivatives, Conservative vector fields, Irrotational and Solenoidal function., Line integrals, Path Independence of Line Integrals, Green's theorem	10
Total Hours		52

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution Serves as guidelines for teachers and students to achieve effective teaching-learning process. Distribution of Theory for course delivery and evaluation

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
20%	20%	30%	15%	10%	5%



Instructional Method:

1. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
2. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
3. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
4. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Reference Book:

1. M. D. Weir et al : Thomas' Calculus, 11th Ed., Pearson Education, 2008.
2. Stewart James: Calculus Early Transcendental, 5th Ed., Thomson India, 2007
3. Wylie & Barrett: Advanced Engineering Mathematics, McGraw-Hill pub.
4. Greenberg M D: Advanced Engineering Mathematics, 2nd ed., Pearson
5. Erwin Kreyszig, Advanced Engineering Mathematics, 9/ e, John Wiley, INC
6. H. K. Dass, Advanced Engineering Mathematics, S Chand Publishing.

Web Resources

1. www.scilab.org/
2. <http://nptel.ac.in/>
3. <http://ocw.mit.edu/>
4. [.http://mathworld.wolfram.com/](http://mathworld.wolfram.com/)
5. <http://en.wikipedia.org/wiki/Math>



**Syllabus for Bachelor of Technology
 Civil /Auto/ Chemical/ Mechanical Engineering**

Subject Code: 01MA0103

Subject Name: Matrix Algebra and Vector Space

B.Tech. Year – I (Sem : II)

Objective: This subject aims to provide fundamentals of matrix algebra and vector calculus. The topics delivered in the paper are essential for engineering graduate-level courses.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, students will be able to.

- Apply vectors in higher dimensional space in experimental data, graphical images, civil and mechanical systems.
- Apply a System of linear equations in solving the problems of electrical and mechanical engineering, applied mechanics etc.
- Apply the concept of Eigenvalues and vectors in various fields of engineering like control theory, vibration analysis, quantum mechanics, etc.
- Understand the key role of vector integral calculus in finding flux in a vector field, finding potential function, etc.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
3	2	-	5	50	30	20	25	25	150



**Syllabus for Bachelor of Technology
Civil /Auto/ Chemical/ Mechanical Engineering**

Contents:

Unit	Topics	Contact Hours
1	Matrix Algebra - I: Definitions of some basic types of Matrices, Row Echelon form and Reduced Row Echelon form, Rank by row operation and determinant, Consistency of system of linear equations by Gauss Elimination and Gauss Jordan Method, Inverse of matrix by Gauss Jordan Method.	09
2	Matrix Algebra -II: Eigen values and Eigen vector of matrix, AM and GM, Cayley- Hamilton theorem, Diagonalization, Orthogonally Diagonalization, Quadratic form, Value class (Nature), Index and Signature of Quadratic form, Canonical forms.	12
3	Vector space: Vector space, Subspace, Linear dependence and independence of vectors, Span, Basis and dimension of vector space, Inner product spaces and their properties.	12
4	Vector calculus: Recall the concept of vector algebra, Scalar and vector functions, gradient Divergence and Curl, directional derivatives, Conservative vector fields, Irrotational and Solenoidal function. Line integrals, Path Independence of Line Integrals, Concept of surface integrals , Green's theorem, Stoke's theorem and Divergence theorem.	10
5	Improper integrals: Improper integrals of type I and type – II , Convergence of Improper integrals.	02
6	Application of Linear Algebra by MATLAB: Introduction to MATLAB, some basic MATLAB command related to Matrices, Row Echelon form and Reduced Row Echelon form, Rank of Matrix, Solution of system of Linear equation, Inverse of Matrix, Characteristic polynomial of Matrix, Eigen value and Eigen vector of Matrix, Power of Matrix.	To be covered in Tutorial hours
	Total Hours	45

Recommended Textbooks:

1. Introduction to Linear Algebra with Application, Jim DeFranza, Daniel Gagliardi, Tata McGraw-Hill.
2. Elementary Linear Algebra, Applications version, Anton and Rorres, Wiley India Edition.
3. Advanced Engineering Mathematics, Erwin Kreysig, Wiley Publication.
4. Elementary Linear Algebra, Ron Larson, Cengage Learning.
5. Calculus, Volumes 2, T. M. Apostol, Wiley Eastern.
6. Linear Algebra and its Applications, David C. Lay, Pearson Education.
7. Linear Algebra: A first course with Applications in MATLAB, Larry E. Knop, CRC Press.



**Syllabus for Bachelor of Technology
 Civil /Auto/ Chemical/ Mechanical Engineering**

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
20%	20%	30%	15%	10%	5%

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc .
- b. The internal evaluation will be done based on continuous evaluation of students in the laboratory and class -room.
- c. Practical examination will be directed toward the completion of semester for assessment of performance of understudies in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. <http://mathworld.wolfram.com/>
2. <http://en.wikipedia.org/wiki/Math>





Subject Code: 01EN1101

Subject Name: Basics of Environmental Studies

B. Tech. Year – I (Semester II)

Objective: Students should gain basic understanding of Environment and environmental issues.

Course Outcomes: After completion of this course, student will be able to:

1. Understand and realize the multidisciplinary nature of Environment & its components.
2. Know the importance of natural resources for the sustainable development of life.
3. Understand the effect of growing population on the Environment.
4. Classify the different types of pollution and measure to control pollution
5. Learn about the Environmental issues faced globally and various steps taken globally to solve such Environmental issues.

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial / Practical Marks		Total Marks
Theory	Tutorial	Practical		E	I		V	T	
				ESE	IA	CSE	Viva	Term Work	
2	0	0	0	50	30	20	00	00	100

Contents:

Unit	Topics	Contact Hours
1	Introduction and Ecology Introduction to Environment, Ecology – scope and classifications, Ecosystem - Concept and types, Environmental degradation, Impact of humans on environment, role of environmental education	6
2	Population and Environment Factors Affecting Human Settlement, Define Over Population & Explain the Cause, Effect on Environment & Control of it, Methods of Population forecasting	5
3	Environmental Resources Forest resources, Energy resources, Water Resources and Land Resources	6
4	Environmental Pollution Water pollution, Air & Noise Pollution, Environmental sinks, solid and hazardous waste, E-waste & Biomedical waste, Introduction to Green chemistry	6



5	Global Environmental Issues Greenhouse Effect, Global warming, ozone layer depletion, Climate change, Acid Rain, Global Efforts to control issues	3
6	Governmental bodies for Environmental protection	2
Total Hours		28

Suggested Text books / Reference books:

1. Basics of Environmental Studies by U K Khare, 2011 Published by Tata McGraw Hill
2. Environmental Science A Global Concern by William P. Cunningham and Mary Ann Cunningham Published by Tata Mc Graw Hill

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process.

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
40%	30%	20%	10%	-	-

Instructional Method:

1. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
2. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
3. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory





Subject Code: 01ME1104

Subject Name: Workshop

B.Tech. Ist Year Semester: II

Type of course: Under Graduate

Prerequisite: Zeal to learn subject

Rationale: Mechanical Workshop is of paramount importance for the engineering students to enhance their technical skills as per the need of industries. Practice of engineering workshop make students aware about practical work in industrial environment as well as day-to-day life work.

Course Outcome:

After learning the course, the students will be competent to

1. Apply knowledge of hand tools, power tools and safety related rules and regulations
2. Apply knowledge of conventional machining processes
3. Apply knowledge of advanced manufacturing processes
4. Apply knowledge of manufacturing processes of composite materials

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks					Total Marks
L	T	P		Theory Marks			Practical Marks		
			ESE(E)	IA	CSE	Viva (V)	Term Work (TW)		
0	0	2	1	0	0	0	0	50	50

Content:

Sr. No.	Content	Total Hrs.
1	<p>Introduction: Introduction to mechanical workshop its plan and layout. Learn about various safety related rules and regulation.</p> <p>Demonstration of various tools which are used in workshop like hand tools, power tools, various measurement equipment, study of different types of materials, various processes like Finishing, Marking, Cutting, Smoothing, Bending etc.</p>	04



2	Fitting Shop and Carpentry Shop Demonstration of fitting and carpentry job and make job physically	08
3	Metal Removing Operations Introduction to Lathe machine, Various parts of Lathe machine, Various operations on lathe machine	04
4	Laser Cutting Operation Introduction to 2D CAD drawing, exporting 2D drawing to software, Principle of Laser cutting machine, Demonstration of laser cutting operation.	04
5	Additive Manufacturing Introduction to Additive Manufacturing, use of 3D models in additive manufacturing, demonstration of 3D printing process	04
6	Manufacturing of composite materials Introduction to composite materials, different manufacturing methods of composite materials, materials used for manufacturing of composite materials, GFRP manufacturing	04

List of Experiments:

1. Fitting job and Carpentry job
2. Metal removing operations on lathe machine
3. Laser cutting operation
4. Manufacturing of prototype using 3D printer
5. Manufacturing of GFRP composite

Major Equipment:

1. Hand tools and Power tools
2. Bench vise
3. Lathe machine
4. Laser cutting machine
5. 3D printer

Reference books:

1. Elements of Workshop Technology, Volume-2: Machine Tools, S.K. Hajra Choudhury, Nirjhar Roy, MPP Publication
2. The Laser Cutting Process: Analysis and Applications, Bekir Sami Yilbas, Elsevier Publication



3. Additive Manufacturing Technologies: 3D Printing, Rapid Prototyping and Direct Digital Manufacturing, Ian Gibson, David Rosen, Brent Stucker, Springer
4. Composite Materials: Science and Engineering, Krishan K Chawla, Springer

List of Open Base Software / learning website:

1. NPTEL Courses

A handwritten signature in blue ink, appearing to be 'Dr. [unclear]', with a horizontal line underneath.

01SL0102: Reading and Writing for Technology
Objectives:

1. To introduce students to fundamentals of reading and writing skills
2. To enable them to comprehend texts of technical and analytical nature
3. To enable them to carryout different writing tasks in the context of technology

Credits Earned: 2 Credits

Course Outcomes: After completion of this course, student will be able to

- To enhance reading skills for academic purposes.
- To evolve appropriate writing competence for academic purposes.
- To carry out reading and writing tasks in the context of technology and technology related content.
- To express their ideas in formal, academic written form

Pre-requisite of course: NA.

Teaching and Examination Scheme*

Teaching Scheme (Hours per week)	Evaluation Scheme					Total Marks	
	Practical	ESE	IA	CSE	Viva		Term Work
2 Hours		00	30	20	25	25	100

Contents:

Unit	Topics	Contact Hours
1	1. History/ Story of Technical Writing 2. English in Technical Communication	04
2	1. Know your textbook: Exploring the textbook, its parts and purposes 2. Approaching reading: Reading Strategies 3. Reading for Various Purposes: reference books, stories, articles, technical surveys, reports, blog posts, & reviews	09
3	1. Understanding the writing process: Thinking about writing processes, key Attributes of academic and technical texts	17



	<p>2. Writing process - Visualizing your text</p> <p>3. Approaching Writing: Writing Strategies</p> <p>4. Understanding various forms of writing: essay, case study, research paper, term paper, maths/physics problems, lab report, book report/review, surveys, blog posts, & dissertation</p> <p>5. Writing for various purposes: essays, writing answers in exam, lab reports, process and instructions, reviews, blog post, & assignments</p>	
	Total Hours	30

References: (Recommended Reading and Viewing)

1. For Unit -1
 - a. Tavia, Yasmin. "Story of Technical Writing." *YouTube*, 28 March 2016, <https://www.youtube.com/watch?v=QomPdtZa4k>. Accessed 30 June 2017.
 - b. AbodeTCS. "Future of TechComm." *YouTube*, 16 July 2012, <https://www.youtube.com/watch?v=dSdhnyDF0YY>. Accessed 30 June 2017.
 - c. Lowe, Janet. *Google Speaks: Secrets of World's Greatest Billionaire Entrepreneurs, Sergey Brin and Larry Page*. John Wiley & Sons, 2009.
 - d. Howard, Nicole. *The Life Story of a Technology*. Greenwood Press, 2005.
2. For Unit – 2
 - a. "Engineering Stories." *Engineering Stories*, 2017, <https://engineerstories.com/>. Accessed 30 June 2017.
 - b. "10 Breakthrough Technologies 2017." *MIT Technology Review*, 2017, <https://www.technologyreview.com/lists/technologies/2017/>. Accessed 30 June 2017.
 - c. High, Peter. "Top 10 Technology Stories of 2016." *Forbes*, 4 Jan. 2017, <https://www.forbes.com/sites/peterhigh/2017/01/04/top-ten-technology-stories-of-2016/2/#2d72b2be9de7>. Accessed 30 June 2017.
3. For Unit – 3
 - a. Teaching and Learning Resources for Me. "Understanding the Purpose of Different Types of Texts." *YouTube*, 12 Sept. 2015, <https://www.youtube.com/watch?v=IZtxWTK7tpk>. Accessed 30 June 2017.
 - b. Galloway, Bek. "Purposes and Text Types." *YouTube*, 30 Sept. 2016, <https://www.youtube.com/watch?v=-LULx42tOA4&t=34s> . Accessed 4 July 2017.
 - c. Kane, Thomas S. *The Oxford Essential Guide to Writing*. Berkeley, 2000.

Suggested Theory distribution:

NA



Suggested List of Experiments:

NA

Instructional Method:

NA

*** Teaching and Examination Scheme**

1. IA will consist of the following components: (30 Marks)

Assignments (20 Marks): Students will write three assignments. (Two assignments of 5 marks each and one assignment of 10 marks)

In-Class Participation (10 Marks)

2. CSE: (20 Marks)

(Term Paper-20 Marks): An article on the topics given.

3. Viva (25 Marks):

Viva will be conducted at the end of the semester. It will be based on the CSE, Term Work, Assignments and topics covered in the syllabus.

4. Term Work (25 Marks)

(Term-End Presentation): Students will make a presentation based on their term paper at the end of the semester.

Supplementary Resources:

1. Anderson, P. *Technical Communication*. Harcourt Brace, 1998.
2. Cox, Kathy, and David Hill. *Eap Now!: English for Academic Purposes*. Pearson Australia, 2011.
3. Doren, Charles Van, and Mortimer J. Adler. *How to Read a Book*. Washington Square Press, 1974.
4. Emden, Joan Van. *Writing for Engineers*. Palgrave Macmillan, 2005.
5. Glendinning, Eric H., and Beverly Holmström. *Study Reading: A Course in Reading Skills for Academic Purposes*. Cambridge University Press, 2012.
6. Hamp-Lyons, Liz, and Ben Heasley. *Study Writing: A Course in Writing Skills for Academic Purposes*. Cambridge University Press, 2013.
7. Langan, John, and Judith Nadell. *Doing Well in College: A Concise Guide to Reading, Writing, and Study skills*. McGraw-Hill Book Col., 1980.
8. Vise, David A., and Mark Malseed. *The Google Story*. Bantam Dell, 2008.



01SL0103: Speaking and Presentation Skills
Objectives:

1. To introduce students to the basics of speaking and presentation skills
2. To impart training regarding the form and manner of speaking for academic purposes
3. To impart training regarding preparing for and making an effective presentation

Credits Earned: 2 Credits

Course Outcomes: After completion of this course, student will be able to

- Develop speaking competence for academic purpose.
- Speak on a given topic in the context of technology.
- Express ideas in an organized way for conversations and interactions related to academic requirements.
- Enhance the ability to make a presentation on a given topic.
- Develop speaking competence for academic purposes.

Pre-requisite of course: NA.

Teaching and Examination Scheme*

Teaching Scheme (Hours per week)	Evaluation Scheme					Total Marks	
	Theory	ESE	IA	CSE	Viva		Term Work
2 Hours		00	30	20	25	25	100

Contents:

Unit	Topics	Contact Hours
1	1. Greetings 2. Introducing self and peers 3. Asking and sharing information 4. Expressing points of view 5. Discussions	17



	6. Facing viva voce 7. Group discussions 8. Facing an interview (interview skills)	
2	1. Introduction to effective presentation skills 2. Preparing the presentation (Collection of Data/Information, exploring the topic etc.) 3. Using ICT for the presentation 4. Getting ready for the presentation 5. Effective body language 6. Effective pronunciation 7. Interacting with the audience (Q & A) 8. Practice (with video recording) 9. Feedback and Suggestions	13
	Total Hours	30

References: (Recommended Reading and Viewing)

1. Select TED Talks
2. Select INK Talks
3. Select Toastmasters Videos
4. Select Courtroom Dramas
5. Select Videos of speakers like Steve Jobs, Sundar Pichai etc.

Suggested Theory distribution:

NA

Suggested List of Experiments:

NA

Instructional Method:

NA

*** Teaching and Examination Scheme**
1. IA will consist of the following components: (30 Marks)
Assignments (20 Marks): Students will write three assignments. (Two assignments of 5 marks each and one assignment of 10 marks)

In-Class Participation (10 Marks)


2. CSE: (20 Marks)

(Term Paper-20 Marks): An article on the topics given.

3. Viva (25 Marks):

Viva will be conducted at the end of the semester. It will be based on the CSE, Term Work, Assignments and topics covered in the syllabus.

4. Term Work (25 Marks)

(Term-End Presentation): Students will make a presentation based on their term paper at the end of the semester.

Supplementary Resources:

1. "Communication." themuse. 2017.
<https://www.themuse.com/tags/communication>. Accessed 4 July 2017.
2. Presentation Magazine. 2017. <https://www.presentationmagazine.com/>. Accessed 4 July 2017.
3. "Presentation Skills." *SKILLS YOU NEED*. 2017.
<https://www.skillsyouneed.com/presentation-skills.html>. Accessed 4 July 2017.
4. Siddons Suzy. *The Complete Presentation Skills Handbook*. Kogan Page, 2008.
5. Sprague Jo, and Douglas Stuart. *The Speaker's Handbook*. 8th ed., Thomson Wadsworth, 2008.



Subject Code: 01CR1103
Subject Name: Value Education
B. Tech Year – I (Semester I , 1st year) (Level - 1)
Branch:

Objective: This course shall enrich students' value system, creativity, competence and confidence. It will enhance the softer aspects of life skills of students through the games, activities, group interactions and videos.

Credits Earned: No Credits

Course Outcomes: After successful completion of this course, student will be able to

- Understand importance of role of Values in developing self
- Inculcate right values, ethics, attitudes, manners and behaviors for life
- Respond and relate with expectations, competitions and power of networking

Pre-requisite of course: NA.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW = CCE)	
2	0	0	0	00	00	00	50	50	100

Contents:

Unit	Topics	Contact Hours
1	Experiencing worth of important personality attributes i.e Taking Initiatives, Thinking on the feet etc through Games	2
2	Values of Honesty and Integrity as corner stone in one's career and Life. Experiencing incidence and case studies related to Honesty, Integrity and Human Values in work set up.	2
3	Value of Creativity in one's career and Life Building an attitude of creativity, thinking out of the box and inculcate virtue of exploration and innovation in various aspects of life.	2
4	Values to self sustenance in difficult times and failures To Understand failure as stepping stone towards success, its inevitability and earning life lessons which makes an individual well equipped to deal with uncertainties of life.	2

5	Role of emotions in one's professional life Importance of building sound EQ with IQ, Understanding the causes and effects of emotions in life.	2
6	Workplace values 1 – Manners Understanding workplace as a second home and source of livelihood, inculcate spirit of belongingness towards work and exhibit sound manners that projects work place with dignity	2
7	Workplace values 2 – People, Policy and organization Understanding the importance of policies and people, ideal code of conduct at Workplace, building rapport with colleagues, sound behaviors with various stakeholders within the organization	2
8	Value for students' life 1 - Power of Positivity Importance of optimism in life, developing right kind of attitude towards self career and others. Power of generating right kind of thoughts that translates in right actions and behaviours.	2
9	Value for students' life 2 - Healthy Lifestyle Importance of fitness in life and career. Importance of regular exercising and taking up a sport. Focusing upon eating and sleeping habits that result in physical performance as body is considered to be the temple of soul.	2
10	Value for students' life 3 – Create First Impression Understanding the importance of making right impressions while in public, how to speak/introduce self, basic understanding of dress code, voice tone and body language	2
11	Understanding hazards of Social Networking sites Developing sound habits, breaking bad habits, understanding hazards of bad habits and excess of social media in life.	2
12	Creating Value through Social Networking sites (Linked-In and Quora) To ensure that technology is used to build bridges and not the barriers, focusing upon the career and importance of associating with right content in the virtual world. (Linkedin, Quora, GD communities, India Bix, Bodhi Booster)	2
13	Performance Values 1- How to avoid Procrastination Value and Importance of Time, Cause and effect of procrastination, How to maximize the day, Importance of setting up to –do lists and task lists	2
14	Performance Values 2- How to manage Pressure Situations (Exams and Evaluations) Handling anxiety, Value of planning and smart work, ensuring right state of mind and tips for a successful show.	2
	Total Hours	28

References:

- 1. Creating Values in Life: Personal, Moral, Spiritual, Family and Social Values – By Ashok Gulla**



2. **Teaching Your Children Values** – By Linda and Richard Eyre
3. **The Book of Virtues for Young People** – William J. Bennett
4. **The Monk who sold His Ferrari** – By Robin Sharma
5. **Seven habits of Highly Effective People** – By Dr. Stephen R Covey
6. **Stop Worrying & Start Living** – By Dale Carnegie
7. **Eat that Frog** – By Brian Tracy

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
20%	20%	30%	15%	10%	5%

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The trainer shall train students through interactions, demonstration, role play, games, brainstorming, group tasks etc.
- b. Practical examination (VIVA) will be conducted at the end of semester for evaluation of performance of students.
- c. Students will use supplementary resources such as online videos and books.

Mr. Dhananjay Singh
Assistant Vice-President, L&D



01MA0301 Applied differential Equations

Objective: The subject aims to make the learner able to apply the knowledge of differential equations and transforms to solve core Engineering and real world problems.

Credits Earned: 5

Course Outcomes: After completion of this course, student will be able to

- Expand various functions in terms of sine and cosine functions.
- Classify and apply the standard methods to solve ordinary and partial differential equations.
- Apply Laplace transform and Fourier series to solve differential equations.
- Apply the knowledge of differential equations and its solutions to evaluate engineering problems.

**Teaching and Examination
 Scheme**

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	2	-	5	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Fourier series: Periodic functions, Fourier series of functions of any period, Fourier series of Even and odd functions, Half range Expansions, Fourier integrals.	14
2	Laplace Transforms: Laplace transforms definition, Laplace transforms of some elementary functions, Inverse transforms, Linearity and shifting properties, Laplace transforms of derivatives and integrals, Differentiation and integrations of Transforms, Convolution theorem and its application to obtain inverse Laplace transform, Laplace transform of periodic functions, Unit step function, Unit impulse function (Dirac delta function), second shifting property, Applications of Laplace transforms to solve ODE and system of ODE.	16
3	Linear Differential Equations : Solution of homogeneous linear differential equations with constant coefficients, Non homogeneous linear differential equations , particular integrals by Inverse Operators and Variation of Parameters, Euler-Cauchy's differential equations with variable coefficients, Power Series solution of ODE.	10
4	Partial Differential Equations : Formation of PDE, Methods of solutions, Lagrange's linear partial differential equation , Special types of Nonlinear PDE of the first order, method of separation of variables.	10

5	Applications of differential equations: Application of ODE: Mechanical vibration system, Electrical circuit system, Application of PDE: Heat, wave, Laplace equations and their solution by method of separation of variables and Fourier series.	10
	Total Hours	60

Recommended Textbooks:

1. Erwin Kreyszig: Advanced Engineering Mathematics, 8th Ed., Jhon Wiley & Sons, India ,1999.

Reference Books:

1. M. D. Weir *et al*: Thomas' Calculus, 11th Ed., Pearson Eduaction, 2008.
2. Stewart James: Calculus Early Transcendental, 5th Ed., Thomson India, 2007
3. Wylie & Barrett: Advanced Engineering Mathematics, Mc graw Hill pub.
4. Greenberg M D: Advanced Engineering Mathematics, 2nd ed., Pearson.



Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
20%	20%	30%	15%	10%	5%

Instructional Method:

- The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

Web site: <http://mathworld.wolfram.com/>

<http://en.wikipedia.org/wiki/Math>



01CI0301: Mechanics of Solids
Objective of the Course

Objectives of introducing this subject at second year level in civil branches are:

- To study about identification of different types of forces, systematic evaluation of effect of these forces, behavior of rigid bodies subjected to various types of forces, at the state of rest or motion of the particles, as Universe exist due to force only.
- To understand the fundamental principles, concepts and techniques, both theoretical and experimental, with emphasis on the application of these to the solution of mechanics based suitable problems in all engineering.
- To provide a firm foundation and formwork for more advanced study at every higher semester as the subject of Mechanics of Rigid bodies cuts broadly across all branches of engineering profession.

Credits Earned : 5

Students Learning Outcomes

After studying this subject students will be able to:

- To apply fundamental principles of mechanics and equilibrium to get responses of rigid and deformable bodies
- To identify centroid, Center of Gravity, Center of Mass and moment of inertia of a simple and complex geometrical Shapes.
- To determine different types of stresses and strains developed in the Member subjected to axial, bending, shear, torsion & thermal loads.
- To analyze the determinate beam and draw its shear force and bending moment diagram.

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term Work (TW)	
Mechanics of Solids	4	0	2	5	50	30	20	25	25	150

Detailed Syllabus

Sr. No.	Topic Name	Hours
1	Introduction	2
	1.1 Terminologies: space, time, particle, rigid body, deformable body. Force: Definition, categorization of forces, Characteristics of a force, System of forces and resolution of forces.	
	1.2 Principles of mechanics: Principles of Transmissibility, superposition, Gravitational Law and Parallelogram Law of Forces.	



Sr. No.	Topic Name	Hours
2	Fundamentals of Statics	8
	2.1 Force and Force system: System of Forces its definition and application in Engineering.	
	2.2 Coplanar concurrent force system: Derivation of resultant force and equilibrant force using analytical and graphical methods. Triangle law of forces and Polygon law of forces.	
	2.3 Equilibrium of rigid bodies: Conditions of equilibrium, Lami's theorem and its derivation. Concept of Free body diagram in engineering. Application of Lami's theorem in various problems.	
	2.4 Coplanar non-concurrent forces: Definition of moment, couple and its effect on rigid bodies. Properties of couple, equivalent force couple system with examples, Varignon's theorem and its derivation.	
	2.5 Resultant of Coplanar non-concurrent Force system: Calculation of resultant force in coplanar non-concurrent force system by analytical and graphical methods.	
3	Analysis of Determinate Beams	8
	3.1 Classification of loads, supports and beams	
	3.2 Support Reactions: Calculation of support reactions for determinate beams subjected different loads viz. (i) Concentrated loads and moment, (ii) Uniformly distributed load, and (iii) Uniformly Varying loads.	
	3.3 Internal forces in beams: Definition of shear force and bending moment. Correlation between loading, shear force & bending moment in beams.	
	3.4 Shear Force and Bending Moment Diagrams: Bending moment and shear force diagrams for beams subjected to; i) Concentrated loads and moment, (ii) Uniformly distributed load, and (iii) Uniformly Varying loads. Point of Contra flexure and maximum bending moment in a beam.	
4	Concepts and Application of Static Friction	6
	4.1 Introduction: Theory, Classification and laws of Static and Dynamic friction.	
	4.2 Glossary of Terms: Angle of friction, Coefficient of friction, Angle of repose and Cone of friction.	
	4.3 Application of Static Friction -	
	(a) Block friction: Solutions of problems involving block friction in horizontal and inclined planes.	
	(b) Ladder Friction: Solution of various problems.	
(c) Wedge, Belt and Rope Friction: Solution of various problems.		



Sr. No.	Topic Name	Hours
5	Centroid and Moment of Inertia	9
	5.1 Centroid: Definition, concept, and evaluation of centroid for one-dimensional standard geometry viz. horizontal, vertical, inclined and circular curved lines.	
	5.2 Centroid of Standard Geometrical shapes: Determination of centroid for standard two-dimensional and three-dimensional shapes viz. rectangular, triangular, circular, semi-circular, quarter circular, circular segments, cylindrical, conical, spherical and cubical shapes.	
	5.3 Calculation of Centroid: Calculation of centroid for composite lines, areas and volumes.	
	5.4 Pappus-Guldinas Theorem: Pappus Guldinus theorem and its application in calculating surface area and volume.	
	5.5 Introduction to Moment of Inertia: Definition and concept of Moment of Inertia. Perpendicular axis, Parallel axis theorem, Polar Moment of inertia, and radius of gyration.	
	5.6 Moment of Inertia for Planar cross-sections: Determination of Moment of Inertia for planar sections using parallel axis theorem for standard lamina.	
	5.7 Moment of Inertia for composite planar elements: Determination of moment of Inertia for composite lamina.	
6	Simple Stresses & Strains	10
	6.1 Introduction: Definition and types of simple stresses (direct and indirect) and strains (linear and lateral) in an element and its importance in engineering.	
	6.2 Relation between stress and strain: Hooke's law, Poisson's ratio, Modulus of Elasticity, Rigidity, and Bulk modulus.	
	6.3 Stresses and strains Members: Evaluation of stresses and strains in members subjected to axial and shear loading for homogenous, composite, prismatic and tapered sections.	
	6.4 Thermal Stresses: Evaluation of stresses in elements subjected to temperature effects in homogeneous and composite members	
	6.5 Inter-relationship between various Moduli: Relationship between modulus of elasticity, rigidity, bulk modulus and Poisson's ratio with problems.	
	6.6 Multidirectional Stresses: Volumetric strains, effect of multi-directional stresses on homogeneous members.	
7	Stresses in Beams	6
	7.1 Theory of Pure Bending – Assumption, theory and derivation of equation for pure bending. Determination of bending stresses at various sections.	
	7.2 Flexural stresses – Section modulus and determination of flexural stress distribution in beams of various cross sections.	
	7.3 Equation of Shearing stress – Derivation of equation for shear stress across the cross section in a beam.	
	7.4 Shear stresses – Qualitative and Quantitative determination of shear stress distribution in beams having various cross sections.	

Sr. No.	Topic Name	Hours
8	Torsion	3
	8.1 Equation of Pure Torsion: Definition of Torsion, Assumption and derivation of equation for pure torsion in circular shafts, Torsional rigidity and its application . 8.2 Stresses due to Torsion: Torque generated due to Power transmitted in shaft. Stresses generated in members subjected to circulatory motion in circular and hollow circular shafts.	
9	Principle Stresses	4
	9.1 Introduction: Two-dimensional stress system. Evaluation of stresses in an inclined plane for members subjected to orthogonal stresses. Definition of principal plane, principal stresses, angle of obliquity, and resultant stress.	
	9.2 Principal Stress and Strain: Evaluation of Principal plane and principal stresses using analytical method.	
	9.3 Analysis of Principal stresses and principal planes for two-dimensional stress system.	
	9.4 Application of Mohr's circle and ellipse of stress.	
Total		56

List of Practicals

- Find out resultant of concurrent forces.
- Find out resultant of non concurrent forces.
- Demonstrate and prove lami's theorem.
- Find out beam reactions.
- Find out mechanical properties of material.
- Design a stable object.
- Using popsicle sticks or straw prepare model of tower to carryout highest load for given dimensions.

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	30%	40%	15%	10%	00%



Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.
3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.
5. The laboratory experiments are planned in such a way that it covers the practical aspects of the course contents. The performance of these experiments shall bring the clarity of the theoretical concepts which the students have studied during the academic sessions.

Recommended Study Material**Text Books:**

Applied Mechanics S. B. Junarkar & H. J. Shah-Charotar Publication

Reference Books:

1. Engineering Mechanics by G. S. Sawhney; PHI New Delhi
2. Mechanics of Materials: Beer and Johnston, TMH
3. Mechanics of Materials: Gere & Timoshenko; CBS Publishers & Distributors, Delhi
4. Mechanics of Materials: Hibbler R C; Pearson Education
5. Strength of materials; Ramamutthram
6. Engineering Mechanics of Solids: Popov E.P; Prentice Hall of India, New Delhi



01CI0302: Building Planning and Drawing
Objective of the Course

Objectives of introducing this subject at second year level in civil branches are:

- To understand the fundamental principles and concepts of planning and architecture for buildings.
- To study about different views of layout.
- To learn the development controls covered by building bye laws and national building code for buildings.

Credits Earned: 4

Students Learning Outcomes

After studying this subject students will be able to:

- Interpret the technical terminologies related to planning and various conventional signs and symbols used in drawing the plans
- Draw plan for building (Mass Composition, Residential, Industrial and Public) by making use of various aspects of principles of planning, architecture and as per standard bye laws
- Draw perspective, isometric, orthographic, cross-sectional and elevational drawing of the building by imagination
- Draw, edit and print the plan of the building by using computer application like AutoCAD

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term Work (TW)	
Building Planning & Drawing	2	0	2	3	50	30	20	25	25	150



Detailed Syllabus

Sr. No.	Topic Name	Hours
PART A: BUILDING PLANNING		16
1	Introduction:	2
	1.1 Basics of Building, major components and building types.	
	1.2 Preliminary planning concepts of building planning and architectural considerations.	
2	Principles of planning:	4
	2.1 Requirements of a good building planning.	
	2.2 Factors affecting building planning.	
	2.3 Detail study on elements of building planning.	
	2.4 Sun and building relationship.	
	2.5 Types of basic services in buildings: Brief introduction	
3	Building Bye-laws:	4
	3.1 Role, need and importance of building bye-laws.	
	3.2 Structuring of bye-laws: Inclusion of National Building code and legal aspects.	
	3.3 Scope of bye-laws and	
	3.3 Case study of bye-laws of a local authority.	
4	Planning of buildings:	6
	4.1 Functions of building according to types.	
	4.2 Planning aspects of a residential building.	
	4.2.1 List of components and functions of a residential building.	
	4.2.1 Area requirements and arrangement for various components.	
	4.2.2 Minimum dimensions and standards as per bye-laws.	
	4.3 Introduction to plans and sketches of building components.	
	4.4 Case studies of planning of Commercial buildings, Hospitals and Educational buildings.	
PART B: BUILDING DRAWING		12
1	Building Drawings:	6
	1.1 Meaning, need and importance of building drawings.	
	1.2 Types of building drawings, standard sizes, scales, formats, line types and hatching.	
	1.3 Information to be included in a typical building drawing.	
	1.4 List of common types of standard symbols.	
	1.5 Case study of a typical standard residential building drawing: list of drawings, detailing requirements, importance of a particular types and interpretation of drawing on site.	
2	Developing the building drawing (Drawing exercises)	6
	2.1 Drawing exercise of a scaled residential building: Plans, Elevations and Sections in standard formats.	
	2.2 Perspective, Isometric and orthographic drawing of a building	
Total		42



Laboratory Work Contents

Sr. No.	Topic Name	Hours
1	Signs and Symbols:	6
	2.1 Symbols for Materials of Construction 2.2 Symbols for Sanitation and Water Supply Installation 2.3 Symbols for types of Shutters of Doors 2.4 Symbols for Furniture 2.5 Symbols for Electric Fitting 2.6 Miscellaneous Symbols	
2	Building Bye Laws:	2
	2.1 Objectives, Scope and Applicability as per Local (GDCR) and National authority (NBC).	
3	Application - Principles of planning:	4
	3.1 Aspect, Prospect, Privacy, Circulation, Roominess 3.2 Grouping, Elegance, Sanitation, Flexibility, Economy.	
4	Perspective Drawing:	2
	4.1 Staircase 4.2 Security Cabin	
5	Components of Building:	2
	5.1 Components of Hospital Buildings 5.2 Components of Post Office Buildings	
6	Practicing for Different drawings – Manual Drawing and Software Application	12
	6.1 Residential plan 6.2 shopping or commercial center 6.3 Educational building plan or Institutional building plan	
TOTAL		28

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	50%	40%	5%	00%	00%

List of Experiment & Projects

- Individually students have to maintain a sketch book.
- Students have to maintain soft copy of different plans individually, and final plan needs to be submitted in hard copy group wise.
- Under the Practice plan, 2 hours will be allocated for planning and remaining time will be allocated for application of software.



Drawing Sheets (A1 Size)

1. Residential Planning: Two storied Building: Plans, elevation, section, lay-out plan, key plan, site plan, area table, schedule of opening. Scale-1:100. (Furniture plan, Drainage lay out, Toilet Detail, Wood work detail, Kitchen detail, Electrical plan etc).
2. Public Building: Ground Floor plan, typical floor plan, elevation, section, lay-out plan, key plan, site plan, area table, schedule of opening.
3. Perspective Drawing: Two point perspective drawing.

Assignments

1. Assignment -1: Principles of planning.
2. Assignment -2: National building code and local bye-laws.
3. Assignment -3: Building drawings.

Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.
3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.
5. The laboratory experiments are planned in such a way that it covers the practical aspects of the course contents. The performance of these experiments shall bring the clarity of the theoretical concepts which the students have studied during the academic sessions.

Recommended Study Material

1. Planning, designing building by Y. S. Sane, Allies Book Stall
2. Building Drawing by M. G. Shah, C. M. Kale and S. Y. Patki, Tata Mc Graw Hill, New Delhi
3. Building Planning, Designing and scheduling by Gurucharan Singh, Standard Book House, New Delhi National Building Code-2005, New Delhi Ss
4. National Building Code-2005, New Delhi
5. GDCR: General Development control regulations published by RMC and RUDA.
6. General Development Control Regulations published by AUDA and GICEA



01CI0303: Surveying
Objective of the Course

Objectives of introducing this subject at second year level in civil branches are:

- To know different field method of surveying.
- To calculate internal angles of the traverse.
- To calculate latitude and departure of traverse lines.
- To study types of curves and their field setting out.
- To understand method to calculate area and volume.
- To apply concept of area and volume to field applications like quantity of cutting & filling or capacity of reservoir.

Credits Earned: 3

Students Learning Outcomes

After studying this subject students will be able to:

- Understand basic principles of various methods of surveying.
- Obtain the included angles, latitude and departure of the traverse lines on the field.
- Set the different types of curves on the field during survey work.
- Analyze, calculate and measure the area and volumes of the different capacities and topographical situations.

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term Work (TW)	
Surveying	2	0	2	3	50	30	20	25	25	150

Detailed Syllabus

Sr. No.	Topic Name	Hours
1	Theodolite Survey	8
	Introduction, Fundamental definitions, Theodolite and its functioning, Measurement of vertical and horizontal angles, Methods of theodolite traversing, Closing error, Calculation of latitudes and departure, checks and balancing of traverse, Gale's traverse table, Omitted measurements.	
2	Trigonometric leveling	3
	Method of indirect leveling, Methods of leveling on steep ground.	



Sr. No.	Topic Name	Hours
3	Tacheometry Definitions, Principle of techeometry, Self-reducing tacheometers and methods.	3
4	Curves Introduction, Basics and geometry, Issues in curve location, Elements and setting out of circular and transit curves, Elements of vertical curves.	8
5	Field Area & Volumes Calculation of areas having regular & irregular boundaries, Trapezoidal formula, Simpson's rule, Digital planimeter, computation of volume for Earthwork volume calculation for cutting & filling, Volume from cross sections Calculation of reservoir capacity.	6
Total		28

List of Practicals

1. Traversing by the Theodolite and traverse plotting by applying corrections in Gale's traverse table.
2. Setting out the simple circular curve using various methods.
3. Setting out the combined curve including (a) Transition (b) Circular (c) Transition.
4. Setting out the foundation for simple building.
5. Computation of area of submergence and storage volume from contour maps for reservoir projects.

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	30%	40%	15%	10%	00%

Instructional Method and Pedagogy

1. Students shall have a brief on the expected information and knowledge of the topics related to the course before the start of the subject.
2. By appropriate teaching aids and the theory sessions, all the lectures shall be conducted in the class room.
3. The academic session's attendance shall carry 5% weightage in overall evaluation of the student.
4. Based on the theory topics and contents taught in the academic sessions, the students shall be offered an assignment /tutorial / drawing sheet for each spate topic as a part of the submission.
5. All the field exercises and experimental work shall be conforming to the relevant theory topic taught. The experiments shall be designed in a way that brings full clarity and understanding about the subject contents to the students.



Recommended Study Material**Text Books**

1. Dr. B.C. Punamia, Surveying Vol.I, II and III, Laxmi Publication
2. S. K. Duggal, Surveying Vol. I and II, Tata McGraw-Hill Education

Reference Books

1. Dr. K.R. Arora, Surveying Vol. I, II and III, Standard Book House, New Delhi
2. N.N. Basak, Surveying and Levelling, Tata McGraw-Hill Education
3. R. Agor, Surveying and Levelling, Khanna Publishers, New Delhi
4. R. Agor, Advanced Surveying, Khanna Publishers, New Delhi
5. Subramanian, R., Surveying and Leveling, Oxford University Press, New Delhi



01CI0304: Fluid Mechanics
Objective of the Course

Objectives of introducing this subject at second year level in civil branches are:

- To know the properties of fluid and identify their types.
- To calculate hydro static forces and the measurement techniques for pressure.
- To understand the fluid kinematics and dynamics.
- To classify various types of fluid flow.
- To develop the concepts of (a) buoyancy force on immersed and floating body and (b) drag-lift force on the object.

Credits Earned : 5

Students Learning Outcomes

After studying this subject students will be able to:

- Identify the properties of different types of fluids.
- Measure the pressure and hydrostatic force generated by fluid.
- Categorize various types of fluid flow through channels and conduits.
- Evaluate the buoyancy force and drag-lift force for the floating and immersed bodies in fluid.

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term Work (TW)	
Fluid Mechanics	4	0	2	5	50	30	20	25	25	150

Detailed Syllabus

Sr. No.	Topic Name	Hours
1	Properties of Fluid	4
	1.1 Various Fluid properties	
	1.2 Newton's Law of viscosity	
	1.3 Classification of Fluid: basic concept application of fluid mechanics.	
2	Fluid Statics	12
	2.1 Fluid Pressure Measurement	
	2.2 Hydrostatic Pressure	
	2.3 Buoyancy And Floatation	



Sr. No.	Topic Name	Hours
3	Fluid Kinematics	6
	3.1 Fluid Flow analysis methods, Flow pattern	
	3.2 Types of fluid flow	
	3.3 One, two and three dimensional flow, Rotational and Irrotational flow	
	3.4 Circulation and vorticity, velocity potential and stream function,	
	3.5 Flow net, Source, Sink and Doublet	
4	Fluid Dynamics	3
	4.1 Euler's Equation	
	4.2 Bernoulli's Equation	
	4.3 Energy Correction Factor	
5	Flow Measuring Devices	8
	5.1 Measurement of Discharge	
	5.2 Measurement of Velocity	
	5.3 Flow through reservoir opening, Mouthpiece	
	5.4 Notches and Weirs	
6	Flow Immersed Past Bodies	4
	6.1 Drag, Types of drag, Drag on sphere, flat plate and airfoil, Effect of drag,	
	6.2 Development of lift	
	6.3 Magnus effect, Circulation and lift characteristics of airfoils	
7	Compressible flow	5
	7.1 Basic equations	
	7.2 Mach number	
	7.3 Area-velocity relationship for compressible flow	
	7.4 Propagation of sound wave	
	7.5 Stagnation properties	
Total		42

List of Practicals

- 1) **To Validate Bernoulli's Theorem.**
- 2) **To determine the Metacentric height of a given floating body.**
- 3) **To Study Laminar and Turbulent Flow and its visualization on Reynolds's Apparatus.**
- 4) **To calibrate and study different flow meters particularly Venturimeter, orifice meter, Nozzle meter and Rota meters.**
- 5) To obtain surface profile of free and forced vortex.
- 6) To calibrate the given Rectangular, Triangular and Trapezoidal notches.
- 7) To determine fluid friction factor for the given pipes.
- 8) To determine loss coefficient for different pipe.



Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	50%	40%	5%	00%	00%

Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.
3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.
5. The laboratory experiments are planned in such a way that it covers the practical aspects of the course contents. The performance of these experiments shall bring the clarity of the theoretical concepts which the students have studied during the academic sessions.

Recommended Study Material**Text Books**

1. Fluid Mechanics and Hydraulic Machines, Er. R. K. Rajput , S. Chand & company
2. Fluid Mechanics & Hydraulic Machines, R.K. Bansal, Laxmi Publication.

Reference Books

- 1.Engineering Fluid mechanics, K.L. Kumar, 8th Edition S. Chand & Company Ltd.
- 2.Hydraulics and Fluid Mechanics, P.M. Modi and S.M. Seth, Standard Book House.
- 3.Theory and Applications of Fluid Mechanics, K. Subramanya, Tata McGraw Hill.



01CI0305: Software Applications in Civil Engineering-I
Objective of the Course

Objectives of introducing this subject at second year level in civil branches are:

- To understand the AutoCAD Software and its application in Planning for buildings.
- To study about different Software commands.
- To apply the learning into the different projects by following building bye laws and national building code for buildings

Credits Earned : 1

Students Learning Outcomes

After studying this subject students will be able to:

- Make use of Drawing tools and command
- Construct Computer aided drawing in civil engineering project
- Examine the role of different parameter used in Software application for Civil Engineering and its benefits
- Prepare working drawings, foundation plans and other executable drawings with proper details for residential buildings, commercial and institutional buildings

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term Work (TW)	
Software Applications in Civil Engineering-I	0	0	2	1	-	-	-	25	25	50



Laboratory Work Contents

Sr. No.	Topic Name	Hours
1	Introduction	4
	2.1 Introduction to CAD 2.2 Different Versions of AutoCAD	
2	Working with files	2
	2.1 Startup dialog box, save drawings, open drawings 2.2 File Management	
3	Displaying Objects	2
	3.1 Zoom Command, Grid, Snap	
4	Creating Basic Shapes	4
	4.1 Circle Command, Rectangle Command, Erase Command 4.2 Undo Command, Redo Command	
5	Using Polar tracking and polar snaps	2
	5.1 Polar Tracking 5.2 Spline	
6	Creating Object Pattern and Text:	4
	6.1 Array Command 6.2 Single line Text 6.3 Multi line Text 6.4 Text Style	
7	Trimming and Extending Objects:	2
	7.1 Offset 7.2 Trim 7.3 Extend	
8	Layer Tool Palette and Creating Section line:	6
	8.1 Layer, Layer Tools 8.2 Layer State Manager, Export Import Layer 8.3 Hatch Pattern	
9	Unit and Drawing Creation:	2
	9.1 Drawing Units 9.2 Drawing Creation	



Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	50%	40%	5%	00%	00%

List of Experiment & Projects

- Individually students have to maintain their folder.
- Students will save their work and submit all the files at the end of the semester.

Drawing Sheets (A1 Size)

1. At the start of course, the course delivery pattern, prerequisite of the subject will be discussed.
2. Labs will be conducted with the aid of multi-media projector, and Computers with the software installed.
3. Attendance is compulsory in laboratory for regular evaluation.
4. Students have to save their work regularly and **submit hard copy in A1 size sheet at the end of semester.**

Instructional Method and Pedagogy

1. Importance and utilization of software in the Civil Engineering sector shall be discussed.
2. The teaching shall be conducted using various teaching aids in computer lab.
3. Attendance in the session is mandatory and shall contain 5% weightage of the internal evaluation scheme.
4. At the end of each session, an assignment based on the content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.
5. The course includes a practice session, where students shall have an opportunity to carry hands on experience on the software.

Recommended Study Material**Reference Books:**

1. AutoCAD 2017 Instructor by James A. Leach, SBC Publications
2. AutoCAD 2017 for Engineers and Designers by Prof. Sham Tickoo
3. Learning AutoCAD by P.S.Gill
4. Engineering drawing and graphics using AutoCAD by T Jeyapoovan

Reference Websites:

1. <https://www.autodesk.in/solutions/2d-cad-drafting-drawing>
2. <https://www.autodesk.com/education/about-autodesk-education>



01C0306: Project Based on Community Services - I
Objective of the Course

Objectives of introducing this subject at second year level in civil branches are:

- To encourage students for abridging the academic knowledge with real life concerns.
- To make students skillful and capable on applying acquired knowledge innovatively and independently for public.
- To make students aware and face the actual challenges and hurdles for the knowledge application into the field.
- To build the self-confidence of the students and make them awaken for their inter-personal skills.
- To inculcate the senses within the students that they note how the civil engineering is one of the primary branch capable of providing a better life to public.

Credits Earned: 1

Students Learning Outcomes

After studying this subject student will be able to:

- Identify the engineering related problems in the community
- Compare the different solutions to resolve the problems of community by case study and survey.
- Analyze and solve the issue of community by providing economical solution to the problem

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE	IA	CSE	Viva	Term Work	
Project Based on Community Services - I	0	0	2	1	-	-	-	25	25	50



Detailed Syllabus

Sr. No	Topic name	Hours
1	Introduction	2
	1.1 What is community based services?	1
	1.2 Why Civil Engineering is a synonym of the knowledge for community?	1
2	Identifying the issues within the community	4
	2.1 Preparing a questionnaire, formats and survey forms	2
	2.2 Analysis of collected data and mapping of issues with the solutions available	2
3	Varieties of survey and ground work for communal issues	4
	3.1 Different types of surveys, tools and techniques for collecting the information	2
	3.2 Identification of exact issues and most appropriate solution	2
4	Factors affecting problem identification for the community	3
	4.1 Varieties of factors: Social, economic, environmental, educational	1
	4.2 Balancing the effects of the affecting factor to carryout solution	1
	4.3 Normalization of factors and finding the path way for problem solution	1
5	Exercise -1 (Group activity)	6
	5.1 Selection of problem from the community and mapping of issues	2
	5.2 Planning for working: Aim, objective and scope, time line	1
	5.3 Application of civil engineering knowledge and tools for solutions	1
	5.4 Validation of the solution by supervising the execution of solution	1
	5.5 Measuring the attainment of the solution: Feedback from community	1
6	Exercise -2 (Group or Individual activity)	5
	6.1 Selection of problem from the community and mapping of issues	1
	6.2 Planning for working: Aim, objective and scope, time line	1
	6.3 Application of civil engineering knowledge and tools for solutions	1
	6.4 Validation of the solution by supervising the execution of solution	1
	6.5 Measuring the attainment of the solution: Feedback from community	1
	TOTAL	24

List of Practical

Sr. No.	Topic name
1	Preparing survey tools: Formats, questionnaires, interviews
2	Data analysis techniques: Statistical and informal tools
3	Presentation of the full process of identification of community issues
4	Mentioning advantages and limitations of the solutions
5	Exercise -1
6	Exercise -2



Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	10%	15%	20%	20%	30%

Instructional Method and Pedagogy

1. The course shall be taught in the mixed mode format of class room learning and field visits.
2. Major portion shall be learnt by the students at the field.
3. Presence in all sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic the faculty shall evaluate the work by assigning grades to the work done. This shall carry 5% weightage for timely completion and submission of the assigned work.
5. The laboratory experiments are planned in such a way that it covers the practical aspects of the course contents. The performance of these experiments shall bring the clarity of the theoretical concepts which the students have studied during the academic sessions.

Recommended Study Material

Reference Books: As suggested by the faculty during the interactions and discussion.



Entrepreneurship and Engineering Ethics

Objective of the Course

Objectives of introducing this subject at second year level in civil branches are:

- To understand the societal needs & engineer's roles
- Inspire to play the professional responsibilities ethically.
- To motivate for critical thinking
- To keep high moral values and effectively take decision for right things
- Ability to accept the other's opinion and working in team.
- To develop the positive attitude towards the work assigned.
- To impart the values of professionalism and respect the profession
- To develop the honesty and team work spirit

Credits Earned: 3 Credits

Students Learning Outcomes

After studying this subject students will be able to:

- Know the roles and responsibilities as an professional
- Know the ethics for implementing the decision
- Should be able to work in team and respect other's decision
- Complete the assigned work positively

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE(E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
2	1	0	3	-	-	10	30	60	100



Detailed Syllabus:

Sr. No	Topic name	Hours
1	Introduction	2
	Course introduction and overview	1
	Comparison of ethics and engineering ethics	1
	Ethics at personal and student level	
2	Ethics	3
	Overview of ethical theories and applications	1
	Basics of ethical analyses and decision-making	1
	Ethics and the environment Innovation and ethics	1
3	Human values & Moral	4
	The concept of morality	1
	The importance of core values	
	Moral/ethical dilemmas and hierarchy of moral values	1
	Factors affecting moral responsibility, and degrees of responsibility	1
4	The importance if intention Truth (personal and social)	1
	Professionalism & ethics	4
	The concept of professions	1
	Engineers in organizations Ethics in the workplace	1
	Fairness (personal and social)	1
	The importance of ethics in science and engineering Professional responsibilities of engineers Ethical leadership in engineering and society	1
5	Conflicts of interests	
	Introduction: Entrepreneur:	6
	Evolution, Characteristics, Types, Functions of Entrepreneur	1
	Distinction between an Entrepreneur and a Manager	1
	Growth of Entrepreneurship in India,	1
	Role of Entrepreneurship in Economic Development.	1
Women Entrepreneurship Small Enterprises:	1	
6	Introduction to Project Identification And Selection (PIS)	1
	Meaning of Project, Project Identification, Project Selection	1



List of Practical**Suggested Theory distribution:**

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
20%	20%	40%	10%	5%	5%

Instructional Method and Pedagogy:

1. At the start of course, the course delivery pattern, prerequisite of the subject will be discussed.
2. Lectures will be taken in class room with the use of multi-media presentations, black board – mix of both.
3. Attendance is compulsory in lectures and laboratory which carries a 5% component of the overall evaluation.
4. No internal or end semester exams will be conducted.
5. Assignments based on course content will be given to the students at the end of each unit/topic and will be evaluated at regular interval. It carries a weightage of 60%.
6. The course includes a tutorials, where students have an opportunity to build an appreciation for the concepts being taught in lectures.

Recommended Study Material**Reference Books:**

1. The Holy book : Shirmad Bhagvat Gita, Gorakhpur press.
2. Martin, M.W. and R. Schinzinger. *Ethics in Engineering*. 4th Edition. (McGrawHill, Inc., 2005).
3. Harris Jr., C.E., Pritchard, M.S., Rabins, M.J., *Engineering Ethics, Concepts, and Cases*: 4th edition (California: Wadsworth Learning, 2009).
4. Whitbeck, Caroline. *Ethics in Engineering – Practice and Research*: 2nd edition (Cambridge: Cambridge University Press, 2011).
5. Roy Rajeev, *Entrepreneurship* Oxford
6. E. Gordon & K. Natarajan *Entrepreneurship Development* Himalaya

Reference Links/ e-material:

1. <http://www.MITopencoursesware.php?> value and ethics



01CI1401 Materials, Testing & Evaluation

Objective of the Course:

Objectives of introducing this subject at second year level in civil branches are:

- To acquaint the students for exploring the materials, its properties, intrinsic nature and its application in preparing cement Concrete.
- To understand the influence of various factors effecting the strength and durability of Concrete.
- To understand the basic behavior of concrete under application of various loading conditions and surrounding environment.
- To illustrate the concrete mix design process based on properties of material as per various national and international standards.
- To demonstrate the various advanced concrete and advanced testing techniques used in field.

Credits Earned: 4

Course Outcomes

After completion of this course, student will be able to

- Students will be able to understand features of special concrete and concreting methods
- Analyze the engineering properties of Civil Engineering materials like aggregate, cement, concrete, steel, wood, plastic, paints and other materials.
- Identify, Describe and carry out lab tests relevant to use of civil engineering materials on site.
- Ensure the quality of engineering materials on site.
- Interpret the behaviour of concrete in its fresh and hardened state with respect to its strength and durability aspects.
- Students will be able to design concrete mix according to given conditions as per IS Code

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	CSE	Viva (V)	Term work (TW)	
3	0	4	5	50	30	20	25	25	150



Detailed Syllabus:

Sr. No	Topic name	Hours
1	Introduction	1
	1.1 Historical background, Ingredient of concrete, Advantages of concrete over other materials, Current practice and future trends in concrete.	1
2	Concrete Ingredients	7
	2.1 Cement: Chemical composition, Heat of hydration and Structure of hydrated cement, Physical tests of cement.	3
	2.2 Aggregates: Categorization of aggregate and its Properties, Grading, Methods of combining aggregates, Specified grading, Testing of aggregates.	2
	2.3 Water – General requirements and impurities in water	2
3	Fresh Concrete	5
	3.1 Properties of fresh concrete, Workability tests as per IS standards, factors affecting workability, Segregation & Bleeding, Slump loss, Re-tempering.	3
	3.2 Mixing, Transporting, Placing, Compaction, Finishing of concrete at site. Curing methods and its necessity.	2
4	Hardened Concrete	4
	4.1 Various tests on Hardened concrete – Destructive: Compressive, Flexure, Tensile and Bond tests. Introduction to Non-Destructive and semi-destructive testing using Rebound Hammer, Ultrasonic pulse velocity, and core cutting tests.	3
	4.2 Failure mechanism under compression & tension, Stress- strain behavior of concrete, Overview of Modulus of elasticity, Dimensional stability –Creep & Shrinkage.	1
5	Durability & Permeability of Concrete	5
	5.1 Causes of deterioration in concrete and durability problems, Factors affecting durability, Transport mechanism of gases & fluids in concrete, Cracking & causes of cracking, Carbonation induced & corrosion induced cracking.	3
	5.2 Alkali-aggregate reaction, Degradation by freeze & thaw, Sulphate attack, Durability under sea-water (marine environment).	2
6	Mix design of Concrete	4
	6.1 Principles of concrete mix design, Parameters and factors influencing mix design.	2
	6.2 Indian Standard methods of mix design, Acceptability criteria, variability of results, Various provisions of IS code for sound concrete.	2
7	Special Concrete and Concreting Methods	2
	7.1 advanced cement based composites, Fibre reinforced concrete, Polymer modified concrete, Self-compacting concrete, Light weight concrete, High strength concrete, Hot & cold weather concreting, Precast concrete.	2



8	Steel	3
	8.1 Types of Steel, Manufacturing process	1
	8.2 Application(Rolled section and Bars), Advantages of new alloy steel	1
	8.3 Properties and advantages of aluminum and its products	1
	8.4 Types of Coatings & Coatings to reinforcement.	
9	Wood and Wood Products	3
	9.1 Timber Classification, Structure of Timber, Properties of good timber.	1
	9.2 Seasoning process of timber, Diseases of timber, Defects in Timber, Timber Decay, Timber Testing and Preservation	1
	9.3 Plywood, Veneers, particle Boards, Fibre Boards, Black Boards, Chip Boards, Laminated Boards and Button Boards	1
	9.4 Wood and wood products – Applications	
10	Plastics	2
	10.1 Properties & Manufacturing process	1
	10.2 Advantages of Reinforced polymers, applications as pipes, Doors, Furniture, walls etc.	1
11	Water Proofing Compounds	4
	11.1 Types of Non-weathering Materials and its uses	2
	11.2 Types of Flooring and Facade Materials and its application.	2
12	Wall Finishes	2
	12.1 Plaster – Types, Materials, Durability, Products and its applications	1
	12.2 Painting – Types, Materials, Durability.	1

List of Practicals

Sr. No	Topic name
A	Materials Test:
1	Standard Consistency of Cement
2	Initial and Final Setting time of Cement
3	Soundness test of cement
4	Compressive Strength Test
5	Shape Test
6	Sieve Analysis
7	Specific Gravity of Aggregate
8	Aggregate Impact Value
9	Aggregate Crushing Value
10	Aggregate Abrasion Value
B	Fresh Concrete Test:
1	Slump Test



2	Compacting Factor Test
C	Hardened Concrete Test:
1	Concrete Mix Design
2	Compressive strength of concrete cube
3	Split Tensile Strength Test
D	Non-Destructive Test:
1	Rebound Hammer Test
2	Ultrasonic Pulse Velocity Test
E	Tensile Test on Steel

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
20%	25%	20%	15%	20%	00%

Instructional Method and Pedagogy:

At the start of course, the course delivery pattern, prerequisite of the subject will be discussed.

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.
3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.
5. The laboratory experiments are planned in such a way that it covers the practical aspects of the course contents. The performance of these experiments shall bring the clarity of the theoretical concepts which the students have studied during the academic sessions.

Recommended Study Material

Reference Books:

1. Concrete Technology by M.S. Shetty, S Chand Publication.
2. Concrete Technology by A.M. Neville, Pearson Publication.
3. Concrete Technology by M.L. Gambhir, Tata McGraw Hill Publication.



4. IS: 456-2000, IS 10262-2009 for Concrete Mix Design.
5. Varghese .P.C, "Building Materials", Prentice Hall India, 2005.
6. Rangwala .S.C, "Engineering Materials", Charotar Publishing House, New Delhi, 2012.



01CI0402: Structural Analysis-I
Objective of the Course

Objectives of introducing this subject at second year level in civil branches are:

- To explain the structural systems based on static and kinematic indeterminacy and its importance in analysis.
- Explanation of various methods and their application for calculating deformations in statically determinate structures.
- To make students understand of failure load and stresses generated due to combined loading for slender and short compression member.
- To calculate the stresses generated in pressurized thin cylinders and spherical vessels.
- To explain the Influence line diagram for statically determinate structure.
- To analyze statically determinate arches and suspension bridges.
- To calculate the stresses and strain energy stored in the bar due to application of various loading like axial, shear, bending, and torsion.

Credits Earned : 5

Students Learning Outcomes

After studying this subject students will be able:

- Classify structural systems and apply principles of statics to analyze statically determinate structures
- To calculate stresses on structures subjected to combined axial and bending forces
- To compute buckling load for long columns with different end conditions using Rankine's and Euler's theory
- To determine stresses in thin cylinders and spherical vessels
- To compute strain energy stored in a body due to application of axial, shear, bending and torsional forces
- To develop the influence line diagram for determinate structures

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term Work (TW)	
Structural Analysis-I	4	2	0	5	50	30	20	25	25	150



Detailed Syllabus

Sr. No	Topic name	Hours
1	Fundamentals of Statically Determinate Structures:	8
	1.1 Indeterminacy - Static and Kinematic	1
	1.2 Statically determinate & indeterminate structures, its merits and de-merits, stability of structures based on static indeterminacy	1
	1.3 Calculation of static and kinematic indeterminacy of beams, plane frames, plane trusses, Grid, Space truss and space frames	3
	1.4 Computation of internal forces in statically determinate plane frames	3
2	Analysis of Truss	4
	2.1 Analysis of Truss using method of joint	2
	2.2 Analysis of Truss using method of Section	1
	2.3 Analysis of Truss using Graphical Method	1
3	Displacement of Determinate Beams	10
	3.1 Principle of superposition and Maxwell's reciprocal theorem	1
	3.2 Slope & Deflection equation of the beam subjected to uniform bending	1
	3.3 Double integration method	2
	3.4 Macaulay's method	2
	3.5 Moment Area Method	2
	3.6 Conjugate Beam Method	2
4	Direct and Bending stresses	6
	4.1 Introduction, Middle third rule, kernel of a section and no-tension condition	1
	4.2 Members subjected to direct and bending stresses, its examples and calculations of stresses.	2
	4.3 Stresses in base of Chimneys subjected to uniform wind pressure	1
	4.4 Stresses in the base of retaining walls and Dams due to water and soil filled upto the top surface of the walls.	2
5	Columns and Struts	6
	5.1 Definition of Long column, point of inflexion, Euler's theory-its assumptions and Euler's Buckling load for various end conditions, effective length of a long column and radius of gyration.	2
	5.2 Rankine's theory-its assumption and its comparison with Euler's theory.	1
	5.3 Analysis of columns with Rankine's and Euler's load	2
	5.4 Columns with initial curvature and eccentrically loaded long columns	1
6	Arches,	8
	6.1 Calculation of internal forces in three hinge arches with circular and parabolic shapes subjected to various types of loading	3
	6.2 Forces and end actions in cables due to various types of loading	2
	6.3 Unstiffened three hinged parabolic and cantenary type suspension bridge	3



7	Thin Cylinder	4
	7.1 Circumferential and longitudinal stresses and strain in Thin cylinders and spherical vessels	4
8	Strain Energy	6
	8.1 Strain Energy, Resilience, proof resilience and modulus of resilience	1
	8.2 Strain Energy stored in the body subjected to axially applied i) Gradual, ii) Sudden, and, iii) Impact loading for bars of uniform cross sections.	2
	8.3 Strain Energy stored in the members subjected to torsional and shear forces.	2
	8.4 Strain Energy stored in the members subjected to bending.	1
9	Influence Line Diagram	4
	9.1 Use and importance of Influence line diagram, ILD of reaction for determinate beams	1
	9.2 ILD of bending moment and shear force at given point for determinate beams	1
	9.3 Position of loading for maximum SF and BM at a point.	2
	Total	56

Laboratory Experiments shall not be performed and Instead Tutorials are to be conducted

Sr. No	Topic name	Hours
1	Fundamentals of Statically Determinate Structures	2
2	Analysis of Truss	2
3	Displacement of Determinate Beams	4
4	Direct and Bending stresses	4
5	Columns and Struts	4
6	Arches, Cables and Suspension Bridges	4
7	Thin cylinder	2
8	Strain Energy	4
9	ILD of determinate beams	2
	Total	28

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	15%	10%	60%	10%	0%



Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.
3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.

Recommended Study Material**Reference Books:**

1. Junarkar S.B. & Shah H.J.; Mechanics of Structures Vol-I; Charotar publishing house, Anand
2. Wang C. K.; Intermediate Structural Analysis; Tata McGraw Hill book Company, New Delhi
3. Popov E.P.; Engineering Mechanics of Solids; Prentice Hall of India, New Delhi
4. Ryder G.H.; Strength of Materials; McMillan
5. Gere & Timoshenko; Mechanics of Materials; CBS Publishers & Distributors, Delhi
6. Hibbler R C; Mechanics of Materials; Pearson Education
7. Hibbler R C; Structural Analysis; Pearson Education



01CI1405: Software Applications in Civil Engineering-II
Objective of the Course

Objectives of introducing this subject at second year level in civil branches are:

- To understand the Revit Architecture Software and its application in Building modeling.
- To study about different Software commands.
- To apply the learning into the different projects by following building bye laws and building information modeling.

Credits Earned : 1

Students Learning Outcomes

After studying this subject students will be able to:

- Import the Project and work upon the functional aspects of a building in the software.
- To generate 3D view with the help of the software.
- Generate a design with Components like Furniture, Electric Fixtures etc in a building.
- Use various concepts of Building Information Modeling.

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term Work (TW)	
Software Applications in Civil Engineering-II	0	0	2	1	-	-	-	25	25	50



Laboratory Work Contents

Sr. No.	Topic Name	Hours
1	Introduction	4
	2.1 Introduction to BIM 2.2 Introduction to Revit Architecture 2.3 Different Versions of Revit Architecture 2.4 Special Features of Revit Architecture	
2	Terms of Technology	6
	2.1 Using Ribbon & Quick Access Toolbar (QAT) 2.2 Using Properties Palette 2.3 Modifying Properties & Professional Palette 2.4 Using Project Browser 2.5 Navigation Views (Zoom, Pan, and Rotate) 2.6 Accessing Revit Operation	
3	Working with Project	8
	3.1 Creating a new project from file 3.2 Accessing Multiuser Projects using work share 3.3 Configure Project Settings 3.4 Adding Levels and Grids 3.5 Referring Layout with temporary dimensions 3.6 Adding Columns	
4	Modelling Walls, Doors and Windows	4
	4.1 Adding Walls 4.2 Wall Properties and Types 4.3 Adding Doors and Windows 4.4 Adding Plumbing Fixtures and other components	
5	Linking in Revit	4
	5.1 Linking AutoCAD Drawing Files 5.2 Creating Topography Link 5.3 Understanding CAD Inserts 5.4 Minor Groups to Create a Layout 5.5 Creating Revit Links 5.6 Managing the Links 5.7 Understanding File Formats	



Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	50%	40%	5%	00%	00%

List of Experiment & Projects

- Individually students have to maintain their folder.
- Students will save their work and submit all the files at the end of the semester.

Drawing Sheets (A1 Size)

1. At the start of course, the course delivery pattern, prerequisite of the subject will be discussed.
2. Labs will be conducted with the aid of multi-media projector, and Computers with the software installed.
3. Attendance is compulsory in laboratory for regular evaluation.
4. Students have to save their work regularly and submit hard copy in A1 size sheet at the end of semester.

Instructional Method and Pedagogy

1. Importance and utilization of software in the Civil Engineering sector shall be discussed.
2. The teaching shall be conducted using various teaching aids in computer lab.
3. Attendance in the session is mandatory and shall contain 5% weightage of the internal evaluation scheme.
4. At the end of each session, an assignment based on the content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.
5. The course includes a practice session, where students shall have an opportunity to carry hands on experience on the software.

Recommended Study Material**Reference Books:**

1. Mastering Autodesk Revit 2018 by Eddy Krygiel, Lance Kirby and Marcus Kim.
2. Revit Architecture 2018 for Engineers and Designers by Douglas R. Seidler.
3. Autodesk Revit 2017 for Architecture by Eric Wing.

Reference Websites:

1. <https://www.lynda.com/Revit-Architecture-training-tutorials/416-0.html>



01CI0407 : Project Based on Community Services - II
Objective of the Course

Objectives of introducing this subject at second year level in civil branches are:

- To encourage students for abridging the academic knowledge with real life concerns.
- To make students skillful and capable on applying acquired knowledge innovatively and independently for public.
- To make students aware and face the actual challenges and hurdles for the knowledge application into the field.
- To build the self-confidence of the students and make them awaken for their inter-personal skills.
- To inculcate the senses within the students that they note how the civil engineering is one of the primary branch capable of providing a better life to public.

Credits Earned: 1

Students Learning Outcomes

After studying this subject students will be able to:

- Understand the importance of civil engineering knowledge to solve real life issues in community.
- Analyze and solve the issue of community solvable by providing economical solution to the problem
- Build strong personal skills and learn how to take key decisions about projects.

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE	IA	CSE	Viva	Term Work	
Project Based on Community Services - II	0	0	2	1	-	-	-	25	25	50



Detailed Syllabus

Sr. No	Topic name	Hours
1	Introduction	2
	1.1 What is community based services?	1
	1.2 Why Civil Engineering is a synonym of the knowledge for community?	1
2	Identifying the issues within the community	4
	2.1 Preparing a questionnaire, formats and survey forms	2
	2.2 Analysis of collected data and mapping of issues with the solutions available	2
3	Varieties of survey and ground work for communal issues	4
	3.1 Different types of surveys, tools and techniques for collecting the information	2
	3.2 Identification of exact issues and most appropriate solution	2
4	Factors affecting problem identification for the community	3
	4.1 Varieties of factors: Social, economical, environmental, educational	1
	4.2 Balancing the effects of the affecting factor to carryout solution	1
	4.3 Normalization of factors and finding the path way for problem solution	1
5	Exercise -1 (Group activity)	6
	5.1 Selection of problem from the community and mapping of issues	2
	5.2 Planning for working: Aim, objective and scope, time line	1
	5.3 Application of civil engineering knowledge and tools for solutions	1
	5.4 Validation of the solution by supervising the execution of solution	1
	5.5 Measuring the attainment of the solution: Feedback from community	1
6	Exercise -2 (Group or Individual activity)	5
	6.1 Selection of problem from the community and mapping of issues	1
	6.2 Planning for working: Aim, objective and scope, time line	1
	6.3 Application of civil engineering knowledge and tools for solutions	1
	6.4 Validation of the solution by supervising the execution of solution	1
	6.5 Measuring the attainment of the solution: Feedback from community	1
	TOTAL	24

List of Practical

Sr. No.	Topic name
1	Preparing survey tools: Formats, questionnaires, interviews
2	Data analysis techniques: Statistical and informal tools
3	Presentation of the full process of identification of community issues
4	Mentioning advantages and limitations of the solutions
5	Exercise -1
6	Exercise -2



Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	10%	15%	20%	20%	30%

Instructional Method and Pedagogy

1. The course shall be taught in the mixed mode format of class room learning and field visits.
2. Major portion shall be learnt by the students at the field.
3. Presence in all sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic the faculty shall evaluate the work by assigning grades to the work done. This shall carry 5% weightage for timely completion and submission of the assigned work.
5. The laboratory experiments are planned in such a way that it covers the practical aspects of the course contents. The performance of these experiments shall bring the clarity of the theoretical concepts which the students have studied during the academic sessions.

Recommended Study Material

Reference Books: As suggested by the faculty during the interactions and discussion.



01CR0401 Professional Ethics

Objective: This course will enable the budding engineers and managers to effectively resolve the ethical issues they will face in their professional lives.

Credits Earned: 1

Course Outcomes: After completion of this course, student will be able to:

- Express the basics of human values.
- Articulate human values and grow as responsible human beings in the society.
- Develop ethical conduct and deliver their professional duties.
- Analyze ethical confusions and contradictions to bring harmony at thought, behaviour and action level.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work TW=CSE	
1	0	0	1	00	00	00	50	50	100

Contents:

Unit	Topics	Contact Hours
1	OVER VIEW AND BASIC CONCEPTS The concept of terminology of morals and morality, ethics, values, spirituality and stakeholder will enable students to have clarity about the concepts which are important for individuals and organizations.	2
2	Profession and Professionalism Introduction to Profession and Professionalism will cultivate the ability to relate to ethical concepts and ethical problems in specific professions and professionalism	2
3	Ethical Theories. Understand variety of Moral Issues and Examples of Moral Dilemmas and Resolving Moral Dilemmas Conflict to enable the students to differentiate between right and wrong. .	2
4	Responsibilities and rights of professional. Professional Rights & Responsibilities will impart clarity on Loyalty, Confidentiality, Respect for Authority, Accountability and its importance. Issues related to Pride of Profession ,Pride of Employer, Gifts and Bribes, Whistle-blowing, Discrimination,Vishakha Guidelines and Sexual Harassment of Women at Workplace (Prevention, Prohibition And Redressal) Act 2013	3



5	Ethics In Engineering Profession Ethics In Engineering Profession will bring clarity about the Roles of Engineers such as Engineers as Managers and Other Roles Played by Engineers.	1
6	Ethical Codes Need for Ethical Codes will enable students to understand the prominence of ethical codes and become benchmarks against which individual and organizational performance can be measured. Codes From Other Profession-Advertising Standards Council of India, Corporate Codes-Tata Group of Companies will give them the profound knowledge of ethical codes.	1
7	GLOBAL ISSUES Intellectual Property Rights will bring out the broader ethical issues surrounding intellectual property rights. Roles of Media, Positive Aspects of Media, Negative Aspects of Media, Accountability of Media, Regulation of Media Factors in Media Ethics, Advertising Ethics, Corporate Social Responsibility- Concept ISO and CSR, Scenario CSR Rules in India Manufacturing and Marketing of Computers Software, Cybercrimes, Data Stealing, Embezzlement, Hacking.	3
Total Hours		14

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
20%	20%	35%	10%	10%	5%

Instructional Method:

- The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, case studies etc.
- The internal evaluation will be done on the basis of continuous evaluation of students in the class-room.
- Practical examination will be conducted at the end of semester for evaluation of performance of students in classroom.
- Students will use supplementary resources such as online videos



References:

1. Text book: Professional Ethics by- R. Subramanian
2. Reference Book/other reading material:
3. Engineering Ethics & Human Values by: M.Govindarajan , S. Natarajan & V.S.Senthilkumar PHI Learning Pvt. Ltd.



B. Tech. Year I, Sem I							Evaluation Scheme					
Subject Code	Subject Name	Type	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
			Theory	Tutorial	Practical		ESE(E)	IA	CSE	Viva (V)	Term work (TW)	
01MA1101	Differential and Integral Calculus	BSC	4	2	0	5	50	30	20	25	25	150
01CI0101	Elements of Civil Engineering	ESC	3	0	2	4	50	30	20	25	25	150
01ME0101	Elements of Mechanical Engineering	ESC	3	0	2	4	50	30	20	25	25	150
01CE0101	Computer Programming	ESC	3	0	2	4	50	30	20	25	25	150
01GS0101	Physics	BSC	3	0	2	4	50	30	20	25	25	150
01CR0103	Value Education	HSMC	2	0	0	2	-	-	-	50	50	100
	Total		18	2	8	23	250	150	100	175	175	850
B. Tech. Year I, Sem II							Evaluation Scheme					
Subject Code	Subject Name	Type	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
			Theory	Tutorial	Practical		ESE(E)	IA	CSE	Viva (V)	Term work (TW)	
01MA1151	Matrix algebra and Vector Calculus	BSC	4	2	0	5	50	30	20	25	25	150
01SL0102/ 01SL0103	Reading & Writing For Technology / Speaking & Presentation Skills	HSMC	2	0	0	2	-	30	20	25	25	100
01ME0102	Engineering Graphics	ESC	4	0	4	6	50	30	20	25	25	150
01EE0103	Basic Electrical and Electronics	ESC	3	0	2	4	50	30	20	25	25	150
01EN0101	Basics of Environmental Studies	ESC	2	0	0	2	50	30	20	-	-	100
01ME0104	Workshop	ESC	0	0	2	1	-	-	-	-	50	50
01PE0101	Physical Education/Sports/Yoga	NC/HSMC	0	0	2	1	-	-	-	-	-	-
	Total		15	2	10	21	200	150	100	100	150	700



B.Tech. Draft Teaching and Examination Scheme Semester III & IV

B. Tech. Year II, Sem III							Evaluation Scheme					
Subject Code	Subject Name	Type	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
			Theory	Tutorial	Practical		ESE(E)	IA	CSE	Viva (V)	Term work (TW)	
01MA0301	Applied Differential Equation	BSC	4	2	0	5	50	30	20	25	25	150
01CI0301	Mechanics of Solids	PCC-CE	4	0	2	5	50	30	20	25	25	150
01CI0302	Building Planning & Drawing	PCC-CE	2	0	2	3	50	30	20	25	25	150
01CI0303	Surveying	PCC-CE	2	0	2	3	50	30	20	25	25	150
01CI0304	Fluid Mechanics	PCC-CE	4	0	2	5	50	30	20	25	25	150
01CI0305	Software Applications in Civil Engineering-I	LC-CE	0	0	2	1	-	-	-	25	25	50
01CI0306	Project Based on Community Service - I	PROJ-CE	0	0	2	1	-	-	-	25	25	50
	Total		16	2	12	23	250	150	100	175	175	850
B. Tech. Year II, Sem IV							Evaluation Scheme					
Subject Code	Subject Name	Type	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
			Theory	Tutorial	Practical		ESE(E)	IA	CSE	Viva (V)	Term work (TW)	
01CR0401	Professional Ethics	HSMC	1	0	0	1	-	-	-	50	50	100
01CI1401	Material Testing & Evaluation	PCC-CE	3	0	4	5	50	30	20	25	25	150
01CI0402	Structural Analysis-I	PCC-CE	4	2	0	5	50	30	20	25	25	150
01CI0403	Basics of Geology & Geotechnical Engineering	PCC-CE	3	0	2	4	50	30	20	25	25	150
01CI1404	Advanced Surveying & Geomatics	PCC-CE	3	0	4	5	50	30	20	25	25	150
01CI1405	Software Applications in Civil Engineering-II	LC-CE	0	0	2	1	-	-	-	25	25	50
01CI0407	Project Based on Community Service - II	PROJ-CE	0	0	2	1	-	-	-	25	25	50
	Total		14	2	14	22	200	120	80	200	200	800

B.Tech. Draft Teaching and Examination Scheme Semester V & VI

B. Tech. Year III, Sem V							Evaluation Scheme					
Subject Code	Subject Name	Type	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
			Theory	Tutorial	Practical		ESE(E)	IA	CSE	Viva (V)	Term work (TW)	
01CI0501	Hydrology and Water Resource Management	PCC-CE	2	0	2	3	50	30	20	25	25	150
01CI0502	Structural Analysis - II	PCC-CE	4	2	0	5	50	30	20	25	25	150
01CI0503	Highway Engineering	PCC-CE	3	0	2	4	50	30	20	25	25	150
01CI0504	Environmental Engineering	PCC-CE	3	0	2	4	50	30	20	25	25	150
01CI0505	Software Applications in Civil Engineering - III	LC-CE	0	0	2	1	-	-	-	25	25	50
01CI0506	Project Based on Community Services - III	PROJ-CE	0	0	2	1	-	-	-	25	25	50
01CR0501	Business Benchmark	HSMC	1	0	0	1	-	-	-	50	50	100
	Department Elective - I	PEC-CE	3	0	2	4	50	30	20	25	25	150
	Total	30	16	2	12	23	250	150	100	225	225	950
Department Elective - I												
01CI0507	Environmental Pollution											
01CI0508	Disaster Management											
01CI0509	Traffic Engineering											
B. Tech. Year III, Sem VI							Evaluation Scheme					
Subject Code	Subject Name	Type	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
			Theory	Tutorial	Practical		ESE(E)	IA	CSE	Viva (V)	Term work	
01CI0601	Transportation Engineering	PCC-CE	2	0	2	3	50	30	20	25	25	150
01CI0602	Elementary Design of Structures	PCC-CE	4	0	2	5	50	30	20	25	25	150
01CI0603	Advanced Geotechnical Engineering	PCC-CE	3	0	2	4	50	30	20	25	25	150
01CI0604	Professional Practice & Valuation	PCC-CE	2	0	2	3	50	30	20	25	25	150
01CI0605	Construction Technology & Safety Engineering	PCC-CE	2	0	0	2	50	30	20	-	-	100
01CI0606	Software Applications in Civil Engineering - IV	LC-CE	0	0	2	1	-	-	-	25	25	50
01CI0607	Project Based on Community Services - IV	PROJ-CE	0	0	2	1	-	-	-	25	25	50
	University Elective - I	OEC	3	0	2	4	50	30	20	25	25	150
	Total	30	16	0	14	23	300	180	120	175	175	950
University Elective - I												
01CI0608	Energy Science & Engineering											



01CR0501: Business Benchmark

Objective: This, an upper-intermediate qualification that shows students have a level of English that is adequate for practical everyday use in a business environment.

Credits Earned: 1 Credit

Course Outcomes: This an upper-intermediate level qualification, which shows students can:

- Contrast and understand short pieces of business correspondence reports or proposals.
- Read and Categorize the extracts from business publications. Ask for information required.
- Listen to, understand and contribute to discussions in meetings.
- Prepare the presentation on a familiar topic.

Pre-requisite of course: NA.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
1	0	0	1	-	-	-	50	50	100

Contents:

Unit	Topics	Contact Hours
1	The working day Changing places, job swapping at work. Discussion on how to describe jobs. Understanding job titles names of company department.	1
2	Getting the right job Reading through job satisfaction at Sony Mobile and advice on job applications for how to make web entries and writing a short email. Discussion on format of emails and letters. Language work on past simple regular and irregular verbs. Using comparatives and superlatives	2
3	Making Contact A quiz on telephone with phone answering tips. Short talk on what is important when making a business telephone call. Language work on present passive and modal verbs for obligation. Present simple and continuous: time expressions and state verbs, asking questions, expressing likes and introducing reasons.	1
4	Launching a product Reading through a Drink Me Chai success story. How to launch and promote new products. How to write a marketing report. Language work on Present Continuous for	2



	future, will and am going to forms and the differences between them.	
5	Starting a business Setting up an international franchise. Writing the letter of enquiry. Language work on perfect tense and simple past tense & Past continuous and using prepositions in time phrase.	2
6	Making arrangements and transport How to make travel arrangements. Writing a letter responding to an invitation. Discussion on what factors are important while on a business trip.	1
7	Business Meetings Study on survey of meetings. Writing an email about giving instructions and business trip. Discussion on how meeting should be conducted. Language work on using collocations describing reasons for meetings and referencing. Using modals to Showcase responsibility and ability.	1
8	Social media and business Ways of using social media. Writing an email arranging a meeting and introducing a company. Discussion on how to use social media. Making recommendations and using passive to express opinions and ideas.	1
9	Job applications Writing your CV. Writing a letter inviting a candidate for interview and letter giving the result of an application. Headings for CVs and describing application procedure.	2
10	Communication with customers How to train for customer communication skills. Discussion on the best methods for communicating different things. Expressing result. Adjective & Noun collocations.	1
	Total Hours	14

References:

- Cambridge English-Business Benchmark upper intermediate

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
20%	20%	35%	10%	10%	15%



01CI0501: Hydrology and Water Resource Management
Objective of the Course

Objectives of introducing this subject at third year level in civil branches are:

- To exemplify the students for measurement of precipitation, infiltration, Evaporation, evapotranspiration.
- To develop understanding of construction hydrograph, unit hydrograph and S-Hydrograph
- To enable the students for estimation of peak floods.
- To understand the students about flood management technique.
- To create understanding about features of various types of dam.
- To demonstrate hydrological simulation model

Credits Earned: 4

Students Learning Outcomes

After studying this subject students will be able to:

- Workout Average Rainfall from a catchment
- Calculate infiltration rate and capacity using double ring Infiltrometer
- Figure out runoff from a catchment using unit hydrograph
- Estimate highest flood flow in the river
- Compute the discharge from bore and yield of well
- Management of storm water and flood by using hydrological simulation model.

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term Work (TW)	
Hydrology and water resource Management	2	0	2	4	50	30	20	25	25	150



Detailed Syllabus

Sr. No	Topic name	Hours
1	Hydrology	12
	1.1 Precipitation: Forms, type & formation of precipitation, measurement of rainfall, interpretation of rainfall data, estimating missing data, double mass curve, average rainfall over area, DAD analysis, Rainfall Data In India	5
	1.2 Evaporation: Evaporation and its Measurement	2
	1.3 Evapotranspiration: Evapotranspiration and its measurement	2
	1.4 Infiltration: factors affecting infiltration and its measurement	1
	1.5 Stream flow: its measurement	1
	1.6 Data network & telemetry:	1
2	Hyetograph and Hydrograph Analysis	8
	2.1 Introduction and construction of hydrograph	1
	2.2 Water shed characteristic, factors affecting runoff	2
	2.3 Hydrograph perception, its components, Factors affecting hydrograph assumptions and limitation of unit hydrograph, Derivation of unit hydrograph and application of Unit Hydrograph, S-hydrograph. Flow duration curve	5
3	Ground Water hydrology	7
	3.1 Groundwater formation and occurrence, Types of aquifer, aquifer parameter,	3
	3.2 Ground Water movement –Darcy's Law, Well Hydraulics, Well losses, yield of well, constant level pumping test and Recuperation Test	4
4	Flood Management	4
	4.1 Historical flood in Indian Rivers , Causes of floods, Flood mitigation measure, flood damage analysis	4
5	Hydrologic Analysis	4
	5.1 Design flood, Flood Assessment method, Flood Frequency Analysis, Flood routing through reservoir and channel routing. Storm drainage design.	4
6	Hydrologic Simulation model	5
	6.1 overview, Classification, steps in digital simulation, Quality Assurance in computer simulation studies, Crops of engineering HEC simulation Models : HEC Models, HEC-HMS model, HEC –RES model, SWMM	5
	TOTAL	40



List of tutorial

Sr. No.	Name of Topic
1	Assessment of flood using unit hydrograph and S-Hydrograph
2	Determination of discharge of bore & yield of well.
3	Calculation of live and dead storage capacity of reservoir
4	Computation of capacity of reservoir using mass inflow curve
5	Computation of power of a hydro-power plant
6	Probability distribution and Flood routing
7	Application Of SWMM and HEC-REC

Key Equipment: Symons's Rain Gauge, Float Type Automatic Rain gauge, Pan Evaporimeter, Double Ring Infiltrometer, Digital Current Meter

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
15%	20%	20%	15%	20%	10%

Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.
3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.
5. The laboratory experiments are planned in such a way that it covers the practical aspects of the course contents. The performance of these experiments shall bring the clarity of the theoretical concepts which the students have studied during the academic sessions.

Recommended Study Material
Reference Books:

1. K. Subramanya, Engineering Hydrology, Tata McGraw Hill Pub. Co. New Delhi.
2. Ven Te Chow, D.R. Maidment and L.W Mays, Applied Hydrology, McGraw Hill International Edition, New York
3. R.A. Wurbs and W.P. James, Water Resources Engineering, Prentice Hall of India, New Delhi.
4. R.K. Sharma and T.K. Sharma, Hydrology and Water Resources Engineering, Dhanpat Rai Publications, New Delhi.
5. arren Viessman Jr; Gary L. Lewis, Introduction to Hydrology, fifth Edition, Pearson, Noida (UP)



01CI0502: Structural Analysis-II
Objective of the Course

Objectives of introducing this subject at second year level in civil branches are:

- To equip students with statically indeterminate structure and formation of compatibility equations.
- To make students use strain energy equations for determining various structural parameters like slope, deflection, shear force and bending moment in determinate structural systems.
- To make students identify various methods used to analyze and evaluate internal forces in indeterminate structural systems.

Credits Earned: 5

Students Learning Outcomes

After studying this subject students will be able:

- To analyze end actions of indeterminate structures by using Consistent deformation method, Moment Distribution method and Slope & deflection method.
- To examine the physical structural parameters using the strain energy concepts.
- To develop the influence lines for indeterminate beams that helps in evaluating end reactions, shear force and bending moment at particular section for moving load
- To analyze indeterminate structure using matrix method

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term Work (TW)	
Structural Analysis-II	4	2	0	5	50	30	20	25	25	150

Detailed Syllabus

Sr. No	Topic name	Hours
1	Fixed Beam and Consistent Deformation Method	09
	1.1 Determination of fixed end actions under various loading conditions	04
	1.2 Computation of fixed end actions considering secondary effects	02
	1.3 Consistent deformation method for analysis of Propped cantilever beam and beams with varying moment of inertia	03
2	Slope Deflection Method	08
	2.1 Basic concepts and derivation of Slope Deflection equation	01
	2.2 Analysis of indeterminate structures using slope deflection method with and without rotation and settlement of support for prismatic sections	05
	2.3 Analysis of single bay portal frames with sway	02
3	Energy Principles	10
	3.1 Introduction to Castigliano's theorem	01



	3.2 Determination of slope and deflection for determinate structures by Castigliano's 1 st theorem and Unit load method	06
	3.3 Analysis of indeterminate structures by Castigliano's 2 nd theorem	03
4	Moment Distribution Method	10
	4.1 Moment distribution theorem and concept of relative stiffness	02
	4.2 Analysis of continuous beams and portal frames using moment distribution method	05
	4.3 Sway analysis of portal frame and use of symmetry upto two storeyed/ two bay frames	03
5	Matrix Method	14
	5.1 Formation of Stiffness and flexibility matrices for structures	02
	5.2 Analysis of indeterminate beams, trusses and plane frames by using Stiffness matrix method	08
	5.3 Analysis of indeterminate beams using Flexibility matrix method	04
6	Influence Line diagram for Statically Indeterminate Structures	05
	6.1 Muller-Breslau's principle	01
	6.2 Influence line for reaction and internal forces in propped cantilever and continuous beams	04
		56

Laboratory Experiments shall not be performed and Instead Tutorials are to be conducted

Sr. No	Topic name	Hours
1	Fixed Beam and Consistent Deformation Method	2
2	Energy Principles	2
3	Slope Deflection Method	2
4	Moment Distribution Method	2
5	Matrix Method	4
6	Influence Line diagram for Statically Indeterminate Structures	2
		14

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	15%	10%	60%	10%	0%



Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.
3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.

Recommended Study Material**Reference Books:**

1. Junarkar S.B. & Shah H.J.; Mechanics of Structures Vol-II; Charotar publishing house, Anand
2. Wang C. K.; Indeterminate Structural Analysis; Tata McGraw Hill book Company, New Delhi
3. Gere & Weaver; Matrix analysis of framed structures, CBS Publication
4. Ryder G.H.; Strength of Materials; McMillan
5. Gere & Timoshenko; Mechanics of Materials; CBS Publishers & Distributors, Delhi
6. Hibbler R C; Structural Analysis; Pearson Education
7. Ramamrutham S.; Theory of structures, Dhanpat Rai Publishing company



01CL0503: Highway Engineering
Objective of the Course

Objectives of introducing this subject at second year level in civil branches are:

- To understand the design of road network which is safe, economic and time saving for passengers and goods movements
- To impart knowledge to the civil engineering students on highway planning, its design, methods of construction, traffic studies and maintenance
- To make students understand about concepts of analysis and design of pavement structure
- To make students able to perform various test related to highway materials

Credits Earned: 4

Students Learning Outcomes

After studying this subject students will be able to:

- Explain the importance of highway planning and fundamentals of traffic engineering.
- Identify the different properties of pavement materials and recommend the maintenance strategies for highway design.
- Plan a highway project considering aspects such as highway finance and road safety.
- Examine the various parameters of highway geometry and structural design of pavements

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term Work (TW)	
Highway Engineering	3	0	2	4	50	30	20	25	25	150

Detailed Syllabus

Sr. No	Topic name	Hours
1	Introduction – Highway Engineering	2
	1.1 Scope of highway engineering, Development of Highway in India	1
	1.2 , 20 years Road Planning, Vision 20-20	1
2	Geometric Design of Highway	10
	2.1 Cross sectional elements –width of carriage way, road surface, camber	1
	2.2 Sight Distance – types of sight distance: SSD, OSD, ISD, HSD	3
	2.3 Design of Horizontal and Vertical curve- alignment of curve and problem solving	3
	2.4 Super Elevation and Gradient	2
	2.5 Summit and Valley curves	1
3	Highway Material	10
	Engineering and physical properties and Basic Tests: materials used in highway construction	



	3.1 Subgrade Soil- Importance, characteristics, index properties, classification and methods, evaluation of soil structure	2
	3.2 Aggregate- function, properties, test	1
	3.3 Binders- types and characteristics, function, test	1
	3.4 Bituminous Material- grading , characteristics, emulsion, cutback, modified binder	2
	3.5 Bituminous Paving mixes- requirement of mixes, constituents, properties, Marshall method for bituminous mix design	2
	3.5 Cement and Cement Concrete- Introduction, materials for construction of rigid pavement, requirement of paving concrete	2
4	Pavement	15
	4.1 Design of flexible and rigid pavement - types of pavement, comparison of flexible and rigid pavement, components of pavement and its function, factor affecting design, stresses in flexible and rigid pavement, pavement design methods, special types of rigid pavement	8
	4.2 Highway construction methods - Steps of construction of new highway, embankment and subgrade, excavation of earth, construction of flexible pavement, construction of rigid pavement, construction of low volume roads, soil stabilization of roads- mechanical stabilization, soil cement stabilization, soil lime stabilization, soil stabilization using bituminous material, special problems in soil stabilization	3
	4.3 Failure and maintenance of roads- objectives of maintenance, classification of maintenance, highway drainage, failure in flexible pavement and rigid pavement	2
	4.4 Highway economics and road safety audit - introduction, highway user benefits, highway costs, highway finance	2
5	Traffic Engineering	5
	5.1 Basic Elements of traffic engineering 5.2 Road user characteristics, vehicular characteristics	1
	5.3 Traffic Flow characteristics- basic traffic maneuver, traffic stream flow characteristics, speed-flow-density relations, passenger car units, capacity and LOS, design service volume	2
	5.4 Traffic Engineering studies and analysis - traffic volume studies, spot speed studies, speed and delay studies, O-D studies, parking studies, accident studies	2
	TOTAL	42

List of Practical

Sr. No	Topic name
A	Materials Test:
1	Aggregate Abrasion test
2	Penetration Test
3	Softening Point test
4	Ductility Test
5	Viscosity Test
6	Marshall Stability Test
7	Benkelman Bean Test



B	Tutorials
1	Highway Planning
2	Inter relationship between traffic parameters

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
10%	25%	10%	35%	20%	00%

Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.
3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.
5. The laboratory experiments are planned in such a way that it covers the practical aspects of the course contents. The performance of these experiments shall bring the clarity of the theoretical concepts which the students have studied during the academic sessions.

Recommended Study Material

Reference Books:

1. Highway Engineering by S.K. Khanna and C.E.G. Gusto, A.Veeraragavan, Nem Chand and Bros, Roorkee.
2. Traffic Engineering and Transport planning by Dr. L.R. Kadiyali, Khanna Publishers.
3. Highway Engineering by Dr. L.R. Kadiyali, Khanna Publishers
4. Principle and practices of Bridge Engineering by S.P.Brindra, DhanpatRai and Sons
5. IRC 37 "Guidelines for design of Flexible Pavement", IRC, New Delhi, 2001.
6. IRC 58 2002, "Guidelines for design of Plain Jointed Rigid Pavement For Highways", IRC, New Delhi, 2002.
7. IRC 67 " Code of Practice for Road Signs", IRC, New Delhi, 2001.
8. IRC 106 "Guidelines For Urban Capacity for Plan Areas", IRC 1990



01CI0504 : Environment Engineering

Course Objectives: To design and understand the application of treatment system

Credits Earned: 4

Course Outcomes:

After completion of this course students will be able to –

- Understand the various sources of water, standards, and criteria for designated uses.
- Design of primary, secondary, and tertiary water treatment units.
- Design of conveyance systems for water supply schemes.
- Need and design of separate and combined sewerage systems.
- Design aspects, role and functioning of various primary and secondary wastewater treatment units.

Pre-requisite of course: Basic understanding about the environment science

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	IA (M)	CSE	Viva (V)	Term work (TW)	
Environmental Engineering	3	0	2	4	50	30	20	25	25	150

Detailed Syllabus

Unit	Topics	Hours
1	Introduction Sources of water: Surface and sub-surface water sources- their quality and suitability. Quality of water: Meaning of pure water and methods of analysis of water, physical, chemical and bacteriological tests and their significance, standard of potable water as per Indian standard and International standards, Maintenance of purity of water, Impurities in water.	6
2	Water Supply: Quantity of water - Brief description of water supply system, Water requirement, rate of demand and variation in rate of demand, per capita consumption for domestic, industrial, public and fire fighting uses as per BSI standards, population forecasting. Water treatment: Sedimentation-purpose, types of sediments tanks, Coagulation, flocculation, Filtration-	9



	significance, types of filters, their suitability. Necessity of disinfection of water, chlorination- break point chlorine, residual chlorine, application of chlorine. Flow diagram of different treatment units and its functions- Aeration fountain, mixer, flocculator, slow and rapid sand filters, chlorination chamber.	
3.	Conveyance of water: Different types of pipes- their suitability and uses. System of water supply- intermittent and continuous service reservoirs- types, necessity and accessories. Wastage of water- preventive measures, maintenance of distribution system.	5
4.	Waste water engineering: Introduction: purpose of sanitation, necessity of systematic collection and disposal of waste, collection and conveyance of sewage, Quantity and quality of sewage. Collection of sewage and estimation of its discharge: Different types of sewers, sewerage systems, variation in sewage flow, sewer appurtenance, estimation of wastewater discharge in a sewer in sewerage system, estimation of storm water discharge in urban area, separate and combined sewerage systems, laying and testing of sewers.	12
5.	Sewage treatment: Meaning and principle of primary and secondary treatment, constructional detail of screens, grit chamber, detritus tank, skimming tank, plain sedimentation tank, primary clarifiers, secondary clarifiers, filters, control beds, intermittent sand filters, trickling filters, activated sludge processes, sludge treatment and disposal, oxidation ponds.	10

List of experiment

Sr. No.	Experiment	No. of turns
1	Introduction to Standards, collection and preservation of samples, sampling techniques and laboratory equipment.	1
2	Determination of pH value of given samples.	1
3	Determination of conductivity and total dissolved solids (TDS) of given water samples.	1
4	Determination of Acidity and Alkalinity of provided samples.	2
5	Determination of Turbidity.	1
6	To perform jar test for coagulation.	2
7	Determination of dissolved oxygen (DO) and Biochemical oxygen demand (BOD) for given sample.	2
8	Determination of Chemical oxygen demand (COD).	1



9	Determination of residual chlorine in water.	1
10	Treatability studies of domestic wastewater (Aeration for 24, 48, 72 hrs. Finding influent and effluent COD, SVI, MLSS conc.)	2

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	15%	10%	60%	10%	0%

Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.
3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.

Reference Books:

1. Environmental engineering volume 1 and 2 by S.K.Garg, Khanna publisher
2. Environmental engineering volume 1 and 2 by B.C.Punamia, laxmi publication
3. Environmental engineering volume 1 and 2 by Dr.P.M.Modi
4. Water supply and sanitary engineering by G.S.Birdie and J.S.Birdie



01CI0505: Software Applications in Civil Engineering - III
Objective of the Course

Objectives of introducing this subject at second year level in civil branches are:

- To make students understands about simulation of traffic conditions in any urban area
- To impart knowledge to the civil engineering students on optimization of signal timing and designing
- To make students understand about concepts of traffic simulation and management
- To make students able to perform various simulation on traffic

Credits Earned: 1

Students Learning Outcomes

After studying this subject students will be able to:

- To Make use of Drawing tools and command
- To Construct Computer aided drawing for nodes and links in transportation project
- To Analyze various influencing traffic parameters and prioritize them according to their effects
- To Predict the optimized signal cycle as per traffic condition

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE	IA	CSE	Viva	Term Work	
Software VISSIM	0	0	2	1	-	-	-	25	25	50

Detailed Syllabus

Sr. No	Topic name	Hours
1	Introduction	4
	1.1 What is VISSIM?	2
	1.2 Applications and Various Technical Terms and Theories	2
2	Network Generation	2
	2.1 Simple Cross Road	1
	2.2 Intersection With Turning Movement	1
3	Vehicle and Route Assignment	2
	3.1 Vehicle Input (Types, Class, Composition)	1
	3.2 Vehicle Route Assignment (Turning Movement)	1
4	Road Geometric Parameter	2
	4.1 Conflict Point	1
	4.2 Speed Reduction Zone	
	4.3 Right of Way	1
4.4 Simulation		
5	Exercise -1	2
6	Traffic Signal Design	4



	6.1 Assigning Signal Phase	1
	6.2 Signal Timing	1
	6.3 Signal Head	1
	6.4 Simulation	1
7	Exercise -2	2
8	Alteration of Attributes	2
9	Analysis of Queue Length	2
10	Analysis of Vehicle Delay	2
11	Exercise -3	2
12	Exercise -4	2
	TOTAL	28

List of Practical

Sr. No.	Topic name
1	Introduction
2	Network Generation
3	Vehicle and Route Assignment
4	Road Geometric Parameter
5	Exercise -1
6	Traffic Signal Design
7	Exercise -2
8	Alteration of Attributes
9	Analysis of Queue Length
10	Analysis of Vehicle Delay
11	Exercise -3
12	Exercise -4

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
10%	25%	10%	35%	20%	00%



Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.
3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.
5. The laboratory experiments are planned in such a way that it covers the practical aspects of the course contents. The performance of these experiments shall bring the clarity of the theoretical concepts which the students have studied during the academic sessions.

Recommended Study Material**Reference Books:**

1. Lab Manual on VISSIM by Ptv VISSIM.



01CI0506: Project Based on Community Services - III
Objective of the Course

Objectives of introducing this subject at second year level in civil branches are:

- To encourage students for abridging the academic knowledge with real life concerns.
- To make students skillful and capable on applying acquired knowledge innovatively and independently for public.
- To make students aware and face the actual challenges and hurdles for the knowledge application into the field.
- To build the self confidence of the students and make them awaken for their inter-personal skills.
- To inculcate the senses within the students that they note how the civil engineering is one of the primary branch capable of providing a better life to public.

Credits Earned: 1

Students Learning Outcomes

After studying this subject students will be able to:

- Identify the engineering related problems in the community.
- Analyze and Design different solutions to resolve the problems of community.
- Apply economical solution to those problems in the field.

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE	IA	CSE	Viva	Term Work	
Project Based on Community Services - III	0	0	2	1	-	-	-	25	25	50



Detailed Syllabus

Sr. No	Topic name	Hours
1	Introduction	2
	1.1 What is community based services?	1
	1.2 Why Civil Engineering is a synonym of the knowledge for community?	1
2	Identifying the issues within the community	4
	2.1 Preparing a questionnaire, formats and survey forms	2
	2.2 Analysis of collected data and mapping of issues with the solutions available	2
3	Varieties of survey and ground work for communal issues	4
	3.1 Different types of surveys, tools and techniques for collecting the information	2
	3.2 Identification of exact issues and most appropriate solution	2
4	Factors affecting problem identification for the community	3
	4.1 Varieties of factors: Social, economical, environmental, educational	1
	4.2 Balancing the effects of the affecting factor to carryout solution	1
	4.3 Normalization of factors and finding the path way for problem solution	1
5	Exercise -1 (Group activity)	6
	5.1 Selection of problem from the community and mapping of issues	2
	5.2 Planning for working: Aim, objective and scope, time line	1
	5.3 Application of civil engineering knowledge and tools for solutions	1
	5.4 Validation of the solution by supervising the execution of solution	1
	5.5 Measuring the attainment of the solution: Feedback from community	1
6	Exercise -2 (Group or Individual activity)	5
	6.1 Selection of problem from the community and mapping of issues	1
	6.2 Planning for working: Aim, objective and scope, time line	1
	6.3 Application of civil engineering knowledge and tools for solutions	1
	6.4 Validation of the solution by supervising the execution of solution	1
	6.5 Measuring the attainment of the solution: Feedback from community	1
	TOTAL	24

List of Practical

Sr. No.	Topic name
1	Preparing survey tools: Formats, questionnaires, interviews
2	Data analysis techniques: Statistical and informal tools
3	Presentation of the full process of identification of community issues
4	Mentioning advantages and limitations of the solutions
5	Exercise -1
6	Exercise -2



Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	10%	15%	20%	20%	30%

Instructional Method and Pedagogy

1. The course shall be taught in the mixed mode format of class room learning and field visits.
2. Major portion shall be learnt by the students at the field.
3. Presence in all sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic the faculty shall evaluate the work by assigning grades to the work done. This shall carry 5% weightage for timely completion and submission of the assigned work.
5. The laboratory experiments are planned in such a way that it covers the practical aspects of the course contents. The performance of these experiments shall bring the clarity of the theoretical concepts which the students have studied during the academic sessions.

Recommended Study Material

Reference Books: As suggested by the faculty during the interactions and discussion.



01CI0507 : Environmental Pollution

Course Objectives: Course will introduce about the adverse effects of toxicants on environment and human being and the approaches to carry out a risk assessment and management.

Credits Earned: 4 Credits

Course Outcomes: After completion of this course students will have an –

- (i) Idea about different types of pollution
- (ii) Able to know about sampling techniques and disposal method

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	IA (M)	CSE	Viva (V)	Term work (TW)	
Environmental Pollution	3	0	2	4	50	30	20	25	25	150

Detailed Syllabus

Unit	Topics	Hours
1	Water Pollution: Types and sources. Sampling Methods. Water Quality Parameters, Types and sources of water pollution, Various pollutants responsible for water pollution: Biological pollutants; Inorganic; Organic; Heavy metals; Pesticides; Radioactive pollutants, etc., Various sources Effluent standards, Drinking water standards, Characteristics of Domestic Waste, Characteristics of agricultural Waste, Consequences of water Pollution: Effect on health on biosphere and on economy, Sampling methods: Purpose of sampling, different types of samples, collection methods and various instruments used for it. Methods involved in estimation of parameter for pollution levels.	12
2	Marine Water Pollution: Types, sources and consequences. Specifications for disposal of sewage and industrial waste into sea. Disposal of sewage & wash water from MV cargo & ships	5



3.	Soil Pollution: Types, sources and consequences. Sampling Methods. Specifications for disposal of sewage & effluent on land for irrigation & ground water recharge. Methodology of wastewater disposal on land in India. Impact of usage of land for solid waste disposal both municipal solid waste & industrial solid wastes (fly ash from thermal power station, lime sludge from pulp & paper mills). Disposal of hazardous solid waste (heavy metals, toxic organic compounds) on land & its impact on soil pollution. Deterioration of soil due to mining activities Case study of restoration of land due to a. disposal to fly ash, b. dumping overburden & tailing in iron ore extraction.	12
4.	Solid-waste Pollution: Types, sources and consequences. Classification of wastes – (Domestic, Industrial, Municipal, Hospital, Nuclear, Agriculture), Transfer and transport, Recycle, Reuse, Recovery, Conversion of solid wastes energy / Manure, Disposal methods – Generation, Sea disposal, Land disposal, Waste disposal on farm crops for irrigation purpose.	10
5	Radioactive Pollution: Types, sources and consequences.	3

List of experiment

Sr. No.	Experiment	No. of turns
1	Introduction to Standards, collection samples,	1
2	Determination of pH and hardness of water sample	1
3	Determination of TDS, TSS of water sample	1
4	Determination of VSS of water sample	1
5	Determination of moisture content of soil sample	1
6	Determination of langmuir saturation index	1
7	MPN test	2



Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	15%	10%	60%	10%	0%

Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.
3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.

Reference Books:

1. Waste water Engineering Treatment & Reuse by Metcalf and Eddy.
2. Wastewater treatment for pollution control by Soli J Arceivala (Tata McGraw-Hill).
3. Environmental Engineering – A design approach by Arcadio P. Sincero & Grecjoria A. Sincero (Prentice Hall of India).
4. Environmental radioactivity – M. Eisendbud, Academic press.
5. Environmental Science – A study of Inter relationships, E. D. Enger, B. E. Smith, 5th ed., W C B publication.



01CI0508: Disaster Management
Objective of the Course

Objectives of introducing this subject at third year level in civil branches are:

- The Course focuses on types of Hazards, its effects and control methodology along Disaster management law and acts.
- This course would educate students to identify and assess hazards and disaster in any stage of operation, to quantify and manage them as well.

Credits Earned: 4

Students Learning Outcomes

After studying this subject students will be able to:

- Decide emergency, vulnerability and the importance of disaster management to handle the situation.
- Prepare damage assessment of natural and manmade disasters.
- Work out financing relief expenditures and distribution program.
- Prepare emergency management program
- Implement Engineering mitigation measure to control disaster impact.

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	IA (M)	CSE (I)	Viva (V)	Term Work (TW)	
Disaster Management	3	0	2	4	50	30	20	25	25	150

Detailed Syllabus

Sr. No.	Topic name	Hours
1	Understanding Disasters	04
	1.1 Understanding the Concepts and definitions of Disaster, Hazard, Vulnerability, Risk, Capacity, Disaster and Development, and disaster management.	04
2	Types, Trends, Causes, Consequences and Control of Disasters	08
	2.1 Geological Disasters (earthquakes, landslides, tsunami, mining);	02
	2.2 Hydro-Meteorological Disasters (floods, cyclones, lightning, thunder-storms, hailstorms, avalanches, droughts, cold and heat waves); Biological Disasters (epidemics, pest attacks, forest fire	02
	2.3 Technological Disasters (chemical, industrial, radiological, nuclear) and Man-made Disasters (building collapse, rural and urban fire, road and rail accidents, nuclear, radiological, chemicals and biological disasters);	02
	2.4 Global Disaster Trends – Emerging Risks of Disasters – Climate Change and Urban Disasters	02

3	Disaster Management Cycle and Framework	10
	3.1 Disaster Management Cycle , Paradigm Shift in Disaster Management, Pre-Disaster ,Risk Assessment and Analysis, Risk Mapping, zonation and Microzonation, Prevention and Mitigation of Disasters, Early Warning System;	03
	3.2 Preparedness, Capacity Development; Awareness	01
	3.3 During Disaster- Evacuation , Disaster Communication , Search and Rescue , Emergency Operation Centre , Incident Command System, Relief and Rehabilitation	03
	3.4 Post-disaster – Damage and Needs Assessment, Restoration of Critical Infrastructure, Early Recovery –Reconstruction and Redevelopment; IDNDR, Yokohama Strategy, Hyogo Framework of Action	03
4	Disaster Management in India	10
	4.1 Disaster Profile of India – Mega Disasters of India and Lessons Learnt	03
	4.2 Disaster Management Act 2005 – Institutional and Financial Mechanism National Policy on Disaster Management, National Guidelines and Plans on Disaster Management;	04
	4.3 Role of Government (local, state and national), Non-Government and Inter-Governmental Agencies.	03
5	Applications of Science and Technology for Disaster Management & Mitigation	12
	5.1 Geo-informatics in Disaster Management (RS, GIS, GPS and RS)	02
	5.2 Disaster Communication System (Early Warning and Its Dissemination)	02
	5.3 Land Use Planning and Development Regulations	02
	5.4 Disaster Safe Designs and Constructions	02
	5.5 Structural and Non Structural Mitigation of Disasters	02
	5.6 S&T Institutions for Disaster Management in India	02

Learning from past experiences as a part of Laboratory assignments

Sr. No	Topic name	Hours
1	Case study of flood disaster.	2
2	Case study of earthquake disaster.	2
3	Case study of fire disaster.	2
4	Case study of cyclone disaster.	2
5	Case study of explosion disaster.	2
6	Quiz on Disaster management preparedness	2

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
10%	50%	30%	10%	0%	0%



Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.
3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.

Recommended Study Material**Reference Books:**

1. Manual on natural disaster management in India, M C Gupta, NIDM, New Delhi
2. An overview on natural & man-made disasters and their reduction, R K Bhandani, CSIR, New Delhi
3. World Disasters Report, 2009. International Federation of Red Cross and Red Crescent, Switzerland
4. Encyclopedia of disaster management, Vol I, II and III Disaster management policy and administration, S L Goyal, Deep & Deep, New Delhi, 2006
5. Encyclopedia of Disasters – Environmental Catastrophes and Human Tragedies, Vol. 1 & 2, Angus M. Gunn, Greenwood Press, 2008
6. 7 Disasters in India Studies of grim reality, AnuKapur & others, 2005, 283 pages, Rawat Publishers, Jaipur
7. Sahni, Pardeep et.al. (eds.) 2002, Disaster Mitigation Experiences and Reflections, Prentice Hall of India, New Delhi.
8. Roy, P.S. (2000): Space Technology for Disaster management: A Remote Sensing & GIS Perspective, Indian Institute of Remote Sensing (NRSA) Dehradun.
9. Sharma, R.K. & Sharma, G. (2005) (ed) Natural Disaster, APH Publishing Corporation, New Delhi.
10. Natural Disasters, David Alexander, Kluwer Academic London, 1999, 632 pages
11. Disaster Management Act 2005, Publisher by Govt. of India
12. Disaster Mitigation in Asia & Pacific, Asian Development Bank
13. National Disaster Management Policy, 2009, Gol
14. Disaster Preparedness Kit, American Red Cross
15. Bryant Edwards (2005): Natural Hazards, Cambridge University Press, U.K.
16. Carter, W. Nick, 1991: Disaster Management, Asian Development Bank, Manila.
17. Management of Natural Disasters in developing countries, H.N. Srivastava & G.D. Gupta, Daya Publishers, Delhi, 2006, 201 pages



01CI0509: Traffic Engineering
Objective of the Course

Objectives of introducing this subject at second year level in civil branches are:

- To understand the Traffic parameters
- To impart knowledge to the civil engineering students on road safety
- To make students understand about concepts of analysis and design of Traffic signal and intersection
- To make students able to perform various traffic data collection procedure

Credits Earned: 4

Students Learning Outcomes

After studying this subject student will be able to:

- To analyse the properties of the traffic parameters.
- To apply knowledge of various traffic surveys
- To design various traffic control devices.
- To analyse road safety as per IRC SP 88.

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term Work (TW)	
Traffic Engineering	3	0	2	4	50	30	20	25	25	150

Detailed Syllabus

Sr. No	Topic name	Hours
1	Administration & Functions of Traffic Engineering	2
	1.1 Definition & Functions of traffic engineer	1
2	1.2 Organization of traffic engineering	1
	Volume, Speed & Delay Studies	10
	2.1 Introduction - Types of speed & volume , Relation between various speed	3
	2.2 Methods for Measurement of different types of speed & volume	3
3	2.3 Delay studies	4
	Parking	6
	3.1 Definition, Parking Problem & ill effect of parking	1



	3.2 Zoning & Parking space requirement standards	2
	3.3 Types of parking - On street & off street	2
	3.4 Requirements of Parking Survey	1
4	Traffic Regulations	12
	4.1 Introduction to Traffic Control Devices	2
	4.2 Traffic Signs - Importance, Principles of Traffic Signing & Types of signs	2
	4.3 Road Marking - Functions, Types of Road Marking	2
	4.4 Traffic Signals - Introduction, Advantage & Disadvantage, Warrants for signal, Design of fixed Signal, Design of Co - ordinated signal	4
	4.5 Intersection Types & Intersection Design	2
5	Traffic Safety	6
	5.1 Road Accidents - Causes, & Prevention	2
	5.2 Street Lightning - Definitions, Needs & Methods of street lightning	4
6	Traffic Management	6
	6.1 Introduction,	2
	6.2 Travel Demand Management	2
	6.3 Traffic Management Techniques	2
	Total	42

List of Practical

Sr. No.	Topic name
A	Practical
1	Traffic Volume Count
2	Spot Speed Survey
3	Parking Survey
B	Tutorials
1	Inter relationship between traffic parameters
2	Rotary and Signal Design

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
10%	25%	10%	35%	20%	00%

Instructional Method and Pedagogy


- Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
- Lectures shall be conducted in class room using various teaching aids.
- Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
- At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.
- The laboratory experiments are planned in such a way that it covers the practical aspects of the course contents. The performance of these experiments shall bring the clarity of the theoretical concepts which the students have studied during the academic sessions.

Recommended Study Material**Reference Books:**

- Traffic Engineering by Dr. L.R. Kadiyali, Khanna Publishers.
- Highway Engineering by Dr. L.R. Kadiyali, Khanna Publishers
- IRC 67 "Code of Practice for Road Signs", IRC, New Delhi, 2001.
- Traffic Engineering by Matson, W.S.Smith & F.W. Hurd
- G.J. Pingnataro, Principles of Traffic Engineering
- D.R.Drew, Traffic Flow Theory



01CI0601: Transportation Engineering
Objective of the Course

Objectives of introducing this subject at second year level in civil branches are:

- To understand the various elements of Railway engineering.
- To understand fundamentals of planning and design of various airport structures.
- To carry out geometric design of railway track.
- To give knowledge about maintenance of railways.
- To make students aware of design of runway and taxiway at airports.

Credits Earned: 3

Students Learning Outcomes

After studying this subject students will be able to:

- Understand the functioning and network of air transport and rail transport.
- Identify important components of rail transport and air transport.
- Analyze geometric component of rail transport and air transport.
- Evaluate geometric design of various components of air transport and rail transport.

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term Work (TW)	
Transportation Engineering	2	0	2	3	50	30	20	25	25	150



Detailed Syllabus

Sr. No	Topic name	Hours
1	Introduction – Railway Engineering	1
	1.1 Modes of Transportation, Importance of Transportation, Types of Transportation systems, Salient Features of Railways, Zones of Indian Railways, Modern Trends in Railways	1
2	Permanent way and Gauges	3
	2.1 Gauges – types, selection of gauge, IR Track specifications, Uniform Gauge Policy	1
	2.2 Loading Gauge and Construction Gauge	1
	2.3 Permanent Way, Cross sections of Permanent way and Railway track components	1
3	Coning of Wheels	1
4	Rails	2
	4.1 Function of rails, Classification of Rails, Rail sections, defects in rails	1
	4.2 Creep of Rails, Rail Joints and Welding of Rails	1
5	Rails – Fitting and Fastenings	1
	5.1 Types, Rail to Rail, Rail to wooden, Rail with CI Sleepers, Rail with Steel Sleepers	1
	5.2 Elastic types – Pandrol/Elastic Clip	
6	Geometric Design of Railway Track	4
	6.1 Gradients, Grade Compensation, speed of train on curves, design of elements	1
	6.2 Super elevation, Cant deficiency, negative super elevation	2
	6.3 Widening of gauges on curves, extra clearance on curves	1
7	Crossing and Turnouts	2
	7.1 Crossings – types and importance of crossing	
	7.2 Track Junctions – types, split, double turnout, crossover, diamond crossing, slip, Gauntlet track, scissor crossover, triangle, double junction	2
8	Station and Yards	2
	8.1 Requirements at station, facilities, classification, platforms, loops, sidings.	1
	8.2 Yards – types, various equipments in yards	1
9	Signaling and Interlocking	2
	9.1 Classification of signals	1
	9.2 Purpose of interlocking	1
10	Introduction – Airport Engineering	1
	10.1 Importance of Air transport, Development of Air transport	
	10.2 Airport Classification	1
11	Aircraft Characteristics	3
	11.1 Engine type and propulsion	
	11.2 Size, weight and wheel configuration	1
	11.3 Minimum Turning and circling radius	
	11.4 Speed Capacity and Noise	
	11.5 Vertices at Tail ends, Jet blast, Fuel Spillage	2
	11.6 Aircraft Navigation Controls	
12	Airport Planning	2
	12.1 Site selection and Factor influencing size of airport	1
	12.2 Airport Obstructions, Imaginary surfaces, height of object in approach zone, turning radius	1



13	Runway and Taxiway Design	6
	13.1 Runway orientation, Wind Rose Diagram, Runway Configuration	2
	13.2 Runway Geometric Design	1
	13.3 Taxiway Requirements, geometric design, location of taxiway	2
	13.4 Exit Taxiway, Turn around taxiway, taxi – length	1
14	Apron and Aircraft Parking	2
	14.1 Holding apron : Size, operation and design	1
	14.2 Loading apron: size and number of gates, parking configuration and system of aircraft parking	1
15	Terminal Area Design	3
	15.1 Layout of airport, components of airport system	1
	15.2 Passenger terminal area, relation of terminal area with runway	1
	15.3 Terminal area planning and Hangar – types and site selection criteria	1
16	Visual Aids – Marking, Lightning and Signs	2
	16.1 Apron Marking, Landing direction indicator, wind direction indicator, runway marking, shoulder marking, taxiway marking	1
	16.2 Airport Lightning, airport beacon, protected flight zone, runway lightning and taxiway lightning	
	16.3 Airport Signage – Mandatory signs, information signs, sign position at runway and taxiway intersections	1
	TOTAL	38

Suggested Theory Distribution

The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
20%	25%	30%	10%	15%	00%

Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.
3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.
5. The laboratory experiments are planned in such a way that it covers the practical aspects of the course contents. The performance of these experiments shall bring the clarity of the theoretical concepts which the students have studied during the academic sessions.

Recommended Study Material



Reference Books:

1. Dr. S. K. Khanna, M.G. Arora and S.S. Jain, Airport Planning & Design, Nem Chand & Bros., Roorkee
2. G.V. Rao Airport Engineering, Tata McGraw Hill Pub. Co., New Delhi
3. Airport Engineering, Charotar Publishing House Pvt. Ltd, Anand
4. Satish Chandra and M.M. Agrawal, Railway Engineering, Oxford University Press, New Delhi
5. S.C. Saxena and S. P. Arora, A Text Book of Railway Engineering, Dhanpat Rai & Sons, New Delhi
6. S.C. Rangwala, K.S. Rangwala and P.S. Rangwala, Principles of Railway Engineering, Charotar Publishing House, Anand.



01CI0602: Elementary Design of Structures
Objective of the Course

Objectives of introducing this subject at third year level in civil branches are:

- To develop an understanding for implementation of designing concept in the field of structural engineering.
- To present fundamental principles and methodologies of design of reinforced concrete and steel structures.
- To be able to Identify and interpret the appropriate Indian design codes.
- To have the ability to identify different types of loads in various structures member for design.
- To be able to perceive analysis and design of components of reinforced concrete and steel structures.

Credits Earned: 5
Students Learning Outcomes

After studying this subject students will be able to:

- To understand various philosophies for structural design
- To analyse and design various types of steel connection using bolts and weld.
- To design steel structural elements in accordance to IS 800
- To ensure limit state of collapse and serviceability for structural elements
- To design RCC flexural elements in accordance to IS 456
- To design column and footing subjected to axial loads according to IS 456.

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	IA (M)	CSE (I)	Viva (V)	Term Work (TW)	
Elementary Design of Structures	4	0	2	5	50	30	20	25	25	150

Detailed Syllabus

Sr.No	Topic name	Hours
1	Introduction to concrete and structural steel design	02
	1.1 Introduction to structural concrete and its properties, Properties of Structural Steel, I. S. Rolled Sections, I. S. Specifications Different components of the structures, Principle of stability and equilibrium	1
	1.2 introduction to structural design process – Role of structural engineer, Architecture, User and builder, Introduction to different design philosophy for concrete and steel structures – Working stress method, Ultimate load design and Limit state method, Plastic Method.	1
Detailed Syllabus SECTION – I		
2	Philosophy of Limit State Design	02



	2.1 Assumptions of limit state method, Stress-strain behavior of steel and concrete, Stress block parameter.	1
	2.2 Limit state of collapse and serviceability, Load and load combinations, partial safety factors for material and loading.	1
3	Design of Beams	10
	3.1 Flexure design of beams – Types of sections like under reinforced, over reinforced & balance section, Neutral Axis depth, Moment of Resistance for singly reinforced, doubly reinforced and flanged sections.	6
	3.2 Shear design of beams – Bond and anchorage length, Shear reinforcement	2
	3.3 Design of Simply supported, cantilever and continuous beam.	2
4	Design of Slab	06
	4.1 Design of RCC slab – Design of one way and two way slab, Effect of edge condition and torsion reinforcement at corners.	
5	Design of Column	09
	5.1 Design of RCC column – Classifications - Assumptions – Design and detailing of axially loaded Short columns.	03
	5.2 Design and detailing of uniaxial & biaxial columns.	06
6	Design of Foundations	3
	6.1 Design of isolated footing for square and rectangular shape.	
Detailed Syllabus SECTION – II		
7	Connections	8
	7.1 Type of Connections, Advantages and Disadvantages of Welded Joints, Riveted, Bolted and Welded Connections, Strength, Efficiency and Design of Joints, Modes of Failure of a Riveted Joint, Design of Fillet and Butt Welds.	
8	Design of Tension Member	5
	8.1 Types of tension member and modes of failure, Design of Axially Loaded Tension Member.	
9	Design of Compression Member	6
	9.1 Modes of Failure of a Column, Buckling Failure: Euler's Theory, Design of Compression Members, Design of Built-Up Compression Members: Laced and Battened Columns	
10	Design of Flexural Member	5
	10.1 Types of sections and classification, lateral stability and design strength of laterally restrained and unrestrained simply supported beam, shear strength and Web Crippling, Web Buckling.	



Laboratory Experiments shall not be performed and Instead Tutorials are to be conducted

Sr. No	Topic Name	Hours
1	Introduction and philosophy of limit state design	2
2	Design of Beam	10
3	Design of Slab	8
4	Design of Column	8
5	Design of Foundations	4
6	Connections	10
7	Design of Tension Member and Compression Member	10
8	Design of Beams	4
	Total	56

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	15%	30%	25%	5%	20%

Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.
3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.

Recommended Study Material

Reference Books:

1. Dr. H. J. Shah; Reinforced concrete (Elementary structural design) Vol-I; Charotar publishing house, Anand.
2. A. K. Jain; Design of Concrete Structures; Nemchand Publication.
3. Shah and Karve; Limit State Theory & Design of Reinforced Concrete; Structure Publication.
4. P. C. Verghese; Limite State Design of Reinforced concrete; PHI.
5. N. Subramanian; Design of Reinforced Concrete Structure; Oxford University Press.
6. J. N. Bandyopadhyay; Design of Concrete Structure; PHI.



7. Gambhir. M.L., "Fundamentals of Structural Steel Design", McGraw Hill Education India Pvt. Ltd., 2013
8. Shiyekar. M.R., "Limit State Design in Structural Steel", Prentice Hall of India Pvt. Ltd, Learning Pvt. Ltd., 2nd Edition, 2013.
9. Subramanian.N, "Design of Steel Structures", Oxford University Press, New Delhi, 2013.
10. IS: 456 - Code of practice for plain and reinforced concrete.
11. IS: 875 (Part I to V) - Code of practice for structural safety of building loading standards.
12. SP 16; Design Aids for Reinforced Concrete to IS 456: 1978.



01CI0603: Advanced Geotechnical Engineering
Objective of the Course

Objectives of introducing this subject at third year level in civil branches are:

- Be able to perform laboratory compaction and in-place density tests for fill quality control.
- Able to determine strength of soil for geotechnical purpose.
- Able to understand stability and failure of slopes and importance of earth pressure.
- To understand the hydraulic conductivity of soil.

Credits Earned: 4

Students Learning Outcomes

After studying this subject students will be able to:

- To evaluate to predict the stresses incurred on the soil due to overlaying of foundations.
- The process of compaction and its engineering performance in the field can be clearly understood
- Predict stability of the slop and Design of slopes that are required in the construction of embankment, earth dams and canals can be successfully applied
- To able to understand the phenomena of consolidation and able to calculate the settlement of foundation
- Able to calculate strength, compressibility and permeability parameters of soil as per relevant IS code and phenomena of earth pressure.
- Able to understand various engineering properties of soil

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term Work (TW)	
Advanced Geotechnical Engineering	3	0	2	4	50	30	20	25	25	150



Detailed Syllabus

Sr. No	Topic name	Hours
1	Compaction	5
	1.1 Definition, theory of compaction, Laboratory compaction tests, factors affecting compaction in the field.	2
	1.2 Effect of compaction on soil properties, Placement water content, Placement layer thickness, field control of compaction.	3
2	Consolidation	7
	2.1 Compressibility of Soils. Definition and Mechanism of Soil, Consolidation, Spring Analogy	2
	2.2 Compression Index, Coefficient of Compressibility, Coefficient of volume change. Derivation of Terzaghi's One Dimensional consolidation Equation. Time factor and consolidation ratio.	2
	2.3 Calculation of consolidation settlement for uniform pressure increment in clay layer. OneDimensional consolidation test, Laboratory and theoretical time curves.	3
3	Shearing Resistance and Strength	6
	3.1 Mohr's strength theory, Mohr-Coulomb strength theory, Types of tri-axial tests-UU, CU, CD Direct shear test	3
	3.2 Unconfined compression test, Introduction to triaxial compression test, Vane shear Test, Effective Stress principle.	3
4	Stability of Slopes	6
	4.1 Idealized Condition used in the analysis, factor of safety, Infinite and finite slopes, Stability of Infinite slopes.	2
	4.2 Introduction to Swedish Circle Method of Analysis, Taylor's Stability Number.	2
	4.3 Earth pressure all general cases, slopes stability analysis using Swedish circle method, Bishop's method and use of Janbu's method.	2
5	Earth Pressure	5
	5.1 Types of lateral earth pressure, Rankine's and Coulomb's earth pressure, Theory and their application for determination of lateral earth pressure under different conditions.	2
	5.2 Rebhann's and Culmann's Graphical methods of determination of lateral earth pressures.	3
6	Stress Distribution of Soils	7
	6.1 Causes of stress in soil, geostatic stress, Boussinesque's equation, stress distribution diagrams.	3
	6.2 Newmark's influence chart Westergard's equation, contact pressure, stresses due to triangular and circular, strip and rectangular loadings.	4
7	Permeability and Seepage	6
	7.1 Darcy's Law and its validity, factors affecting permeability, Laboratory determination of permeability.	3
	7.2 Permeability of stratified soil masses, Seepage pressure Quick sand condition, Laplace equation, Flow Net and its characteristics.	3
	TOTAL	42



List of Practical's

Sr. No	Topic name
1	Proctor Compaction Test
2	Consolidation Test
3	CBR Test
4	Direct Shear Test
5	Demonstration on Triaxial Test
6	Unconfined Compression Test
7	Free Swell & Swelling Pressure Test
8	Constant and Falling Head Permeability Test

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
20%	20%	20%	25%	15%	00%

Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.
3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.
5. The laboratory experiments are planned in such a way that it covers the practical aspects of the course contents. The performance of these experiments shall bring the clarity of the theoretical concepts which the students have studied during the academic sessions.

Recommended Study Material**Reference Books:**

1. Soil Mechanics & Foundation Engineering by B.C. Punmia; Laxmi Pub. Pvt. Ltd.
2. Soil Mechanics & Foundation Engineering by K. R. Arora; Standard Publication
3. Soil Mechanics & Foundation Engineering by P. Purushothama Raj; Pearson Publication
4. Fundamentals of Soil Mechanics by D. W. Taylor; Asia Publishing House
5. Principles of Geotechnical Engineering by B. M. Das; Thomson Asia Pvt. Ltd.



01CI0604: Professional Practice & Valuation
Objective of the Course

Objectives of introducing this subject at third year level in civil branches are:

- To work out the amount of material required for various activities of the construction of infrastructural facilities
- To acquaint the students with types of contract and contracting terminologies involved in the projects, disputes and arbitration process.
- To understand the importance of specifications, its types and drafting general specifications for civil works.
- To understand the Bidding Process and Tendering Process.
- To illustrate the rate analysis and Valuation Process.

Credits Earned: 3

Students Learning Outcomes

After studying this subject students will be able to:

- To work out the amount of material required for various activities of the construction of infrastructural facilities
- To acquaint the students with types of contract and contracting terminologies involved in the projects, disputes and arbitration process.
- To drafting general specifications for civil works
- To Carry out the Bidding Process and Tendering Process.
- To illustrate the rate analysis and Valuation Process

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term Work (TW)	
Professional Practice & Valuation	2	0	2	3	50	30	20	25	25	150



Detailed Syllabus

Sr. No	Topic name	Hours
1	Estimation	10
	1.1 Definitions, Units of Measurements and types of estimates.	3
	1.2 Different methods to find the quantities of civil works. Estimated cost and its importance. Provisions of IS 1200, to work out quantities and deductions in civil works. Entering the measurements in quantity sheet and calculation of quantity of various items of civil works for residential, commercial and industrial buildings.	4
	1.3 Market rates of material and labor. Introduction to rate schedule, abstract sheet and calculation of estimated cost.	3
2	Specifications	4
	2.1 Definitions, Importance and Types.	2
	2.2 Generals and Detailed specifications for civil works	2
3	Rate Analysis	3
	3.1 Definition	1
	3.2 Determination of rate of item of civil work like plaster, brickwork and Plain and reinforced concrete	2
4	Contracting	4
	4.1 Definitions	1
	4.2 Legal requirements of a valid contract	1
	4.3 Types and conditions of contract	1
	4.4 Sub contracting, Disputes and Arbitration	1
5	Tendering Process	4
	5.1 Bidding process and prequalification process, tender notice and its essential features, drafting of tender notice and Bid Submission.	2
	5.2 Analysis of tenders, evaluation and acceptance, work order and agreement.	2
6	Valuation	3
	6.1 Definition, Price-cost, depreciation, sinking fund	1
	6.2 Factor affecting value, rent and standard rent, Years Purchase and valuation tables.	1
	6.3 Methods of valuation for buildings and land,	1
	TOTAL	28



List of Tutorials that shall be conducted

Sr. No	Topic name
1)	Working out Quantities of various items of civil works from working drawings of residential, industrial and commercial buildings.
2)	Working out quantities of various items of civil works from drawings of culverts.
3)	Work out rates of items of civil works
4)	Examples on Valuation of land and buildings
5)	Drafting specifications for various items of civil works
6)	Calculation of areas and volumes of different objects
7)	Rate Analysis

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
10%	20%	20%	20%	30%	00%

Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in the classroom using various teaching aids.
3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students, which shall carry 5% weighted for timely completion and submission of the assigned work.
5. The laboratory experiments are planned in such a way that it covers the practical aspects of the course contents. The performance of these experiments shall bring the clarity of the theoretical concepts which the students have studied during the academic sessions.

Recommended Study Material
Reference Books:

1. B. N. Dutta, Estimation and Costing In Civil Engineering, Ubs Publishers Distributors, Ltd.
2. S. C. Rangwala, Estimating and Costing, Charotar Publishing House.
3. G. S. Birdie, Textbook of Estimating & Costing, Dhanpat Rai and Sons, Delhi.
4. M. Chakraborti, Estimating, Costing, Specification and Valuation.
5. P.W.D. Handbook and SOR, IS Code – 1200.
6. A. S. Kotadia, Professional Practice and Valuation, Mahajan Publications.
7. S. C. Rangwala, Valuation of Real Properties, Charotar Publication.



01CI0605: Construction Technology & Safety Engineering
Objective of the Course

Objectives of introducing this subject at third year level in civil branches are:

- To acquaint the student for new construction technologies its use and application at various stages.
- To understand the influence of various factors affecting the selection of construction equipment.
- To understand different techniques used to demolish the structure.
- To recognize advance equipment its advantages and drawbacks.
- Understand the safety level at each stage of construction

Credits Earned: 2

Students Learning Outcomes

After studying this subject students will be able to:

- To identify the use and applicability of different types of equipment
- To analyze different types of deep foundation and its construction techniques
- To apply various techniques used in the construction of tall structure
- To apply the safety measures required on the construction site
- To differentiate various techniques used in the demolition of the structure
- To analyze different design parameters of the temporary structure

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term Work (TW)	
Construction Technology & Safety Engineering	2	0	0	2	50	30	20	0	0	100



Detailed Syllabus

Sr. No	Topic name	Hours
Construction Technology		
1	Introduction	2
	1.1 Features and functions of the special types of civil engineering structures: Multistoried building, Chimney, Elevated service reservoir, Dams and retaining walls, Bridges and hydraulic structures, Industrial structures, Marine and offshore structures, Tall structures.	2
2	Excavating Equipment	2
	2.1 selection, basic parts, operation, factors affecting output and selection of equipment	1
	2.3 Excavating Equipment: Power shovels, Draglines, hoes, clam shell and machines.	1
3	Pile Foundation	7
	3.1 Classifications of piles based on materials like concrete, steel, timber, composite, sand, concrete (pre-cast, Cast –in –situ, Pre-stressed) including cased and uncased with advantages and disadvantages.	2
	3.2 Selection of piles.	1
	3.3 Types of piles.	1
	3.4 Pile accessories and tools.	1
	3.5 Pile driving methods.	2
	3.6 Failure or settlement of piles.	2
	3.7 Under reamed piles including method of it' construction.	1
	3.8 Group action of piles and its efficiency.	1
4	Coffer Dams and Caissons	4
	4.1 Coffer dams: Types, requirements, Selection criteria, Design features, economic height, Leakage points and leakage prevention in coffer dams.	2
	4.2 Caissons: Definition, uses, Types of caisson, Sinking of caissons, Shifting of Caissons, Caisson Diseases	2
5	Construction of Tall Structure & Demolition	2
	5.1 Construction of Tall Structure: Materials of Tall Structure, Structural system for tall structure, Methods of Construction.	1
	5.2 Demolition: Taking down of tall structure, needs, methods, safety measures	1
6	Form work	3
	Form work for R.C.C. Wall, slab, beam and column, centering for arches of large spans and dams, design features for temporary works, slip formwork, False work for Bridges	3
Safety Engineering		
7	Introduction	1
	8.1 Introduction to Indian Construction Industry, Importance & requirement of Construction Safety Management in Indian construction industry.	1
8	Setting up the site	2
	9.1 Site requirement: site access, site boundary, site security, work's safe passage.	1



	9.2 Safety plan: emergency procedures, planning for the emergency, fire safety, first aid, on-site regulation.	1
9	Construction phase health and safety	5
	10.1 Substructure Phase: survey, site clearance, earthwork, Foundation work safety, welding and cutting work safety.	2
	10.2 Superstructure Phase: scaffolds, temporary structures, ladder safety and lift operation.	1
	10.3 Finishing Phase: roofing work, Painting and Plastering work, electrical safety, testing and commissioning.	1
	10.4 General requirement: hand power tool, traffic management, working over water, work permit.	1
Total		28

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
20%	25%	20%	15%	20%	00%

Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.
3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.
5. The laboratory experiments are planned in such a way that it covers the practical aspects of the course contents. The performance of these experiments shall bring the clarity of the theoretical concepts which the students have studied during the academic sessions.

Recommended Study Material

Reference Books:

1. Building Construction by B.C.Punamia
2. Building Construction by S.C.Rangwala
3. Building Construction by Gurucharan Singh
4. Heavy Construction by Vazirani & Chandola
5. Construction, Planning, Equipment and Methods by R.L.Peurifoy
6. Building Construction By Dr. Jha & S.K. Sinha
7. Hand book of Heavy construction: O'Brien, Havers & Stubb
8. Construction Engineering and Management By S.Seetharaman
9. Construction Equipment and Its Management By S C Sharma



10. Construction Equipment By Jagdish Lal
11. Construction equipment and its planning and application By Mahesh Verma Metropolitan Book Co
12. Construction Site Safety Handbook, Published by The Real Estate Developers Association of Hong Kong and The Hong Kong Construction Association
13. Introduction to Health and Safety at work by Phil Hughes, Ed Ferrett Third Edition, Published by Elsevier Limited.
14. Construction Safety Management by Raymond E. Levitt, Nancy M. Samelsove, 2nd Edition ,
15. Published by Wiley Publication Ltd.
16. Handbook of Health and Safety in Construction, 3rd Edition, published in 2006 by HSG150
17. SP70 Handbook on construction safety practices published Bureau of Indian Standards.



01CI0606: Software Applications in Civil Engineering-IV
Objective of the Course

Objectives of introducing this subject at second year level in civil branches are:

- To provide an overview of structural analysis and design software
- To acquaint students about various commands in STAAD Pro and its function.
- To familiarize students about its interactive interface, modelling of structure and interpretation of results obtained from software

Credits Earned: 1

Students Learning Outcomes

After studying this subject student will be able to:

- Understand the modeling of various types of structures in STAAD PRO and ETABS.
- Apply the various types of loads to structures using STAAD PRO and ETABS.
- Analyze the concrete and steel structures using STAAD PRO and ETABS.
- Design the concrete and steel structures using STAAD PRO and ETABS.

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term Work (TW)	
Software Applications in Civil Engineering-IV	0	0	2	1	-	-	-	25	25	50

Laboratory Work Contents

Sr. No.	Topic Name	Hours
1	Introduction	4
	1.1 Features, hardware requirements, STAAD.Pro screen organization, GUI overview, Unit systems, Structure geometry and Coordinate systems (Global and Local) 1.2 Introduction to STAAD Editor	
2	Model Generation	8
	2.1 Concept of Pre-Processor, Analysis Engine, Post Processor; Creating a new file, creating nodes, adding beam, plate, solid, enhanced grid tool (linear, radial, irregular) 2.2 Model generation using grid tool	
3	Geometry and specification operations	12
	3.1 Insert Node in existing member, adding beams, selecting members Renumbering, How to create Beam /Column & Curved	



	Beams, Add Mid points, Add Perpendicular intersection beam, Cut Section, Stretch /Split BEAMS, Different Viewing Controls for Structure Geometry 3.2 Support specifications, material and member assignment, loading page	
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Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	50%	40%	5%	00%	00%

List of Experiment & Projects

- Model and analyze structure such as Beam, Frame and Plane truss under gravity loading
- Preparation of structural drawing

Drawing Sheets (A1 Size)

1. At the start of course, the course delivery pattern, prerequisite of the subject will be discussed.
2. Labs will be conducted with the aid of multi-media projector, and Computers with the software installed.
3. Attendance is compulsory in laboratory for regular evaluation.
4. Students have to save their work regularly and submit hard copy in A1 size sheet at the end of semester.

Instructional Method and Pedagogy

1. Importance and utilization of software in the Civil Engineering sector shall be discussed.
2. The teaching shall be conducted using various teaching aids in computer lab.
3. Attendance in the session is mandatory and shall contain 5% weightage of the internal evaluation scheme.
4. At the end of each session, an assignment based on the content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.
5. The course includes a practice session, where students shall have an opportunity to carry hands on experience on the software.

Recommended Study Material

Reference Books:

1. STAAD Pro V8i for Beginners by T.S. Sarma
2. Exploring Bentley Staad.Pro V8I (Select series 6) by Sham Tickoo, BPB Publications

Reference Websites:

- 1 <https://www.lynda.com/Bentley-training-tutorials/7595-0.html>



01CI0607: Project Based on Community Services - IV
Objective of the Course

Objectives of introducing this subject at second year level in civil branches are:

- To encourage students for abridging the academic knowledge with real life concerns.
- To make students skillful and capable on applying acquired knowledge innovatively and independently for public.
- To make students aware and face the actual challenges and hurdles for the knowledge application into the field.
- To build the self confidence of the students and make them awaken for their inter-personal skills.
- To inculcate the senses within the students that they note how the civil engineering is one of the primary branch capable of providing a better life to public.

Credits Earned: 1

Students Learning Outcomes

After studying this subject students will be able to:

- Identify the engineering related problems in the community.
- Analyze and Design different solutions to resolve the problems of community.
- Apply economical solution to those problems in the field.

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE	IA	CSE	Viva	Term Work	
Project Based on Community Services - IV	0	0	2	1	-	-	-	25	25	50



Detailed Syllabus

Sr. No	Topic name	Hours
1	Introduction	2
	1.1 What is community based services?	1
	1.2 Why Civil Engineering is a synonym of the knowledge for community?	1
2	Identifying the issues within the community	4
	2.1 Preparing a questionnaire, formats and survey forms	2
	2.2 Analysis of collected data and mapping of issues with the solutions available	2
3	Varieties of survey and ground work for communal issues	4
	3.1 Different types of surveys, tools and techniques for collecting the information	2
	3.2 Identification of exact issues and most appropriate solution	2
4	Factors affecting problem identification for the community	3
	4.1 Varieties of factors: Social, economical, environmental, educational	1
	4.2 Balancing the effects of the affecting factor to carryout solution	1
	4.3 Normalization of factors and finding the path way for problem solution	1
5	Exercise -1 (Group activity)	6
	5.1 Selection of problem from the community and mapping of issues	2
	5.2 Planning for working: Aim, objective and scope, time line	1
	5.3 Application of civil engineering knowledge and tools for solutions	1
	5.4 Validation of the solution by supervising the execution of solution	1
	5.5 Measuring the attainment of the solution: Feedback from community	1
6	Exercise -2 (Group or Individual activity)	5
	6.1 Selection of problem from the community and mapping of issues	1
	6.2 Planning for working: Aim, objective and scope, time line	1
	6.3 Application of civil engineering knowledge and tools for solutions	1
	6.4 Validation of the solution by supervising the execution of solution	1
	6.5 Measuring the attainment of the solution: Feedback from community	1
	TOTAL	24


List of Practical

Sr. No.	Topic name
1	Preparing survey tools: Formats, questionnaires, interviews
2	Data analysis techniques: Statistical and informal tools
3	Presentation of the full process of identification of community issues
4	Mentioning advantages and limitations of the solutions
5	Exercise -1
6	Exercise -2

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	10%	15%	20%	20%	30%

Instructional Method and Pedagogy

1. The course shall be taught in the mixed mode format of class room learning and field visits.
2. Major portion shall be learnt by the students at the field.
3. Presence in all sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic the faculty shall evaluate the work by assigning grades to the work done. This shall carry 5% weightage for timely completion and submission of the assigned work.
5. The laboratory experiments are planned in such a way that it covers the practical aspects of the course contents. The performance of these experiments shall bring the clarity of the theoretical concepts which the students have studied during the academic sessions.

Recommended Study Material

Reference Books: As suggested by the faculty during the interactions and discussion.



01CI0608: Energy Science & Engineering
Objective of the Course

Objectives of introducing this subject at third year level in civil branches are:

- To provide an introduction to energy systems and renewable energy resources, with a scientific examination of the energy field and an emphasis on alternative energy sources and their technology and application
- The class will explore society's present needs and future energy demands, examine conventional energy sources and systems, including fossil fuels and nuclear energy, and then focus on alternatives, renewable energy sources such as solar, biomass (conversions), wind power, waves and tidal, geothermal, ocean thermal, hydro and nuclear.
- Energy conservation methods will be emphasized from Civil Engineering perspective.

Credits Earned: 4

Students Learning Outcomes

After studying this subject students will be able to:

- List and generally explain the main sources of energy and their primary applications nationally and internationally
- Demonstrate the challenges and problems associated with the use of various energy sources, including fossil fuels, with regard to future supply and the impact on the environment
- Understand effect of using these sources on the environment and climate
- Understand the Engineering involved in project compare energy demands and quantity of the resources.
- Collect and organize information on renewable energy technologies as a basis for further analysis and evaluation.
- To quantify energy demands and make comparisons among energy uses, resources, and technologies.

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE	IA	CSE	Viva	Term Work	
Energy Science & Engineering	3	0	2	4	50	30	20	25	25	150



Detailed Syllabus

Sr. No	Topic name	Hours
1	Introduction	3
	1.1 Interpretation of historical and scientific principle for issues related to social, environment and climate	1
	1.2 Energy resources and system	1
	1.3 Sustainable energy and environment	1
2	Sources of Energy	4
	2.1 Introduction to energy system, energy sources, transformation of energy and efficiency, its storage	1
	2.2 History and future of fossil fuels: Coal, Coal gasification, oil etc. Substitutes of Fossil fuels: Biomass energy, hydrogen, wind, solar, tidal, nuclear etc.	1
	2.3 Reviews of Sustainability and environmental impact	1
	2.4 Storage and regeneration of energy	1
3	Impact of Energy on environment	5
	3.1 Conservation of energy and its efficiency	1
	3.2 Concept of clean energy technology with sustainability: carbon footprint	2
	3.2 Energy economics related to its production and consumption, Economic impact on environment, Influence on future energy due to economic, environmental, trade and research policy	2
4	Energy Sources and Civil Engineering Projects	10
	4.1 Modern technology for Coal mining, Under water oil Pipelines, solar power, tidal energy, offshore oil platform, hydro power plant (underground and above ground) with dam, wind mill, tunnels, penstocks, underground oil extraction etc.	7
	4.2 Nuclear power system; reactor buildings and its testing procedure for containment of reactor, nuclear fuel storage, disposal system	3
5	Energy conservation	8
	5.1 Engineering related to Green Building and Green Architecture : Material, Location, Design	2
	5.2 Ratings of LEED	1
	5.3 Identification of energy related enterprises that represent the breath of the industry and prioritizing these as candidates	1
	5.4 Energy analysis and sustainability measuring tool	1
	5.5 Energy Audit for Facilities	1
	5.6 Optimization of energy consumption	2
	TOTAL	30



Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
10%	60%	30%	-	-	-

Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.
3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.
5. The laboratory experiments are planned in such a way that it covers the practical aspects of the course contents. The performance of these experiments shall bring the clarity of the theoretical concepts which the students have studied during the academic sessions.

Recommended Study Material**Reference Books:**

1. Boyle, Godfrey (2004), Renewable Energy (2nd edition). Oxford University Press
2. Boyle, Godfrey, Bob Everett, and Janet Ramage (Eds.) (2004), Energy Systems and Sustainability: Power for a Sustainable Future. Oxford University Press
3. Schaeffer, John (2007), Real Goods Solar Living Sourcebook: The Complete Guide to Renewable Energy Technologies and Sustainable Living, Gaiam
4. Jean-Philippe; Zaccour, Georges (Eds.), (2005), Energy and Environment Set: Mathematics of Decision Making, Loulou, Richard; Waaub, XVIII,
5. Ristinen, Robert A. Kraushaar, Jack J. AKraushaar, Jack P. Ristinen, Robert A. (2006) Energy and the Environment, 2nd Edition, John Wiley
6. UNDP (2000), Energy and the Challenge of Sustainability, World Energy assessment
7. E H Thorndike (1976), Energy & Environment: A Primer for Scientists and Engineers, Addison-Wesley Publishing Company
8. Related papers published in international journals



01CI0701 Design of Concrete Structure
Objective of the Course

Objectives of introducing this subject at fourth year level in civil branches are:

- Be able to design G+3 concrete building, Retaining wall, water tank and Flat Slab.
- Incorporate the concept of earthquake resistant design in the building

Credits Earned: 5

Students Learning Outcomes

After studying this subject student will be able to:

- Calculate various types loads acting on different RCC structures as per various Indian standards.
- Design a multistorey RCC structure as per Indian standards.
- Apply the fundamentals of reinforced concrete to design structures like retaining walls, water tanks and flat slab.
- Analyze the structures considering the effects of earthquake force as per Indian standards.

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term Work (TW)	
Design of Concrete Structure	4	2	0	5	50	30	20	25	25	150



Detailed Syllabus

Sr. No	Topic name	Hours
1	Building layout and Design	16
	1.1 Loads as per I.S., distribution & flow of loads, lateral load due to wind and seismic as per latest IS standards, load combinations, guide lines for preparation of structural layout for building	3
	1.2 Analysis, design & detailing of G + 3 RC framed building for residential /commercial purpose including ductile detailing.	13
2	Design of Retaining Wall	10
	2.1 Types, behavior and application of retaining wall, stability criteria for Retaining wall	2
	2.2 Design & detailing of cantilever & counterfort type retaining wall for various ground conditions.	8
3	Design of Water Tank	12
	3.1 Classification of water tank and method of analysis, permissible stresses, codal provisions	2
	3.2 Design of circular and rectangular under-ground water tanks using IS code method.	5
	3.3 Design of elevated water tank with Intze type of container, frame and shaft type of staging and foundation considering effect of earthquake and wind forces.	5
4	Design of Flat Slab	8
	4.1 Direct design method – Distribution of moments in column strips and middle strip-moment and shear transfer from slabs to columns – Shear in Flat Slabs-Check for one way and two-way shears	5
	4.2 Limitations of Direct design method	1
	4.3 Introduction to Equivalent frame method.	2
5	Earthquake resistant design of building	10
	5.1 Earthquake resistant design philosophy, capacity design concept, four virtues of Earthquake Resistant design: strength, stiffness, ductility and configuration, Irregularities in structures	2
	5.2 Lateral load distribution – Torsionally coupled & uncoupled system	3
	5.3 Seismic coefficient Method	3
	5.4 Ductile detailing as per IS:13920	2
	TOTAL	42

List of Practical's

Sr. No	Topic name
1	Building layout and Design
2	Design of Retaining Wall
3	Design of Water Tank
4	Design of Flat Slab
5	Earthquake resistant design of building



Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
0%	10%	30%	50%	10%	0%

Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.
3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.
5. The laboratory experiments are planned in such a way that it covers the practical aspects of the course contents. The performance of these experiments shall bring the clarity of the theoretical concepts which the students have studied during the academic sessions.

Recommended Study Material**Reference Books:**

1. S. R. Karve and V. L. Shah, Illustrated Design of Reinforced Concrete Buildings, Structures Publishers.
2. N. Krishna Raju, Advanced Reinforced Concrete Design, CBS Publishers.
3. S. Unnikrishna Pillai and Devdas Menon, Reinforced Concrete Design, Tata McGraw Hill.
4. H. J. Shah, Reinforced Concrete, Vol. I and II, Charotar Publishing.
5. Punmia B.C, Advanced RCC Design Laxmi Publications Pvt. Ltd. 2006.
6. Varghese A. V., Advanced Reinforced Concrete, Varghese, Prentice Hall of India.
7. Sinha S. N., Reinforced Concrete Design, Tata Mc-Graw Hill, Delhi.
8. IS Codes (latest) : IS:456, IS:875 (all parts), IS:1893(P-1,2), IS:4326, IS:13920, IS: 3370 (P-1 to 4), SP:16, SP:34.



01CI0702 Irrigation Engineering
Objective of the Course

Objectives of introducing this subject at third year level in civil branches are:

- Understand the irrigation methods along with their advantages and disadvantages
- Understand function of different hydraulic structure

Credits Earned: 3

Students Learning Outcomes

After studying this subject student will be able to:

- Calculate irrigation water requirement of crops
- Calculate the pressure at key points of sheet piles and floor thickness for a weir/barrage using Bligh's and khosla's theory
- Causes of failure of earthen dam and Calculate forces acting on gravity dam
- Design of the lined and unlined canal
- Understand the function of hydraulic structure of irrigation system

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term Work (TW)	
Irrigation Engineering	2	0	2	3	50	30	20	25	25	150



Detailed Syllabus

Sr. No	Topic name	Hours
1	Introduction	7
	1.1 Definition, Necessity, Scope, Benefits and ill effects of irrigation, Types of irrigation schemes, Social and environmental considerations, Irrigation development in India.	3
	1.2 Water Requirement of Crops- Soil-water-plant relation- field capacity, wilting point, available water, consumptive use, Irrigation requirements – Net irrigation requirement, Field irrigation requirement, Gross Irrigation requirement, Soil moisture extraction pattern, Frequency of irrigation, Principal Indian crops, Gross command area, Culturable command area, Intensity of irrigation, Duty and delta relation, Introduction to various methods of application of irrigation water, Irrigation efficiency, assessment of irrigation water	4
2	Diversion Work & Storage and outlet work	7
	2.1 Diversion Works: Different stages of a river and their flow characteristics, Weir and barrages, Various parts of a weir and their functions, Exit gradient, Principles of weir design on permeable formations -Bligh's creep theory and Khosla's theory	3
	2.2 Storage and Outlet works: Types of earthen dams, Seepage in earth dams, Gravity dams, Forces acting on a gravity dam, Rock-fill dams, Spillways, Types of spillways, Spillways gates and energy dissipation works.	4
3	Distribution works	7
	3.1 Modes of conveying irrigation water- Types of irrigation canals- contour canal, ridge canal, side sloping canals	2
	3.2 Canal sections-filling, cutting, partial cutting and partial filling, Balanced depth, Canal FSL, Capacity factor and Time factor, L-section	2
	3.3 Losses of canal water, Silting and scouring of canals	1
	3.4 Method of design of unlined section of irrigation canal, Silt theories, Lined canals, Design of lined canal, Link canals	2
4	Regulating and Cross Drainage Works	5
	Canal falls, Cross drainage works, Types of cross drainage works, Canal escapes, Head regulator and Cross regulator, Silt eject or, Flow meters - Parshall flume, Irrigation outlets and types of outlets.	5
5	Miscellaneous Topic	2
	Water logging causes, Reclamation, Drainage principles and practice	2
	TOTAL	28

List of Assignments/Tutorials

Sr. No	Topic name
1	Introduction to Irrigation Engineering
2	Diversion Work & Storage and outlet work
3	Distribution works
4	Canal regulation work and Cross Drainage Works
5	Water logging



Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
-	20%	50%	20%	-	10%

Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.
3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.
5. The laboratory assignments/tutorials/technical visits are planned in such a way that it covers the practical aspects of the course contents.

Recommended Study Material**Reference Books:**

1. Irrigation & Water Power Engineering - Dr. B.C.Punmia & B.B.Pande, Laxmi Publications, (P) Ltd, New Delhi
2. Irrigation, Water Resources & Water Power Engineering - Dr. P.N.Modi, Standard Book House, Delhi
3. Irrigation, Water Power & Water Resources Engineering - Dr. K.R.Arora Standard Publishers Distributors, Delhi
4. Irrigation Engineering and Hydraulic Structures - S.K.Garg, Khanna Publishers, Delhi
5. Irrigation Engineering, S.K. Mazumder, Galgotia Publications Pvt Ltd., New Delhi



01CI0703 Construction Project Management
Objective of the Course

Objectives of introducing this subject at fourth year level in civil branches are:

- Introduce to Project planning and its management
- Develop an understanding of Project scheduling

Credits Earned: 4

Students Learning Outcomes

After studying this subject student will be able to:

- To Understand the importance of quality, safety, equipments, material and account management in a Construction project.
- Create and analyze the Bar Chart, Milestone Chart and Network Diagrams by dividing project tasks into activities and events.
- Estimate the project duration, Resource allocation and Cost Optimization by CPM and PERT Methods.
- Analyze the project Organization, scheduling and Cost optimization

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term Work (TW)	
Construction Project Management	3	0	2	4	50	30	20	25	25	150

Detailed Syllabus

Sr. No	Topic name	Hours
1	Introduction	2
	1.1 A construction project, Phases of construction project, Importance of construction and construction industry, Indian construction industry need of construction management, Stakeholders of construction management.	2
2	Project Organization	3
	2.1 Construction company structure of construction organization, Organizing for construction project management, Management levels, Traits of project manager and co-ordinators.	2
	2.2 Ethical conduct for engineers, Factors for success of a construction organization.	1
3	Construction economics	2



	3.1 Economic decision making, Evaluating alternatives, Effect of taxation on comparison of alternatives, Effect of inflation on cash flow, Evaluation of public projects, Benefit cost ratio method.	2
4	Construction Planning	5
	4.1 Types of project plans, Work break down structure, Planning techniques	2
	4.2 Bar charts, CPM and PERT network analysis, Precedence network ladder network, Line of balance method.	3
5	Project Scheduling and resource levelling	2
	5.1 Resource allocation, Importance of project scheduling, deriving other schedules, Network crashing and cost time trade off.	2
6	Construction equipment management	2
	6.1 Advanced concepts in economical analysis.	2
7	Construction accounts management	3
	7.1 Principles of accounting, Accounting process construction contract revenue recognition, Construction contract status report, Limitation of accounting, Balance sheet, Profit and loss account, Working capital, Ratio analysis, Fund flow statement.	3
8	Construction material management	2
	8.1 Material management functions, Inventory management. Job layout	2
9	Construction project cost & cost and value management	3
	9.1 Project cost management, Collection of cost related information, Cost codes, Cost statement, Value management in construction, Steps, Value engineering application in a typical case project.	3
10	Construction Quality management	2
	10.1 Construction quality, Inspection, Quality control and Quality assurance in projects, Total quality management, Quality gurus and their teaching cost of quality ISO standards, Principles of quality management systems, (CONQUAS) construction quality assessment system.	2
11	Construction Safety management	2
	11.1 Evolution of safety, Accident causation theory, Unsafe conditions, Unsafe acts health and safety act and regulation cost of accidents, Role of safety personnel, Accident causes and principles of safety, Safety and health management system.	2
	TOTAL	28

List of Practical's

Sr. No	Topic name
1	Network Analysis.
2	Determination of Benefit Cost ratio
3	Resource Allocation and Resource Levelling.
4	CPM and PERT.



Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	10%	35%	35%	10%	5%

Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.
3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.
5. The laboratory experiments are planned in such a way that it covers the practical aspects of the course contents. The performance of these experiments shall bring the clarity of the theoretical concepts which the students have studied during the academic sessions.

Recommended Study Material**Reference Books:**

1. Construction project management: Theory and Practices, 2nd edition, 2016, Kumar Niraj Jha, Pearson Education Publishers.
2. Project management for engineering and Construction, By Garold D Oberlender, 2nd Edition, McGraw Hill Education (India), Pvt. Ltd.
3. CPM and PERT: Punamia & Khandelwal.
4. Construction planning and management, P S Gehlot and B M Dhir, Wiley Eastern Ltd.
5. A management guide to PERT/ CPM by Weist and Levy, Prentice Hall
6. Construction management, P P Dharwadkar.
7. Construction of Structures and Management of Works, S. C. Rangwala, Charotar Publications.



01CI0704 Project I
Course Objectives

- To generate awareness regarding relating the theory to the real life challenges pertaining to the civil engineering field.
- To provide a realistic platform to the students where, they understand the process of addressing the field issues, core knowledge application methods and ways of solutions for the problems.
- To facilitate the user oriented problem solving attitude amongst the students and make use of their inter-personal skills along with the learning from the theory for a safer and sustainable development of the infrastructural facilities for the society.
- To make the students learn how to correlate the industry, field, institution and the stake holders of each level through the project initialization and completion.

Course credits: 10
The Course Outcomes

After studying this subject student will be able to:

- Apply the theoretical knowledge to solve industrial/social problem.
- Understand, analyze and solve Medium/Large scale engineering field problems
- Demonstrate teamwork and leadership qualities.
- Design a solution with sustainability and professional ethical conduct as per field expectations

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	CSE	Viva (V)	Term Work (TW)	
Project I	0	0	10	10	-	-	-	50	50	100



Standard guidelines for project work

The project as a subject is offered to the students for overall development of an individual as to become capable to identify the real life challenges and ways to mitigate or solve the issues. The subject focuses on technical knowledge utilization, notion of service to the society and industry interaction of graduating students before beginning the professional career.

Following are some directives as minimum requirements of the successful completion of the subject;

Sr. No	Topic name
1	Problem identification process
	<p>The student or a group of the students identifies the topic to work based on following check list;</p> <ol style="list-style-type: none"> 1. Main thrust area of the academic subject; this may be a broad selection i.e. construction materials, construction techniques, methods and tools of analysis, data collection methods, programs and systems, design of structures, testing of material, system or elements, and many more of the similar types. 2. Identification of the industry/ field of application relevant to the area selected 3. Mapping the selection with the current availability of the skills, knowledge and facilities available at the institute/industry including the stake holders
2	Stream line the project contents
	<p>On finalizing the topic/problem to work on; the next step is to arrange the hypothesis and selection of the path or steps to be followed by a student. This will require the project contents to be arranged sequentially;</p> <ol style="list-style-type: none"> 1. Title or name of the project 2. Area of specialization as per the academic contents 3. Name of organization/industry if any 4. Existing issues or challenges identified: Exact definition, explanation and clear understanding is must on the issue being considered/addressed 5. Hypothesis for the problem solution: Available information, knowledge, implementation of resources and probable outcomes expected followed by the hypothesis. 6. Mapping of objectives and outcomes with an evaluation rubric 7. Final documentation, presentation, conclusion and demonstration of the results
3	Methods of data collection, gathering the information and streamlining the pre-processes
	<p>Irrespective of the topic/area selected following are some of the standard methods for data collection and gathering the initial information regarding the project work;</p> <ol style="list-style-type: none"> 1. Visits to the industry, sites, locations, or facilities. 2. Communication with end users, talks, real time surveys, interviews. 3. Visual data collection by video, pictures, sketches, leaflets etc. 4. Interactions with people and stake holders, scribing of ideas, suggestions. 5. Discussion with teachers, HODs, lab in-charge and group members /friends.



4	<p>Finalizing the work flow with development of a progress rubric</p> <p>On finalizing the pre-processes and narrowed or focused project topic, the work flow and progress rubric is the most important attribute for the project completion. This will need following things to be taken care;</p> <ol style="list-style-type: none"> 1. The progress rubric is actually a document to control the work pattern and pace of the work at various stages. The meaning of this rubric means it is a table containing a column of tasks with prescribed timings, title of work to be done, distribution of the roles and responsibilities to the group members, deadlines for completing the work, topics and subtopics being addressed etc. against the stipulated time frame. 2. All other relevant facts and figures are to be put on the paper with enough clarity for all. 3. The well defined tasks are allotted to all the members and date of recollection of the completed work should be finalized. This is the date must be mapped with the day of presentation against the teachers and the project guides or evaluators.
5	<p>Continuous progress, breakthrough and final conclusions</p> <p>The project work is a continuous learning. Therefore, at the regular breaks, there will be an evaluation where students shall show their progress to the evaluators and guides. The major breakthrough and important findings or solutions should be shown to the panel of experts. The students will receive valued feedback, suggestions and corrections in case by the experts to reach to the final conclusion. This stage will include following;</p> <ol style="list-style-type: none"> 1. Minimum three presentations by all students/groups to the guides and experts on the pre-defined dates and time limits. 2. The review card or review comments by the evaluating panel will be complied adequately and fulfilled by the students in their progressive presentations. 3. The final presentation will carry only the concluding points and attributes exhibiting the successful completion of the project. The final grading and marking that is in fact the summation of all the previous grading will be done at this stage and students will be awarded with final grades.
TOTAL	

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	20%	15%	20%	10%	30%

Instructional Method and Pedagogy

As explained in the guidelines.



01CI0705 Earthquake Engineering
Objective of the Course

Objectives of introducing this subject at fourth year level in civil branches are:

- Develop an understanding to SDOF and MDOF structural system subjected to vibration.
- Lateral forces generation and concept of earthquake resistant design features
- Understanding ductile detailing of building using IS: 13920

Credits Earned: 4

Students Learning Outcomes

After studying this subject student will be able to:

- Apply the concept of seismology and liquefaction for preparedness against earthquake.
- Calculate response of Single and Multi Degree of Freedom system.
- Design earthquake resistant building with considering lateral load according to IS: 1893-2016.
- Examine ductile detailing of structural drawings according to IS: 13920 – 2016.

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term Work (TW)	
Earthquake Engineering	3	0	2	4	50	30	20	25	25	150

Detailed Syllabus

Sr. No	Topic name	Hours
1	Earthquake Basics	3
	1.1 Interior of Earth, plate tectonics, faults, consequences of earthquake, Basic parameters of earthquake, magnitude & intensity, scales, Seismic zones of India, damages caused during past earthquakes (worldwide).	3
2	Fundamentals of Earthquake vibrations	8
	2.1 Static load v/s Dynamic load (force control and displacement control), simplified single degree of freedom system, mathematical modelling of buildings, natural frequency, resonance v/s increased response, responses of buildings to different types of vibrations like free and forced, damped and un-damped vibration, response of building to earthquake ground motion, Response to multi degree (maximum three) of freedom systems up to mode shapes.	8
3	Design Philosophy	6
	3.1 Philosophy of earthquake resistant design, earthquake proof v/s earthquake resistant design, four virtues of earthquake resistant structures (strength, stiffness, ductility and configuration), seismic structural	6



	configuration, Introduction to IS: 1893 (Part I), IS: 875 (Part V). Seismic load: Seismic Coefficient Method – base shear and its distribution along height. Introduction to Response spectrum, IS code provisions.	
4	Lateral loads on building	7
	4.1 Lateral Load Distribution: Rigid diaphragm effect, centers of mass and stiffness	5
	4.2 Torsionally coupled and uncoupled system.	2
5	Ductile Detailing	2
	5.1 Concepts of Detailing of various structural components as per IS: 13920 provisions.	2
6	Special Topics	2
	6.1 Introduction to Earthquake Resistant Features of un-reinforced & reinforced masonry Structure, Confined Masonry, Soil liquefaction, Structural controls, Seismic strengthening.	2
	TOTAL	28

List of Practical's

Sr. No	Topic name
1	Spring Mass Model
2	Mode shape of 3 storey building
3	Response of structure with and without shear wall and bracing system
4	Response of building with re-entrant corner
5	Behaviour of structure under pounding

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
05%	10%	35%	40%	10%	00%

Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.
3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.
5. The laboratory experiments are planned in such a way that it covers the practical aspects of the course contents. The performance of these experiments shall bring the clarity of the theoretical concepts which the students have studied during the academic sessions.

Recommended Study Material



Reference Books:

1. Manish Shrikhande & Pankaj Agrawal; Earthquake resistant design of structures, PHI Publication, New Delhi
2. S.K.Duggal; Earthquake resistance design of structures; Oxford University Press, New Delhi.
3. A.K.Chopra; Dynamics of structures , Pearson, New Delhi
4. Clough & Penzin; Dynamics of structures
5. Park & Pauly; Behaviour of RC structure
6. John M.Biggs; Introduction to Structural Dynamics
7. C V R Murthy - Earthquake Tips, NICEE
8. IITK-GSDMA EQ26 – V -3.0 Design Example of a Six Storey Building
9. S S Rao; Mechanical Vibration; Pearson, New Delhi.

IS Codes:

10. Criteria for earthquake resistant design General provision & Building - IS: 1893 (Part I)- 2016
11. Code of Practice for Ductile Detailing of RC Structures - IS: 13920 (2016).
12. Code of Practice for earthquake resistant design & Construction of buildings – IS 4326 (1993).
13. Guide lines for Improving Earthquake Resistance low strength masonry buildings - IS 13828 (1993)



01CI0706 Smart Cities
Objective of the Course

Objectives of introducing this subject at fourth year level in civil branches are:

- To understand the concept of smart city and associated challenges.
- To understand latest technologies used in intelligent building.
- To understand process of planning and drafting a plan for smart city.
- To understand the importance of different smart system.

Credits Earned: 4

Students Learning Outcomes

After studying this subject student will be able to:

- Acquaint knowledge on smart cities planning and development
- Develop work break down structure, scheduling and project management of smart cities
- Work out the most energy efficient technique

Students Learning Outcomes

After studying this subject student will be able to understand technologies, infrastructure, and concept of planning and latest methodology.

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term Work (TW)	
Smart Cities	3	2	0	4	50	30	20	25	25	150

Detailed Syllabus

Sr. No	Topic name	Hours
1	Introduction to Smart cities	04
	1. Introduction to city planning	01
	1.2 Concept, Principle stakeholders, key trends in smart cities developments	03
2	Smart Cities Planning and Development	12



	2.1 Understanding smart cities	02
	2.2 Dimension of smart cities	02
	2.3 Global Standards and performance benchmarks, Practice codes	02
	2.4 Smart city planning and development	02
	2.5 Financing smart cities development	02
	2.6 Governance of smart cities	02
3	Project management in Smart Cities	08
	3.1 Phases, Stages of project and work break down Structure	03
	3.2 Project organization structure, Planning, Scheduling and CPM	03
	3.3 Project cost analysis, resource allocation & leveling, Line of balancing technique	02
	3.4 Project monitoring and control, Project risk management	02
4	Green building in smart cities	04
	4.1 Introduction to green buildings, Rating system, Energy saving system	04
	TOTAL	28

List of Practical's/ Tutorials

Sr. No	Topic name
1	Smart material associated with smart building.
2	Technology involved in different construction of smart building.
3	Model preparation on smart city.
4	Case study on ITS.
5	Case study on smart city

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create



15%	20%	20%	20%	15%	10%
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Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.
3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.
5. The laboratory experiments are planned in such a way that it covers the practical aspects of the course contents. The performance of these experiments shall bring the clarity of the theoretical concepts which the students have studied during the academic sessions.

Recommended Study Material**Reference Books:**

1. Jo Beall (1997); "A city for all: valuing differences and working with diversity"; Zed books limited, London (ISBN: 1-85649-477-2)
2. UN-Habitat; "Inclusive and sustainable urban planning: a guide for municipalities"; Volume 3: Urban Development Planning (2007); United Nations Human Settlements Programme (ISBN: 978- 92-1-132024-4)
3. Arup Mitra; "Insights into inclusive growth, employment and wellbeing in India"; Springer (2013), New Delhi (ISBN: 978-81-322-0655-2)
4. William J. V. Neill (2004); "Urban Planning and cultural identity"; Routledge, London (ISBN: 0- 415-19747-3)
5. John S. Pipkin, Mark E. La Gory, Judith R. Balu (Editors); "Remaking the city: Social science perspective on urban design"; State University of New York Press, Albany (ISBN: 0-87395-678-8)
6. Giffinger, Rudolf; Christian Fertner; Hans Kramar; Robert Kalasek; Nataša Pichler-Milanovic; Evert Meijers (2007). "Smart cities – Ranking of European medium-sized cities". Smart Cities. Vienna: Centre of Regional Science
7. "Draft Concept Note on Smart City Scheme". Government of India - Ministry of Urban Development (http://indiainsmartcities.in/downloads/CONCEPT_NOTE_-3.12.2014__REVISED_AND_LATEST_.pdf)



01CI0707 Modern Transportation System
Objective of the Course

Objectives of introducing this subject at fourth year level in civil branches are:

- To imparts knowledge of urbanization process, urban transportation system planning, land use planning, travel demand modelling procedure, different urban mass transportation systems and urban goods movement.

Credits Earned: 4

Students Learning Outcomes

After studying this subject student will be able to:

- Implement the concept of urban transportation system planning process and land use planning for urban goods movement
- Analyze the four stage transportation planning process
- Solve the urban transport model for urban system planning
- Sketch the comprehensive plan and transportation system management planning by focusing on different urban transit problems

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term Work (TW)	
Modern Transportation System	3	0	2	4	50	30	20	25	25	150

Detailed Syllabus

Sr. No	Topic name	Hours
1	Urban mass transportation system	4
	1.1 urban transit problems, travel demand, types of transit systems, public, private, para-transit transport, mass and rapid transit systems, BRTS and Metro rails, capacity, merits and comparison of systems, coordination, types of coordination.	4
2	Introduction to land use planning models, land use and transportation interaction.	8
	2.1 The transportation study area definition; division into traffic zones; network identification and coding	3
	2.2 types of trips, characteristics of various surveys; home interview;	5



	roadside survey mass transit and intermediate public transport surveys; sampling and expansion factors; accuracy checks, screen line checks, consistency checks.	
3	Travel demand Modelling	8
	3.1 Trip generation -zonal regression and category analysis, Trip distribution -growth factor models, gravity model, opportunity models, Desire line diagram. Modal split analysis -trip end	3
	3.2 trip interchange models, logit models, Trip assignment techniques -route choice, diversion curves, shortest path algorithms, all-or-nothing assignment, capacity restraint models and Direct demand models.	5
4	Mass Transit System	7
	4.1 Introduction to routing and scheduling, transit system's performance parameters	2
	4.2 Corridor identification and corridor screen line analysis.	2
	4.3 Urban forms and structures: point, linear, radial, poly-nuclear developments and suitable transit systems, Urban goods movement.	2
	4.4 Preparation of comprehensive plan and transportation system management planning.	1
	TOTAL	28

List of Practical's

Sr. No	Topic name
1	Field Visit to Urban Mass Transportation System Service - Depot, Terminals, Offices
2	Home interview survey in group for the different zone/ward areas of city. From the collected data, they can develop zonal regression models, carry out category analysis, prepare base year O-D matrix and desire line diagram, mode wise and purpose wise trip distribution, trip length frequency distribution and prepare power point presentation of all this analysis.
3	Evaluate the existing mass transportation system. They can conduct the survey of boarding and alighting of passengers, find the actual demand on the routes and ascertain the optimum routing and scheduling.

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
0%	10%	35%	40%	15%	0%

Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.
3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.



5. The laboratory experiments are planned in such a way that it covers the practical aspects of the course contents. The performance of these experiments shall bring the clarity of the theoretical concepts which the students have studied during the academic sessions.

Recommended Study Material**Reference Books:**

1. B.G.Hutchinson, Principles of urban transportation system planning- McGraw-Hill, New York, 1974
2. Edward K.Morlok, Transportation Engg. and Planning
3. W.Dickey, Metropolitan Transportation Planning Tata McGraw-Hill, New Delhi, 1975
4. Blunder and Black, Land use in transportation System
5. J.Ortuzer and L.G. Willumsen, Modelling Transport, Johan Wiley and Sons Chincester,1994
6. Vukan R. Vuchic, Urban Transit : Operations, Planning and Economics, Wiley Sons Publishers.
7. Peter White, Public Transport, UCL Press
8. Kadiyali L.R., Traffic Engineering and Transport Planning, Khanna Publishers
9. Khisty, C J., Transportation Engineering – An Introduction, Prentice-Hall, NJ
10. S.C. Saxena, Traffic Planning and Design, Dhanpat Rai Pub., New Delhi.
11. Partho Chakraborty and Animesh Das, Principles of Transportation Engineering, PHI
12. C. S. Papacostas, Fundamentals of Transportation System Analysis, PHI.
13. James H. Banks, Introduction to Transportation Engineering, WCB-McGraw Hill, New York



01CI0708 Environmental Impact Assessment
Objective of the Course

Objectives of introducing this subject at fourth year level in civil branches are:

- To overcome the problems of environmental degradation by planning the development process in a sustainable manner.

Credits Earned: 4
Students Learning Outcomes

After studying this subject student will be able to:

- Demonstrate the understanding of concept of Sustainable Development and justify the methods of achieving SD.
- Appreciate the importance of EIA as an integral part of planning process.
- Apply the different methodologies to predict and assess the impacts of project on various aspects of environment.
- Enumerate the role of public participation in environmental decision-making process.
- Characterize the environmental attributes.

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term Work (TW)	
Environmental Impact Assessment	3	0	2	4	50	30	20	25	25	150

Detailed Syllabus

Sr. No	Topic name	Hours
1	Sustainable Development	5
	1.1 Development; Sustainable Development –Logic of Sustainable Development	3
	1.2 Methods to Achieve Sustainable Development	2
2	Concepts of Environmental Impact Assessment	8
	2.1 Environment; Environmental Impacts; Environmental Impact Analysis; Environmental Impact Assessment And Environmental Impact Statement	3
	2.2 EIA- As An Integral Part of The Planning Process	5



3	Detailed Contents of EIA	6
	3.1 Introduction; Project Description; Description of The Environment; Anticipated Environmental Impacts And Mitigation Measures: Analysis of Alternatives; Environmental Monitoring Programme	2
	3.2 Additional studies; Project Benefits; Environmental Cost Benefit Analysis; EMP; Summary.	4
4	Environment attributes	2
	4.1 air; water; noise; land and soil ; socioeconomic; cultural & biological	2
5	Description of the Baseline Environment	2
	5.1 Purposes for defining the Environmental Setting; Selection of parameters, Monitoring of physical environmental parameters, Collection and interpretation of baseline data for various environmental attributes	2
6	Prediction and Methods	3
	6.1 Prediction and Methods of Assessment of Impacts on Various Aspects of Environment; Application of various models for the Prediction of impact on Air Environment, Water Environment, Noise Environment and Land Environment	3
7	Public participation	2
	7.1 Public participation in environmental decision-making process.	2
	TOTAL	28

List of Practical's

Sr. No	Topic name
1	Sustainable Development
2	Detailed Contents of EIA
3	Detailed Contents of EIA with specific project
4	Environmental Attributes.
5	Description of Environmental Setting
6	Prediction and Methods of Assessment of impacts

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
10%	25%	25%	25%	15%	0%

Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.



3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.
5. The laboratory experiments are planned in such a way that it covers the practical aspects of the course contents. The performance of these experiments shall bring the clarity of the theoretical concepts which the students have studied during the academic sessions.

Recommended Study Material**Reference Books:**

1. Environmental Impact Analysis Handbook – by Rau Whooten; McGraw Hill publications
2. Environmental Impact Assessment – by Larry Canter; McGraw Hill publications
3. Environmental Impact Analysis – A Decision Making Tool by R K Jain
4. Handbook of Environment Impact Assessment by Judith Petts; McGraw Hill publications



01CI0801 Foundation Engineering
Objective of the Course

Objectives of introducing this subject at fourth year level in civil branches are:

- To study soil behavior, determination and interpretation of soil parameters, determination of stresses in soil.
- To gain basic knowledge on foundation selection, foundation forces, foundation design and its stability under seismic forces

Credits Earned: 4

Students Learning Outcomes

After studying this subject student will be able to:

- Select appropriate soil investigation/testing technique/method and get true sub soil parameters used for selection of type of foundation as per codal guidelines.
- Select and design appropriate/suitable foundation system (shallow) for different structures, that satisfy the allowable bearing capacity and settlement requirements based on soil properties
- Design deep foundation satisfying bearing capacity and settlement requirements
- Understand the engineering behavior of expansive soils and selection of suitable foundation type for such soils, Selection of alternate materials like geosynthetics and its application in foundation problems.
- Design and analysis of retaining walls and sheet piles under static loads

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term Work (TW)	
Foundation Engineering	3	-	2	4	50	30	20	25	25	150

Detailed Syllabus

Sr. No	Topic name	Hours
1	Selection of foundation and Sub - soil exploration/investigation:	06
	1.1 Types of foundation, Factors affecting the selection of type of foundations, steps in choosing types of foundation based on soil condition, Objectives and Planning of exploration program	2
	1.2 methods of exploration - wash boring and rotary drilling - depth of boring, soil samples and soil samplers - representative and undisturbed sampling, field penetration tests: SPT, SCPT, DCPT. Introduction to geophysical methods, Bore log and report writing, data interpretation.	4
2	Shallow Foundation:	10



	2.1 Introduction, significant depth, design criteria, modes of shear failures. Detail study of bearing capacity theories (Prandtl, Rankine, Terzaghi, Skempton), bearing capacity determination using IS Code, Presumptive bearing capacity. Settlement, components of settlement & its estimation, permissible settlement, Proportioning of footing for equal settlement, allowable bearing pressure.	5
	2.2 Bearing capacity from in-situ tests (SPT, SCPT, PLATE LOAD), Factors affecting bearing capacity including Water Table., Bearing capacity of raft/mat foundation as per codal provisions, Contact pressure under rigid and flexible footings. Floating foundation. Types of pavements & its design.	5
3	Pile Foundation	10
	3.1 Introduction, load transfer mechanism, types of piles and their function, factors influencing selection of pile, their method of installation and their load carrying characteristics for cohesive and granular soils	2
	3.2 piles subjected to vertical loads- pile load carrying capacity from static formula, dynamic formulae (ENR and Hiley), penetration test data & Pile load test (IS 2911).	4
	3.3 Pile group: carrying capacity, efficiency and settlement. Negative skin friction.	4
4	Foundations on problematic soil & Introduction to Geosynthetics	9
	4.1 Significant characteristics of expansive soil, footing on such soils, Problems and preventive measures.	2
	4.2 Under-reamed pile foundation-its concept, design & field installation. Significant characteristics of silt and loess	4
	4.3 problems & remedial measures footing on such soils, introduction to geosynthetics-types and uses.	3
5	Retaining wall	07
	5.1 Types (types of flexible and rigid earth retention systems: counter fort, gravity, diaphragm walls, sheet pile walls, soldier piles and lagging).	07
	TOTAL	42

List of Practical's

Sr. No	Topic name
1	Plate load test (PLT)
2	Standard Penetration test (SPT)
3	Static and Dynamic Cone Penetration test (SCPT-DCPT)
4	Triaxial Shear Test (CD condition)
5	Consolidation test (on soft marine clays)
6	Swell Pressure test
7	CBR Test

Suggested Theory Distribution


The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
25%	25%	20 %	15%	15%	-

Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.
3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.
5. The laboratory experiments are planned in such a way that it covers the practical aspects of the course contents. The performance of these experiments shall bring the clarity of the theoretical concepts which the students have studied during the academic sessions.

Recommended Study Material**Reference Books:**

- 1) P. Purushothama Raj; Soil Mechanics and Foundation Engineering; Pearson Education.
- 2) B.C. Punamia; Soil Mechanics & Foundation Engineering; Laxmi Pub. Pvt. Ltd., Delhi.
- 3) Alamsingh; Soil Mechanics & Foundation Engineering; CBS Publishers & Distributors, Delhi
- 4) Taylor D.W.; Fundamentals of Soil Mechanics; Asia Publishing House, Mumbai
- 5) V. N. S. Murthy; Soil Mechanics & Foundation Engineering; Sai Kripa Technical Consultants, Bangalore
- 6) Gopal Ranjan, Rao A.S.R.; Basic and applied soil mechanics; New age int. (p) ltd.
- 7) Arora K.R.; Soil Mechanics & Foundation Engineering; Standard Pub., Delhi
- 8) Das Braja M; Principles of Geotechnical Engineering; Thomson Asia Pvt. Ltd.

IS Codes :

- 9) 1. Code of practice for determination of bearing capacity of shallow foundation IS:6403
- 10) 2. Code of practice for design and construction of pile foundation- IS:2911 (Part I to IV)
- 11) 3. Method for standard penetration test for soil- IS:2131
- 12) 4. Code of practice for subsurface investigation for foundation- IS:1892
- 13) 5. Code of practice for structural safety of buildings: Shallow Foundations- IS:1904
- 14) 6. Code of practice for calculation of settlement of foundations- IS:8009



01CI0802 Design of Steel Structure
Objective of the Course

Objectives of introducing this subject at fourth year level in civil branches are:

- To study Limit State design philosophy, which is currently used worldwide for design of steel structures and its various components.
- To gain basic knowledge of design and detailing of steel structures as per Indian standards.

Credits Earned: 4

Students Learning Outcomes

After studying this subject student will be able to:

- Produce structural layout of Industrial steel structures, plate girder, foot-over bridge.
- Evaluate the loads acting on steel structures and identify the typical failure modes.
- Apply the principles, procedures and current Indian codal provisions to the analysis and design of Industrial structures, plate girder & foot-over bridges.
- Apply the principles of plastic design in steel beams & portal frames.

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term Work (TW)	
Design of Steel Structure	3	2	-	4	50	30	20	25	25	150

Detailed Syllabus

Sr. No	Topic name	Hours
1	Loads and Load Combinations	03
	1.1 Appraisal of loading standards such as I.S, I.R.C., Effect of wind and earthquake on structure	03
2	Connections	06
	2.1 Stiffened and unstiffened, moment & shear resisting structural connections	03
	2.2 design and detailing of various connection - roof truss to column, column to beam, beam to beam and truss to bed block.	03
3	Design of Industrial Building:	10
	3.1 Structural layout of industrial building, Various types of trusses and their selection.	02
	3.2 effect of wind loads on purlin and trusses, bracing systems, columns, foundations	04
	3.3 gantry girder – static and moving loads, selection & design of section.	04



4	Design of plate girders:	09
	4.1 Modes of failure : Elastic buckling, Bending in the plane of web, Local buckling, Buckling in the plane of web, Vertical buckling of the compression flange, Shear buckling	04
	4.2 Design of bolted, welded plate girder by Tension field Method & Simple Post Critical Method including design of vertical & horizontal stiffeners, Splices, Curtailment	05
5	Design of foot-over bridges:	06
	5.1 Structural system of through & deck type bridges, design of foot-over bridge & its Supporting system.	06
6	Plastic Design:	08
	6.1 Introduction to plastic method of analysis, Design of continuous beams and portal frame using plastic design approach.	08
	TOTAL	42

List of Practical's

Sr. No	Topic name
1	Prepare model of any one steel structure of the syllabus.
2	Development of spread sheets for design of various structural components of steel structure.
3	Design of any steel structure from the course using any open-source / professional software and/or self-developed spread sheet/programs
4	Site visit related to construction stages and report preparation
5	Failure study : during and/or after construction

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
05	15	25	25	25	05

Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.
3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.



4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.
5. The laboratory experiments are planned in such a way that it covers the practical aspects of the course contents. The performance of these experiments shall bring the clarity of the theoretical concepts which the students have studied during the academic sessions.

Recommended Study Material**Reference Books:**

- 1) N. Subramaniam, Design of Steel Structures, Oxford University Press
- 2) S. S. Bhavikatti, Design of Steel Structures: By Limit State Method as Per IS: 800-2007, I K International Publishing House Pvt. Ltd
- 3) P. Dayaratnam, "Design of Steel Structures", S. Chand Group
- 4) IS 800:2007, General Construction In Steel - Code of Practice, Bureau of Indian Standards, New Delhi.
- 5) IS 875 (Part 1): latest version, Indian Standard Code of Practice for Design Loads (Other than Earthquake) for Buildings and Structures Part 1 Dead Loads - Unit Weights of Building Materials and Stored Materials, Bureau of Indian Standards, New Delhi.
- 6) IS 875 (Part 2): latest version, Indian Standard Code of Practice for Design Loads (Other than Earthquake) for Buildings and Structures Part 2 Imposed Loads, Bureau of Indian Standards, New Delhi.
- 7) IS 875 (Part 3): latest version, Indian Standard Code of Practice for Design Loads (Other than Earthquake) for Buildings and Structures Part 3 Wind Loads, Bureau of Indian Standards, New Delhi.
- 8) IS 875 (Part 4): latest version, Indian Standard Code of Practice for Design Loads (Other than Earthquake) for Buildings and Structures Part 4 Snow Loads, Bureau of Indian Standards, New Delhi.
- 9) IS 875 (Part 5): latest version, Indian Standard Code of Practice for Design Loads (Other than Earthquake) for Buildings and Structures Part 5 Special Loads and Combinations, Bureau of Indian Standards, New Delhi.



01CI0803 Project II
Course Objectives

- To generate awareness regarding relating the theory to the real life challenges pertaining to the civil engineering field.
- To provide a realistic platform to the students where, they understand the process of addressing the field issues, core knowledge application methods and ways of solutions for the problems.
- To facilitate the user oriented problem solving attitude amongst the students and make use of their inter-personal skills along with the learning from the theory for a safer and sustainable development of the infrastructural facilities for the society.
- To make the students learn how to correlate the industry, field, institution and the stake holders of each level through the project initialization and completion.

Course credits: 10
The Course Outcomes

After studying this subject student will be able to:

- Apply the theoretical knowledge to solve industrial/social problem.
- Understand, analyze and solve Medium/Large scale engineering field problems
- Demonstrate teamwork and leadership qualities.
- Design a solution with sustainability and professional ethical conduct as per field expectations

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	CSE	Viva (V)	Term Work (TW)	
Project II	0	0	10	10	-	-	-	50	50	100



Standard guidelines for project work

The project as a subject is offered to the students for overall development of an individual as to become capable to identify the real life challenges and ways to mitigate or solve the issues. The subject focuses on technical knowledge utilization, notion of service to the society and industry interaction of graduating students before beginning the professional career.

Following are some directives as minimum requirements of the successful completion of the subject;

Sr. No	Topic name
1	<p>Problem identification process</p> <p>The student or a group of the students identifies the topic to work based on following check list;</p> <ol style="list-style-type: none"> 1. Main thrust area of the academic subject; this may be a broad selection i.e. construction materials, construction techniques, methods and tools of analysis, data collection methods, programs and systems, design of structures, testing of material, system or elements, and many more of the similar types. 2. Identification of the industry/ field of application relevant to the area selected 3. Mapping the selection with the current availability of the skills, knowledge and facilities available at the institute/industry including the stake holders
2	<p>Stream line the project contents</p> <p>On finalizing the topic/problem to work on; the next step is to arrange the hypothesis and selection of the path or steps to be followed by a student. This will require the project contents to be arranged sequentially;</p> <ol style="list-style-type: none"> 1. Title or name of the project 2. Area of specialization as per the academic contents 3. Name of organization/industry if any 4. Existing issues or challenges identified: Exact definition, explanation and clear understanding is must on the issue being considered/addressed 5. Hypothesis for the problem solution: Available information, knowledge, implementation of resources and probable outcomes expected followed by the hypothesis. 6. Mapping of objectives and outcomes with an evaluation rubric 7. Final documentation, presentation, conclusion and demonstration of the results
3	<p>Methods of data collection, gathering the information and streamlining the pre-processes</p> <p>Irrespective of the topic/area selected following are some of the standard methods for data collection and gathering the initial information regarding the project work;</p> <ol style="list-style-type: none"> 1. Visits to the industry, sites, locations, or facilities. 2. Communication with end users, talks, real time surveys, interviews. 3. Visual data collection by video, pictures, sketches, leaflets etc. 4. Interactions with people and stake holders, scribing of ideas, suggestions. 5. Discussion with teachers, HODs, lab in-charge and group members /friends.



4	<p>Finalizing the work flow with development of a progress rubric</p> <p>On finalizing the pre-processes and narrowed or focused project topic, the work flow and progress rubric is the most important attribute for the project completion. This will need following things to be taken care;</p> <ol style="list-style-type: none"> 1. The progress rubric is actually a document to control the work pattern and pace of the work at various stages. The meaning of this rubric means it is a table containing a column of tasks with prescribed timings, title of work to be done, distribution of the roles and responsibilities to the group members, deadlines for completing the work, topics and subtopics being addressed etc. against the stipulated time frame. 2. All other relevant facts and figures are to be put on the paper with enough clarity for all. 3. The well defined tasks are allotted to all the members and date of recollection of the completed work should be finalized. This is the date must be mapped with the day of presentation against the teachers and the project guides or evaluators.
5	<p>Continuous progress, breakthrough and final conclusions</p> <p>The project work is a continuous learning. Therefore, at the regular breaks, there will be an evaluation where students shall show their progress to the evaluators and guides. The major breakthrough and important findings or solutions should be shown to the panel of experts. The students will receive valued feedback, suggestions and corrections in case by the experts to reach to the final conclusion. This stage will include following;</p> <ol style="list-style-type: none"> 1. Minimum three presentations by all students/groups to the guides and experts on the pre-defined dates and time limits. 2. The review card or review comments by the evaluating panel will be complied adequately and fulfilled by the students in their progressive presentations. 3. The final presentation will carry only the concluding points and attributes exhibiting the successful completion of the project. The final grading and marking that is in fact the summation of all the previous grading will be done at this stage and students will be awarded with final grades.
TOTAL	

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	20%	15%	20%	10%	30%

Instructional Method and Pedagogy

As explained in the guidelines.



01CI0804: Advanced Structural Analysis
Objective of the Course

Objectives of introducing this subject at third year level in civil branches are:

- To make students understand Force method and Displacement method used for structural analysis of indeterminate beams, trusses and portal frames.
- To equip students with analysis of special structures like Domes and Beams curved in plan.

Credits Earned: 4

Students Learning Outcomes

After studying this subject students will be able:

- Determine displacement and reactions for indeterminate structures with the help of stiffness and flexibility matrix method.
- Analyze domes with and without opening for given loading condition.
- Analyze the stresses for beams curved in plan subjected to point load and uniformly distributed load.

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term Work (TW)	
Advanced Structural Analysis	3	2	0	4	50	30	20	25	25	150

Detailed Syllabus

Sr. No	Topic name	Hours
1	Basics of Structural Engineering	4
	1.1 Static and Kinematic indeterminacy, force-displacement relationship.	2
	1.2 Principle of virtual work and its application in deriving stiffness and flexibility matrices	2
2	Matrix Analysis of Structures	24
	2.1 Force method: Derivation of member flexibility matrix.	1
	2.2 Analysis of continuous beams, indeterminate portal frames and trusses using member flexibility matrix.	8
	2.3 Displacement method: Derivation of member stiffness matrix and analysis of beams, plane frames and plane trusses using member stiffness matrix methods.	12
	2.4 Analysis of trusses subjected to secondary stresses due to imperfections	3



	in length of members.	
3	Domes	8
	3.1 Introduction: Uses of Domes, Types of Domes	1
	3.2 Stresses induced in conical and spherical domes, Analysis of conical and spherical domes subjected to udl and concentrated loads	5
	3.3 Analysis of domes with opening	2
4	Beam curved in Plan	6
	4.1 Internal force in curved beams, Analysis of curved beams fixed at ends subjected to point and uniformly distributed load	4
	4.3 Analysis of circular beam supported Symmetrically	2
		42

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
10%	10%	5%	70%	5%	0%

Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.
3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.
5. The laboratory experiments are planned in such a way that it covers the practical aspects of the course contents. The performance of these experiments shall bring the clarity of the theoretical concepts which the students have studied during the academic sessions.

Recommended Study Material

Reference Books:

1. Mechanics of Structures Vol-II by Junnarkar S. B. & Shah H.J, Charotar publishing house, Anand.
2. Matrix methods of Structural Analysis by Wang C.K, Mc Graw Hill book Company, New Delhi.
3. Basic Structural Analysis by Reddy C.S., Tata Mc Graw Hill Publishing Company Ltd, New Delhi.
4. Matrix Analysis of Framed Structures by William Weaver, Jr & James M. Gere, CBS Publishers & Distributors, Delhi.
5. Matrix Analysis of Structures by Meghre & Deshmukh, Charotar publication



01CI0805 Rehabilitation and Retrofitting of Structures
Objective of the Course

Objectives of introducing this subject at fourth year level in civil branches is:

- To give insight into the subject of concrete repair, its protection and strengthening.
- Study Concrete structures are subjected to constant deterioration due to effects of ageing, inadequate maintenance, severe environmental exposure, penetration of catalytic agencies such as moisture, gases like CO₂ & oxygen, chloride ions, industrial pollutants, abuse (over-used and misused) etc.

Credits Earned: 4

Students Learning Outcomes

After studying this subject student will be able to:

- To identify type of distress in deteriorated concrete structure.
- To estimate the extent of damage level in concrete structures using Non Destructive Tests
- To implement various rehabilitation and retrofitting techniques using various innovative materials in structures.
- To understand usefulness of various structural health monitoring methods and its applications in maintenance of structures.

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term Work (TW)	
Rehabilitation and Retrofitting of Structures	3	0	2	4	50	30	20	25	25	150

Detailed Syllabus

Sr. No	Topic name	Hours
1	Introduction	3
	1.1 Overview of distress, deterioration in concrete structures, Scenario of distressed structures world over, Need for repairs and upgrading of structures, General introduction to process (Road-map) to a durable concrete repair	3
2	Deterioration of Concrete Structure	6



	2.1 Types of deterioration – Signs, causes & symptoms, Mechanism of deterioration, contributing factors like permeability, inadequate durability & micro-structure of concrete.	2
	2.2 Physical deterioration due to moisture, temperature, shrinkage, freeze-thaw, abrasion, erosion, cavitation, crystallization of salts, Efflorescence, exposure to severe environment like marine exposure.	2
	2.3 Chemical deterioration due to corrosion of reinforcement (chloride induced, carbonation induced), Alkali-silica reaction, sulphate attack, Acid attack.	2
3	Conditional assessment and evaluation of structure	7
	3.1 Structural assessment: Conditional evaluation / Structural Appraisal of the structure – Importance, objective & stages, Conditional/damage assessment procedure, Preliminary & Detailed investigation – Scope, Objectives, Methodology & Rapid visual inspection of structures	4
	3.2 Damage Assessment allied Tests (Destructive, Semi-destructive, Non-destructive): Field & laboratory testing procedures for evaluating the structure for strength, corrosion activity, performance & integrity, durability. Interpretation of the findings of the tests.	3
4	Repairs, rehabilitation & Retrofitting of concrete structures:	8
	4.1 Repair materials - Criteria for durable concrete repair, Methodology, performance requirements, repair options, selection of repair materials, Preparatory stage of repairs, Different types of repair materials & their application, types of repair techniques	3
	4.2 Retrofitting/Strengthening: Need for retrofitting, Design philosophy of strengthening structures, Techniques available for strengthening including conventional and advanced techniques.	3
	4.3 Seismic retrofit of concrete structures: Deficiencies in structure requiring seismic retrofit, Design philosophy, Techniques to enhance the seismic resistance of structures, advanced techniques for making seismic resistant structures	2
5	Miscellaneous Topic	4
	5.1 Protection & maintenance of structures - Importance of protection & maintenance, Categories of maintenance, Building maintenance. Corrosion mitigation techniques to protect the structure from corrosion.	2
	5.2 Long term health monitoring / Structural health monitoring (SHM)– Definition and motivation for SHM, Basic components of SHM and its working mechanism, SHM as a tool for proactive maintenance of structures.	2
	TOTAL	28

List of Practical's

Sr. No	Topic name
1	To perform a non-destructive and semi-destructive testing on the cast specimens of the beams using set up of Rebound hammer, UPSV, Core drilling etc. and there by prepare a report on the interpretation of the strength i.e quality of concrete based on NDT test results.



2	Take up Conditional Assessment of 5 different structures including Residential, Commercial, Industrial, and Government buildings, Private structures (old & new construction both). Prepare Rapid visual inspection data sheets of the same.
3	Prepare a report on the buildings surveyed, to highlight all the defects/deterioration seen through proper resolution photographs. The report must clearly indicate the distress – its source and symptoms.
4	To perform experiment to evaluate the Compatibility between the substrate material concrete and any repair material. (For instance comparing the Bond strength of Polymer modified mortar and Conventional Mortar with Concrete).
5	Experiment investigation to carry out the efficacy of repair material/ technique in enhancing the strength of concrete beam post cracking. (For instance, Cast a RCC beam, simulate cracking and then filling the crack with repair material and check the post-repair strength results).

Suggested Theory Distribution

The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
15%	25%	20%	20%	10%	10%

Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.
3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.
5. The laboratory experiments are planned in such a way that it covers the practical aspects of the course contents. The performance of these experiments shall bring the clarity of the theoretical concepts which the students have studied during the academic sessions.

Recommended Study Material

Reference Books:

1. Concrete microstructure, Properties and materials – P Kumar Mehta and Paulo J.M.Monterio
2. Handbook on Repairs and Rehabilitation of RCC buildings – CPWD, Government of India.
3. Concrete technology – A.R.Shanthakumar, Oxford University Press, India
4. Concrete Technology by M.L.Gambhir, Tata McGraw-Hill Education, Third Edition
5. Appraisal and Repair of Reinforced concrete by R.Holland, Thomas Telford Ltd. London.
6. J.H.Bungey, S.G.Millard & M.G.Grantham , Testing of Concrete in Structures, 4th Edition, Taylor & Francis, London & New York, 2006.
7. V. M. Malhotra, Nicholas J. Carino 2004 “Handbook on Nondestructive Testing of Concrete”
8. “Repair and Strengthening of Concrete structures” , FIP guide, Thomas Telford, London.
9. Concrete Structures, Protection, Repair and Rehabilitation by R.Dodge Woodson.
10. Structural Condition assessment by Robert T. Ratay.



11. Repairs and rehabilitation of concrete structures by P. I. Modi & C. N. Patel, PHI Publication.



01CI0806 Bridge Engineering
Objective of the Course

Objectives of introducing this subject at fourth year level in civil branches are:

- To acquaint student with different types of bridge along with their components
- To develop understanding about different types of load acting on bridge in accordance to codal provision.
- To gain knowledge of analysis and design of various components of bridge

Credits Earned: 4

Students Learning Outcomes

After studying this subject student will be able to:

- Know various specifications of IRC for planning, analysis & design of bridges.
- Analyse and design of reinforced concrete slab culverts, tee beam and slab bridges as per IRC specifications,
- Analyze and design substructure, foundation and adjoining elements.

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term Work (TW)	
Bridge Engineering	3	2	-	4	50	30	20	25	25	150

Detailed Syllabus

Sr. No	Topic name	Hours
1	Introduction	06
	1.1 Classification of bridges, investigations and planning, choice and type of bridges, General design specifications, Loads acting on bridges, Live load specifications for road bridges as per IRC	06
2	Design of Super structure	16
	2.1 General design considerations, analysis and design of reinforced concrete slab culverts, tee beam and slab bridges,	05
	2.2 Design principles of prestressed bridges, continuous bridges, box girder bridges, balanced cantilever bridges	11
3	Design of Sub Structure	16
	3.1 Various parts of substructures, Various types of substructures, Loads acting on substructures	05
	3.2 Design of pier and pier cap, Design of different types of foundation – Open, pile & well foundation, its construction aspects & related issues	11
4	New era methodology	04



	4.1 Technology for design and construction of bridges, Seismic resistant design provisions, load test on bridges.	
	TOTAL	42

List of Practical's

Assignments will be given instead of Lab Practical

Sr. No	Topic name
1	Introduction
2	Design of Super structure
3	Design of Sub Structure
4	New era methodology

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
10	25	25	25	10	5

Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.
3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.
5. The laboratory experiments are planned in such a way that it covers the practical aspects of the course contents. The performance of these experiments shall bring the clarity of the theoretical concepts which the students have studied during the academic sessions.

Recommended Study Material
Reference Books:

- 1) "Bridge Deck Behaviour" By E. C. Hambly, CRC Press, 2nd edition
- 2) "Grillage Analogy in Bridge Deck Analysis " by C. S. Surana, Alpha Science International Ltd.
- 3) Raina V.K. "Concrete Bridge Practice", Tata McGraw Hill Publishing Company, New Delhi, 1991.
- 4) Krishnaraju, N., "Design of Bridges" Oxford and IBH Publishing Co., Bombay, Calcutta, New Delhi, 1988
- 5) Bakht, B. and Jaegar, L.G., "Bridge Analysis simplified", McGraw Hill, 1985.



- 6) Ponnuswamy, S., "Bridge Engineering", Tata McGraw Hill, 1989
- 7) Derrick Beckett, "An introduction to Structural Design of Concrete Bridges", Surrey University Press, Henley Thomes, Oxford Shire, 1973.
- 8) Taylor, F.W., Thomson, S.E., and Smulski E., "Reinforced Concrete Bridges", John Wiley and Sons, New York, 1955.
- 9) Edwin H.Gaylord Jr., Charles N.Gaylord, James, E.,Stallmeyer "Design of Steel Structures" McGrew Hill International Editions, 1992.
- 10) IRC: 5, 6, 78, 112-2011



01CI0807 Solid Waste Management

Objective of the Course

Objectives of introducing this subject at fourth year level in civil branches are:

- To understand the sources, characteristics of municipal solid waste
- To learn the collection, transport and disposal of municipal solid waste
- To know the possibilities for recover of materials and energy from waste.
- To understand the management of hazardous waste.

Credits Earned : 4

Students Learning Outcomes

After studying this subject students will be able to:

- Know the possibilities of energy recovery from waste.
- Classify the sources, types, composition and quantities of solid waste
- Take measure to collection, transfer, transport, separate and process of solid and Hazardous waste
- Appraise aspects and issues related to recycling and composting of solid waste
- Understand the legislations for waste management.

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	IA	CSE	Viva (V)	Term Work (TW)	
Solid Waste Management	3	2	0	04	50	30	20	25	25	150

Detailed Syllabus

Sr. No.	Topic Name	Hours
1	Municipal Solid Waste Management: An Overview	8
	1.1 Definition, sources of solid waste, types of solid waste	
	1.2 Composition of solid waste and its determination	
	1.3 Collection and Transport of Solid Waste	
	1.4 Types of materials recovered from MSW	
2	Properties of Municipal Solid Waste	6
	2.1 Physical properties of Municipal Solid Waste	
	2.2 Chemical properties of Municipal Solid Waste	
	2.3 Biological properties of Municipal Solid Waste	
	2.4 Transformation of Municipal Solid Waste	



Sr. No.	Topic Name	Hours
3	Solid Waste Generation and Collection	6
	3.1 Quantities of Solid Waste, methods to measure the quantities	
	3.2 Solid waste generation and collection process	
	3.3 Factors affecting solid waste generation rate	
4	MSW: Material & Energy recovery	6
	4.1 Materials Recovery facilities- on site/off site, Composting process	
	4.2 Anaerobic digestion, RDF and Incineration and co-generation of energy using waste	
	4.3 Pyrolysis of solid waste	
5	Disposal of municipal Solid wastes	5
	5.1 Dumping of solid waste; sanitary landfills – site selection	
	5.2 design and operation of sanitary landfills – Leachate collection & treatment	
6	Recyclable solid waste materials for civil engineering applications	3
	6.1 Construction debris, fly ash, gypsum, red mud, blast furnace slag; e- waste	
7	Principles of solid and Hazardous waste management : Treatment & Disposal	8
	7.1 Principles of solid waste management, Definition and identification of hazardous wastes	
	7.2 Prevailing laws of in hazardous waste management, Risk assessment	
	7.3 Disinfection, autoclaving, incineration, Stabilization, Solidification,	
	7.4 Air stripping, oxidation, bioremediation and any other appropriate techniques	
Total		42

List of Tutorials

1. Examples based on Generation Rate of solid waste.
2. Questions based on Sources & Characteristics of Municipal Solid Waste.
3. Questions based on Onsite Handling, storage and processing of Solid waste.
4. Questions based on Transfer and Transport of Solid Waste.
5. Questions based on processing of Municipal Solid Waste.
6. Questions based on Recovery of Resources, Conversion Products & energy from MSW.
7. Questions based on Disposal of Solid Waste.
8. Biomedical Waste management.

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
30%	25%	15%	20%	10%	00%



Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.
3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.
5. The tutorials are planned in such a way that it covers the application aspects of the course contents. The performance of these tutorials shall bring the clarity of the theoretical concepts which the students have studied during the academic sessions.

Recommended Study Material**Text Books**

1. Environmental Engineering by Arcadio Sincero and Gregoria Sincero, Second Edition, Prentice - Hall India
2. Integrated Solid Waste Management: Engineering Principles and Management Issues by George Tchobanoglous, McGraw-Hill Publication
3. Hazardous Waste Management by M LaGrega and others, McGraw-Hill Publication

Reference Books

1. Handbook of Solid Waste Management by Frank Kreith , George Tchobanoglous, McGraw Hill Publication, (2002).
2. Manual on Municipal Solid Waste Management, CPHEEO, Ministry of Urban Development, Government of India, New Delhi, (2000).



01CI0808 Sustainable Building Technology
Objective of the Course

Objectives of introducing this subject at fourth year level in civil branches are:

- To enable students in using engineering principles in developing innovative strategies to positively influence the human life to acquaint student with different types of bridge along with their components
- To understand the principles of design and construction of green structures.

Credits Earned: 4

Students Learning Outcomes

After studying this subject student will be able to:

- Identify major challenges facing the planet earth and human society
- Describe primary components of a sustainable engineering system
- Utilize engineering principles for design and construction of green structures
- Perform detail performance evaluation of a building based on LEED standards
- Evaluate feasibility of alternative products and solutions based on life-cycle analysis (LCA) methods

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term Work (TW)	
Sustainable Building Technology	3	0	2	4	50	30	20	25	25	150

Detailed Syllabus

Sr. No	Topic name	Hours
1	Introduction	09
	1.1 Life Cycle impacts of materials and products – sustainable design concepts – strategies of Design for the Environment -The sun-earth relationship and the energy balance on the earth's surface, climate, wind – Solar radiation and solar temperature – Sun shading and solar radiation on surfaces – Energy impact on the shape and orientation of buildings – Thermal properties of building materials.	09
2	Energy efficient buildings	12
	2.1 Passive cooling and day lighting – Active solar and photovoltaic- Building energy analysis methods- Building energy simulation- Building energy efficiency standards- Lighting system design- Lighting economics and aesthetics- Impacts of lighting efficiency – Energy audit and energy targeting- Technological options for energy management.	12
3	Indoor environmental quality management	09



	3.1 Psychrometry- Comfort conditions- Thermal comfort- Ventilation and air quality-Air conditioning requirement- Visual perception- Illumination requirement- Auditory requirement- Energy management options- -Air conditioning systems- Energy conservation in pumps- Fans and blowers- Refrigerating machines- Heat rejection equipment- Energy efficient motors- Insulation.	09
4	Green Building Concept	12
	4.1 green building concept- Green building rating tools- Leeds and IGBC codes. – Material selection Embodied energy- Operating energy- Façade systems- Ventilation systems- Transportation- Water treatment systems- Water efficiency- Building economics	12
	TOTAL	42

List of Practical's

Assignments will be given instead of Lab Practical

Sr. No	Topic name
1	Introduction
2	Energy efficient buildings
3	Indoor environmental quality management
4	Green Building Concept

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
15	35	25	15	10	-

Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.
3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.
5. The laboratory experiments are planned in such a way that it covers the practical aspects of the course contents. The performance of these experiments shall bring the clarity of the theoretical concepts which the students have studied during the academic sessions.



Recommended Study Material**Reference Books:**

- 1) Kibert, C. "Sustainable Construction: Green Building Design and Delivery", John Wiley & Sons, 2005
- 2) Edward G Pita, "An Energy Approach- Air-conditioning Principles and Systems", Pearson Education, 2003.
- 3) M.A.Quaddus & M.A.B.Siddique "Handbook of sustainable development Planning: Studies in Modelling and Decision Support", Edward Elgar, 2004.



01CI0809 Prestressed Concrete Technology
Objective of the Course

Objectives of introducing this subject at fourth year level in civil branches are:

- To study various aspects related to design of prestressed concrete slab & girders.
- To gain knowledge of designing long span structures using prestressing.

Credits Earned: 4

Students Learning Outcomes

After studying this subject student will be able to:

- Apply concepts & methods for pre stressing systems for different materials.
- Compute stresses in beams due to transverse loads & prestressing.
- Determine the losses in beams due to prestress, short and long term deflection, flexural and shear strength of beam.
- Design the pre-tensioned and post-tensioned concrete beams & slab, anchorage zones.
- Know various specifications of IRC for planning, analysis & design of bridges.
- Analyze and design of simply supported RC slab & girder type superstructure as per IRC specifications,
- Analyze and design substructure, foundation and adjoining elements.

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term Work (TW)	
Prestressed Concrete Technology	3	-	2	4	50	30	20	25	25	150

Detailed Syllabus

Sr. No	Topic name	Hours
1	Introduction	06
	1.1 Introduction, Basic Concepts, History of development of materials and prestressing.	03
	1.2 Different methods of prestressing, Advantages and Limitations, IS provisions related to materials properties & prestressing	03
2	Analysis of prestress and bending stress	16
	2.1 Analysis of member for prestress and bending stresses at various stages; Pressure Line; Stress, strength and Load Balancing concepts; Losses in prestress;	08
	2.2 short term and long term deflections; flexural, shear and torsional strength, Estimation of crack width. Fatigue and impact strength, resistance to fire and corrosion.	08



3	Member Design	20
	3.1 Transfer of prestress in pretensioned and posttensioned members	02
	3.2 Stress distribution at end anchorages	03
	3.3 anchorages and end block design; Limit state design criteria	03
	3.4 design of pre and post tensioned girders	06
	3.5 design of post tensioned one way and two way slabs.	06
	TOTAL	42

List of Practical's

Sr. No	Topic name
1	Advance Techniques of Prestressing.
2	Site visit related to prestressing practice and report preparation
3	Application of Circular prestressing

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
10	25	30	20	10	5

Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.
3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.
5. The laboratory experiments are planned in such a way that it covers the practical aspects of the course contents. The performance of these experiments shall bring the clarity of the theoretical concepts which the students have studied during the academic sessions.

Recommended Study Material

Reference Books:

- 1) Krishna Raju N. Pre stressed Concrete, Tata McGraw Hill Co.
- 2) Rajagopal N., Prestressed Concrete, Narosa Publishing House.
- 3) Dayarathnam P., Prestressed Concrete Structures, S.Chand Publishers.
- 4) Sinha N.C. and Roy S.K., Fundamentals of Pre-stressed Concrete, S.Chand & Company limited.
- 5) T. Y. Lin, Design of Prestressed Concrete Structures, Wiley India Pvt. Ltd.
- 6) Mallic S.K. and Gupta A.P., Prestressed concrete, Oxford and IBH publishing Co. Pvt. Ltd.1997.



- 7) A. Nilson, Design of Prestressed Concrete, John Willey & Sons. 2nd edition, 1987.
- 8) Leonhardt F., Wilhelm Ernst and Shon, Prestressed Concrete- Design and Construction –, Berlin
- 9) Evans, R.H. and Bennett, E.W., Prestressed Concrete Theory and Design, Chapman and Hall, London.
- 10) Prestressed Concrete by The Freyssinet Prestressed Concrete Co. Ltd.,
- 11) IS:1343 (2012) - Code for Practice for Prestressed Concrete.



01CI0810 Infrastructure Engineering and Management
Objective of the Course

Objectives of introducing this subject at fourth year level in civil branches is:

- To provide an overview of Infrastructure project.
- To develop an understanding of Infrastructure Master Plan, Development Plan and various project activities involved.

Credits Earned: 4

Students Learning Outcomes

After studying this subject student will be able to:

- Develop infrastructure master plan and Schedule infrastructure project activities.
- Prepare project development plan for infrastructure organizations and systems.
- Prepare tender documents for infrastructure project by understanding different engineering contracts.
- Apply the management techniques like CPM and PERT to infrastructure projects.
- Analyze the management process for infrastructure projects

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term Work (TW)	
Infrastructure Engineering and Management	3	0	2	4	50	30	20	25	25	150

Detailed Syllabus

Sr. No	Topic name	Hours
1	Infrastructure	7
	Definitions of infrastructure, Governing Features, Historical overview of Infrastructure development in India, Infrastructure Organizations & Systems.	7
2	Infrastructure Planning	10
	Typical infrastructure planning steps, Planning and appraisal of major infrastructure projects, Screening of project ideas, Life cycle analysis, Multi-criteria analysis for comparison of infrastructure alternatives, Procurement strategies, Scheduling and management of planning activities, Infrastructure Project Budgeting and Funding, Regulatory Framework, Sources of Funding	10



3	Project Management in Construction	16
	Introduction to project management processes - Initiating, Planning, Executing, Controlling, and Closing processes	5
	Project Integration Management - Project plan development, Project plan execution, and Overall change control	5
	Project Scope Management - Initiation, Scope planning, Scope definition, Scope verification, and Scope change control.	6
4	Contracts and management of contracts	9
	Engineering contracts and its formulation, Definition and essentials of a contract, Indian Contract Act 1872, types of contracts and clauses for contracts, Preparation of tender documents, Issues related to tendering process, Awarding contract.	9
	TOTAL	42

List of Practical's

Sr. No	Topic name
1	To prepare at least one infrastructure plan (individually) and should have to prepare project development plan and tender document for the same infrastructure plan.
2	To learn available project management tool.

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
15%	25%	20%	20%	10%	10%

Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.
3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.
5. The laboratory experiments are planned in such a way that it covers the practical aspects of the course contents. The performance of these experiments shall bring the clarity of the theoretical concepts which the students have studied during the academic sessions.

Recommended Study Material

Reference Books:

1. J. Parkin and D. Sharma, Infrastructure planning, Thomas Telford, London, 1999.



2. P. Chandra, Projects: Planning, analysis, selection, financing, implementation, and review, Tata McGraw-Hill, New Delhi, 2009.
3. J. D. Finnerty, Project financing - Asset-based financial engineering, John Wiley & Sons, New York, 1996.
4. L. Squire and H. G. van der Tak, Economic analysis of projects, John Hopkins University Press, London, 1975.
5. T. Hegazy, Computer-based construction project management, Prentice Hall, New Jersey, 2002.
6. S. M. Levy, Project management in construction, 5th ed., McGraw Hill, New York, 2007.
7. PMI, A guide to the project management body of knowledge, 3rd ed., Project Management Institute, Pennsylvania, 1996.
8. M. Mawdesley, W. Askew and M. O'Reilly, Planning and controlling construction projects, Addison Wesley Longman Limited, Essex, 1997.
9. J. Kelly, S. Male and D. Graham, Value management of construction projects, Blackwell Publishing, Oxford, 2003.
10. Vasant Desai, "Project Management", Himalaya Publishing, 1st Edition, 2010
11. James C. Van Horne, John M. Wachowicz, "Fundamentals of Financial Management", PHI, 2nd Edition, 2000
12. Ronald W Hudson, "Infrastructure Management: integrating design, Construction, maintenance, rehabilitation and renovation", MGH, 1st Edition, 1997
13. "Codes of Practice and Standard Specifications" of AP PWD, CPWD, MES etc.
14. B.J. Vasavada, "Engineering Contracts and Arbitration", Jubilee Publications, 2nd Edition., 1996
15. Grig N. S., "Infrastructure Engineering and Management", Wiley-Interscience, 198



01CI0811 Design of Formwork
Objective of the Course

Objectives of introducing this subject at fourth year level in civil branches is:

- To study the materials associated with formwork and design aspects of formwork under various requirements.
- To study the planning and erection aspects of form work with few special types of forms

Credits Earned: 4

Students Learning Outcomes

After studying this subject student will be able to:

- Select proper formwork, accessories and material
- Design the form work for Beams, Slabs, columns, Walls and Foundations
- Design the form work for Special Structures
- Understand the working of flying formwork
- Judge the formwork failures through case studies.

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term Work (TW)	
Design of Formwork	3	0	2	4	50	30	20	25	25	150

Detailed Syllabus

Sr. No	Topic name	Hours
1	Introduction	10
	Formwork and False work, Requirement and selection of formwork, Temporary work system, Construction planning and site constraints, Materials and construction of the common formwork and false work systems, Formwork material, Timber, Plywood, Steel, Aluminium, Plastic, Type of support.	7
	Formwork Design for Special Structures: Shells, Domes, Folded Plates, Overhead Water Tanks, Natural Draft Cooling Tower, Bridges.	3
2	Formwork Design	17
	Concepts, Design considerations, Live loads and Wind pressure, Concrete pressure on formwork, Concrete density, Height of discharge, Temperature, Rate of Placing, Consistency of concrete, Vibration, Hydrostatic pressure and pressure distribution, Basic simplification, Beam, Slab, Column, Wall forms, Allowable stresses, check for, deflection, bending and lateral stability.	10
	Design of Decks and False works: Types of beam, decking and column	7



	formwork, Design of decking, False work design, Effects of wind load, Foundation and soil on false work design.	
3	Flying Formwork	6
	Table Form, Tunnel Form, Slip Form, Formwork for Precast Concrete, Formwork Management Issues, Pre- and Post-Award.	6
4	Failure and Safety of Formwork	9
	Formwork Failures: Causes and Case studies in Formwork Failure, Formwork Issues in Multi-Story Building Construction	4
	Construction Sequence and Safety in use of Formwork: Sequence of construction, Safety use of formwork and false work.	5
	TOTAL	42

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
15%	25%	20%	20%	10%	10%

Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.
3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.

Recommended Study Material

Reference Books:

1. Robert L. Peurifoy and Garold D. Oberlender, "Formwork for Concrete Structures", McGraw- Hill, 2006.
2. Hurd. M.K., "Formwork for Concrete", Special Publication, 5th Edition American Concrete Institute, Detroit, 2003.
3. Austin. C.K., "Formwork for Concrete", Cleaver- Hume Press Ltd., London 2006.
4. Tudor Dinescu and Constantin Radulescu, "Slip Form Techniques", Abacus Press Tum Bridge Wells, Kent, 2002.
5. Indian Concrete Institute, "Technical Monograph for Formwork", 2002. P. Chandra, Projects: Planning, analysis, selection, financing, implementation, and review, Tata McGraw-Hill, New Delhi, 2009.
6. IS 14687: 1999, false work for Concrete Structures Guidelines, BIS.



01CI0812: Masonry Structures
Objective of the Course

Objectives of introducing this subject at fourth year level in civil branches are:

- To develop an understanding for implementation of Masonry structures.
- To present fundamental principles and methodologies of design of Masonry structures.
- To categorize, classify and understand the masonry building component.
- To have the ability to analyse and design of masonry structure.

Credits Earned: 4
Students Learning Outcomes

After studying this subject students will be able:

- To understand the behavior of masonry structure
- To make use of fundamental of design methodologies for design of masonry structure.
- To identify different component of masonry structure.
- Become familiar with basic masonry materials, including clay brick, concrete block, mortar, grout, and reinforcing accessories.
- Understand the behavior of reinforced masonry structures under flexure, shear, axial forces, combined flexure and axial forces, and in-plane shear forces.
- Learn the methods of masonry construction and detailing practices.

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	IA (M)	CSE (I)	Viva (V)	Term Work (TW)	
Elementary Design of Structures	3	0	2	4	50	30	20	25	25	150

Detailed Syllabus

Sr.No	Topic name	Hours
1	Introduction, Masonry units, materials and types:	03
	History of masonry, Characteristics of Brick, stone, clay block, concrete block, stabilized mud block masonry units, Term used in masonry, Masonry materials - Classification and properties of mortars, Selection of mortars.	03
2	Types of masonry structure	12
	2.1 Stone masonry – Material, classification of stone masonry, Dressing of stone, Application for lifting stones, Joints in stone masonry, Safe permissible load on Stone masonry.	04
	2.2 Brick masonry – Types of bricks, Bond in bricks, Method of brick laying, Defects in brick masonry, Strength of brick masonry, permissible compressive stress of brick masonry, typical structures in brick work.	05



	2.3 Composite masonry – Stone composite masonry, concrete masonry, Hollow clay blocks masonry, reinforcement in brick masonry.	03
3	Types of wall, Arches and Lintels	12
	3.1 Load bearing wall – types of load bearing wall, Design consideration of wall, Effective dimension of wall, Permissible stress in wall, basic structural analysis and design of wall.	6
	3.2 Cavity wall – Advantages of cavity wall, position of cavity wall, construction of cavity wall.	2
	3.3 Partition wall – Types of partition wall, Requirement of partition wall.	1
	3.4 Lintels and Arches – Classification of lintels, loading on lintels, different terms of arch, Stability of arch, classification and construction of arches	3
4	strength of masonry	08
	4.1 strength and elastic properties of masonry, behavior of masonry under compressive force, effect of height on compressive strength of masonry, failures of masonry structure under compression, effect of bonding pattern, slenderness, material, workmanship and curing on compressive strength.	06
	4.2 Tests for determining flexural and shear bond strength, factors affecting bond strength, flexure, shear strength of masonry unit.	02
5	Earthquake resistant masonry buildings	07
	5.1 Behavior of masonry during earthquakes, concepts and design procedure for earthquake resistant masonry, BIS codal provisions, Earthquake resisting feature.	07

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	15%	30%	25%	5%	20%

Instructional Method and Pedagogy

1. Prerequisite of the course and its pattern shall be discussed on the commencement of the course.
2. Lectures shall be conducted in class room using various teaching aids.
3. Presence in all academic sessions is mandatory which shall carry 5% marks of the total internal evaluation.
4. At the end of each unit/topic an assignment based on the course content shall be given to the students which shall carry 5% weightage for timely completion and submission of the assigned work.



Recommended Study Material
Reference Books:

1. Dayaratnam P, "Brick and Reinforced Brick Structures"- Oxford & IBH.
2. Sinha B.P & Davis S.R., "Design of Masonry structures"- E & FN Spon.
3. Hendry A.W., "Structural masonry"- Macmillan Educaon Ltd., 2nd edion.
4. Curtin, " Design of Reinforced and Prestressed Masonry"- Thomas Telford.
5. Dr. B.C Punmia, " Building Constructuion".
6. Gurucharan Singh, "Building construction and material".
7. Building Code Requirements for Masonry Structures (TMS 502-08/ACI 530-08/ASCE 5-08)
8. Specifications for Masonry Structures (ACI 530.1-08/ASCE 6-08/TMS 602-08) and Commentary



Head of the Department
Civil Engineering
Marwadi University

Course having focus on
Employability
Entrepreneurship
Skill development
during last five years in
B.Tech Information
Technology
(2017-2022)



01CE0102	Computer Workshop	B.Tech.Year-I
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Objective: Students of Computer Engineering have to work with various hardware and software not only during academia but also in company. Thus, students should get familiar with various hardware, software, operating systems and networking.

This course will provide student a much needed knowledge of computer hardware and networking, enabling them to identify and rectify the onboard computer hardware, software and network related problems. With the help of this course the student will be able to understand the hardware specifications that are required to run operating system and various application programs.

Credits Earned: 1 Credits

Course Outcomes: After completion of this course, student will be able to

- Understand the basic concept and structure of computer hardware and networking.
- Identify the existing configuration of the computers and peripherals.
- Upgrading the system as and when required.
- Apply their knowledge about computer peripherals to identify / rectify problems onboard.
- Integrate the PCs into local area network and re-install operating system and various application programs.
- Manage data backup and restore operations on computer and update application software.

Prerequisite of course: NA

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE(E)	IA	CSE	Viva (V)	Term Work(TW)	
0	0	2	1	0	0	0	25	25	50

Content:

Unit	Topics	Contact Hours

K. P. Singh



1	Assembly of Computer: Introduction to hardware peripherals like RAM, ROM, keyboard, Mouse, processors, etc. Generation of processors. Working of SMPS. Study of various ports. Steps and precautions to assemble computer.	6
2	Assembly of Laptop: laptop hardware peripherals like RAM, ROM, keyboard, Mouse, processors, etc. Generation of processors. Study of various ports. Steps and precautions to assemble laptop.	4
3	Computer Network Tools: Introduction to computer network. Study of various topologies. Preparing the network cable using crimping tools and connectors. Study of various network environments.	4
4	Operating System and Software Installations : Introduction to operating system. Types of operating system (Windows and Linux). Window:-Evolution of operating system. Introduction to software. Types of software (MS office, VLC media player, Win rar), etc. Linux:- Evolution of operating system. Introduction to software. Types of software (open office, web browser, etc.) Case study of Installations step for operating system and applications software.	6
5	Internet : Introduction and evolution of internet. Study of various internet based services like Email, social network, chat, etc. Introduction to cyber security and cyber laws.	4
6	Server : Introduction to server. Difference between server and normal desktop. Evolution of servers. Study of various servers like Email, data, domain, etc.	4
	Total Hours	28

Reference Books:

1. Hardware Bible by Winn L. Rosch
2. Hardware and Software of Personal Computers by Sanjay K. Bose
3. Fundamentals of Computers by V. Rajaraman
4. Computer Studies - A first course by John Shelley and Roger Hunt
5. Computer Fundamentals, MS Office and Internet & Web Technology by Dinesh

D. P. Singh



Maidasani

6. Modern Computer Hardware Course by M Lotia, P Nair, P Lotia

List of Experiments:

The practical/exercises should be properly designed and implemented with an attempt to develop different types of skills so that students are able to acquire the competency. Following is the list of experiments for guidance.

As it is laboratory course list is as per content given above

Suggested List of Student Activities:

1. Collect various types of computer hardware and prepare summary report
2. Collect various types of computer software and prepare requirement report
3. Collect specifications of similar types of hardware and software and prepare report comparing them.
4. Assemble one computer and install operating system and several software (mini – project given by faculty member)

Open Ended Problems: Apart from above experiments a group of students has undertake open ended problem/design problem. Few examples of the same are given below.

1. Identify the hardware and software list of the given system.
2. Install and uninstall given software step-by-step.
3. Explain step-by-step installation process for given operating system.
4. Prepare the report of need of programming language in 21st century.

Major Equipment:

Components:

Various types of hardware including RAM, motherboards, Processor, hard disk, etc. along with various operating system like linux and windows based with software like open office, players etc.

Tools:

Screw driver, crimping, soldering iron, multi-meter, cable tester, UTP cable, Connecters, keyboard, mouse, and other USB devices.

Supplementary Resources:

1. <http://nptel.ac.in/courses/106105084/>
2. <http://nptel.ac.in/courses/106105081/>



3. <https://www.coursera.org/learn/internet-history>
4. <http://windows.microsoft.com/en-US/windows7/Create-a-system-repair-disc>
5. <http://technet.microsoft.com/library/ee532075.aspx>
6. <http://www.karbosguide.com/>
7. <https://www.youtube.com/watch?v=ZOKsmiLcSlo>
8. <https://www.youtube.com/playlist?list=PLA1DC661DCF743F70>
9. <http://study-ccna.com/>

K. P. Sharma



01EE0101	Elements of Electrical Engineering	B.Tech. Year - I
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Objective: Students are expected to learn basics of Electrical Engineering which will help them to apply these concepts in day to day life. The course is divided into two parts: DC circuits and AC circuits. The course also discusses three phase supply which is used in many commercial, industrial as well as agricultural applications. Keeping in view wide applications of batteries, a special unit of battery is introduced.

Credits Earned: 4 Credits

Course Outcomes: After completion of this course, student will be able to

- Recognize importance of electrical energy and its day to day applications.
- Interpret the role of resistor, capacitor and inductor and their behavior under various system conditions.
- Describe qualitative comparison between AC and DC system, single phase and three phase systems.
- Analyze and solve DC Circuits, AC Single phase and Three Phase Circuits.
- Analyze and solve magnetic circuits.
- Explain the need of batteries, its characteristics and charging methods.

Prerequisite of course: NA.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
3	0	2	4	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Fundamental of DC circuits: Definition of Current, Voltage, e.m.f., Power Energy, Resistance, Ohm's Law, Effect of variation in temperature on resistance, Series, Parallel and series-parallel connection of resistances, Comparison between	6

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	series and parallel circuits, Open circuit and Short circuit, Delta-Star and Star-Delta transformation, Kirchoff's Laws, Nodal Analysis, Mesh Analysis of Electrical Networks	
2	Magnetic Circuits and Electromagnetics: Definition of magnetic quantities, Magnetic circuits, Comparison of electric and magnetic circuits, Calculation of Ampere turns, Leakage flux, Magnetization Curve, Electromagnetic induction, Faraday's Laws, Induced emf and direction of induced emf, self inductance, mutual inductance, coefficient of coupling, inductance of coupled coils, energy stored in magnetic field, Charging and discharging of inductor, magnetic hysteresis, eddy current losses	6
3	Electrostatics and Capacitance: Electric charge, permittivity, Coulomb's law, Electric Flux, Electric Field, Flux density, Electric field Intensity, Electric potential and potential gradient, Dielectric strength. Capacitor, Parallel-plate capacitor, types of capacitors, series and parallel connection of capacitors, energy stored in capacitor, charging and discharging of capacitor.	6
4	Fundamental of AC Quantities: Generation of Alternating voltage and current, sinusoidal function-Terminology, Form Factor and Peak Factor, Phase and Phase Difference, Phasor representation of alternating quantities, Phasor addition and subtraction, Application of Fourier Analysis in Alternating Quantities	5
5	Analysis of AC circuits: Current flow in AC circuits, Behaviour of purely resistive, inductive and capacitive circuits, Phase relation between voltage and current Active, Reactive and Apparent Power, Power Factor and its significance in series RL circuit, series RC circuits, series RLC circuit Parallel and series-parallel AC circuits, phasor method, admittance method	7
6	Resonance Introduction, series resonance, selectivity and bandwidth, quality factor, voltage/current magnification, parallel resonance, bandwidth and Q-factor of parallel resonant circuits, Comparison of series and	2

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	parallel resonance circuits, Application of resonance in Electrical Engineering	
7	Three Phase Systems: Polyphase systems, Generation of three phase emf, phase sequence, Interconnection three phases, star connection, delta connection, power in three phase systems, Measurement of power and power factor in balanced three phase load, Advantages of three phase System	6
8	Batteries: Electric cell, types of cells, Equivalent circuits, grouping of cells, batteries, capacity of battery, efficiency of battery, charging method, Life of battery, Application of battery, Battery maintenance procedure.	2
9	Safety and Protection Electric Shock, First aid for electric shock, importance of grounding, Fuse, MCB, ELCB.	2
	Total Hours	42

References:

1. E. Hughes, 'Electrical and Electronic Technology', Prentice Hall India, 10th edition, 2008.
2. Mittal, 'Basic Electrical Engineering', Tata Mcgraw-Hill, 2nd edition, 2006.
3. V. Del Toro, 'Electrical Engineering Fundamentals', Prentice - Hall India, 2nd edition, 2006.
4. D. P. Kothari and I. J. Nagrath, '*Theory and Problems in Basic Electrical Engineering*', Prentice Hall India
5. A. Chakrabarti, S. Nath, C. Chanda, '*Basic Electrical Engineering*', Tata McGrawHill Education India Pvt. Ltd, 2013.
6. B. L. Theraja, '*Electrical Technology*', S. Chand Publication, 2012.
7. U. A. Patel, '*Elements of Electrical Engineering*', AtulPrakashan, 8th edition, 2009

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation

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Remember	Understand	Apply	Analyze	Evaluate	Create
20%	20%	30%	15%	10%	5%

Suggested List of Experiments:

1. To verify star-delta transformation in electric network
2. To verify ohm's law in an electric circuit
3. To observe the variation of temperature on resistance
4. Determination of equivalent capacitance of series and parallel connection of capacitors
5. Determination of B-H curve of magnetic material
6. To study function of basic instruments
7. To determine basic terminology of alternating waveform
8. To determine power in a single phase circuit using wattmeter
9. Determination of parameters in series RL circuit
10. Determination of parameters in series RLC circuit
11. Study series resonance in RLC circuit
12. Phase and Line quantity relationship in star and delta connection in a three phase systems
13. Determination of power in a three phase balanced circuit using two wattmeter method

Instructional Method:

- A. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- B. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- C. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- D. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. <http://nptel.ac.in/courses/108108076/>
2. <http://nptel.ac.in/downloads/108105053/>
3. <http://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-002-circuits-and-electronics-spring-2007/video-lectures/>
4. [002-circuits-and-electronics-spring-2007/video-lectures/](https://www.facstaff.bucknell.edu/mastascu/eLessonsHTML/EEIndex.html)
5. <https://www.facstaff.bucknell.edu/mastascu/eLessonsHTML/EEIndex.html>

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6. <http://www.electrical4u.com/nature-of-electricity/>
7. <http://vlab.amrita.edu/index.php>

K. P. Singh



01GS0101	Physics	B.Tech. Year - I
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Objective: Students are expected to learn basics of physics which will help them to apply physical concepts in various engineering branches whichever is applicable for them. The course is divided into ten modules. The course also discusses various aspects of physics which are used in many commercial, as well as industrial applications. Keeping wide view of applications of Non Destructive Testing, a special unit of the same is introduced.

Credits Earned: 4 Credits

Course Outcomes: After completion of this course, student will be able to

- Recognize importance of physical concepts and its day to day applications.
- Interpret the role of dielectric, magnetic and advanced engineering materials and their behaviors under various system conditions.
- Describe qualitative comparison between various diodes.
- Explain the need of NDT and its methodologies.

Prerequisite of course: NA.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
3	0	2	4	50	30	20	25	25	150

Contents:

Unit	Topics	ContactHours
1	Acoustics: Introduction of musical sound and noise, Audible sound, Characteristics of audible sound, Loudness and Weber-Fechner law, Introduction of sound absorption co-efficient, Sabine's formula for reverberation(Without Derivations), Factors affecting the acoustics of building and their remedies, Sound absorbing materials, Sound Insulation, Noise Pollution, Noise Control in machineries.	5

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2	Ultrasonics: Ultrasonic sound, Piezo-electric effect and Piezo-electric generator, Magneto-striction effect and Magneto-striction generator, Measurement of ultrasonic sound by Debye-Sear method, Applications of ultrasound in various disciplines.	4
3	Non Destructive Testing: <i>Visual inspection:</i> Scope and advantages of NDT, comparison of NDT with DT, Classification of NDT, equipments used for visual inspection, magnifying glass and mirror, microscope, borescope, endoscope, video imagescope. <i>Eddy current testing:</i> principle, advantages and disadvantages, factors affecting eddy current response, limitations and types of probes. <i>Liquid penetrant testing:</i> introduction, principle, equipments, procedures, principle, equipments and methodology, radiographic exposure factors, image quality, limitations and radiation hazards.	5
4	Optical Fiber: Introduction of Optical Fiber, Structure and advantages of Optical Fiber, Total Internal Reflection, Derivation of Numerical Aperture and Acceptance angle, Modes of Propagation, Classification of Optical Fiber, Fiber loss, Fiber optic communication system, Applications of optical fiber.	4
5	LASER: Properties of LASER, Spontaneous and stimulated emission, LASER with basic idea about Population Inversion, Pumping mechanism, Optical Resonators, Nd:YAG LASER, principle, construction and working, Applications of LASER in various disciplines, Principle of holography and its applications.	4
6	Superconductivity: General Properties of superconductors, Types of Superconductors, High Temperature superconductors, Applications: Magnets, Josephson effect, SQUID, Maglev, other	4
7	Magnetic Materials: Definitions : Magnetic induction, Auxiliary Magnetic field, Magnetic dipole, Dipole moment, Magnetization, Magnetic parameters, Bohr magnetron, Classification of Magnetic Materials based on magnetic moment, Soft and Hard Magnetic Materials, Anti-ferromagnetic	5

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	materials, Ferrites, Magnetic recording and readout, Magnetic storage devices.	
8	Nano-Physics: Introduction of Nano scale, Surface to volume ratio, Synthesis of Nano materials: Top-down; Ball milling, lithography, erosion, Bottom-up; PVD, CVD, PECVD, and sol-gel methods, Structure and types of Carbon Nano tube, Synthesis of CNT; Electrical arc method, CVD, Laser ablation, Properties and applications of CNT, Properties and applications of Nano materials.	5
9	Advanced Engineering Materials: Metallic glass: Introduction, Synthesis; splat cooling and Melt spinning methods, Properties and Applications Shape Memory Alloy: Introduction, Properties and Applications Energy materials: Hydrogen fuel cell	4
	Total Hours	40

References:

1. V. Rajendran, Engineering Physics, McGraw Hill Education (India) Pvt. Ltd.
2. K. Rajagopal, Engineering Physics, Prentice Hall of India Pvt. Ltd.
3. J. Prasad, C. G. K. Nair, "Non-Destructive Testing and Evaluation of Materials", Tata McGraw Hill Education Private Limited.

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
20%	20%	30%	15%	10%	5%

Suggested List of Experiments:

1. To verify I-V characteristics of PN diode
2. To verify I-V characteristics of Zener diode
3. To verify I-V characteristics of Light Emitting diode
4. To determine efficiency of solar cell
5. Study of solar cell in series and parallel combinations

J. Prasad



6. To determine Numerical Aperture of Optical Fiber
7. To determine propagation and bending losses of Optical Fiber
8. To determine velocity of ultrasonic sound in water by ultrasonic interferometer
9. To determine energy band gap of semiconductor by four probe method
10. To determine energy band gap of semiconductor by resistivity- temperature method
11. To determine carrier concentration of a given semiconductor by Hall effect
12. To determine divergence of LASER beam

Instructional Method:

- A. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, etc.
- B. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- C. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- D. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. <http://nptel.ac.in/courses>
2. <http://nptel.ac.in/downloads>
3. <http://vlab.amrita.edu/index.php>

V. Prabh



01MA0101	Engineering Mathematics – I	B.Tech. Year - I (Sem I)
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Objective: A good Engineer has to have an excellent background of Mathematics. Engineering Mathematics is one of the essential tools for learning Technology, Engineering and Sciences. This course lays the foundation for engineering mathematics in subsequent semesters, so that students get a sound knowledge and important aspects of the course.

Credits Earned: 5 Credits

Course Outcomes: After finishing of this course, understudy will have the capacity to

- Understand the fundamental ideas of vector theory and its applications.
- Apply knowledge of matrices in graph theory, cryptography, solving linear problems in various branches of engineering.
- Apply the concept of Eigen values and vectors in various field of engineering like control theory, vibration analysis, quantum mechanics etc.
- Apply concept of partial differential equation in solving various core engineering problems.
- Understand the importance of partial derivative and its application to solve Problems involving conservation of mass, conservation of momentum, etc.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	2	-	5	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Vector space: Vector space, Linear independence of vectors, Basis and dimension of vector space, Inner product spaces and their properties.	7
2	Matrix Algebra - I: Rank and nullity of a matrix, Determination of rank by row operation, Triangularization of matrices by Gauss-elimination process, Computing	7

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	inverse of a matrix by Row operations, Consistency of system of linear equations.	
3	Matrix Algebra-II: Determinant and their properties, Cofactors of $n \times n$ determinant, Eigen values and eigen vector of matrix, Cayley - Hamilton theorem, Quadratic and Canonical forms, special matrices and their properties.	7
4	Expansion of functions: Concept of Expansion of functions, Taylor's series expansion, Maclaurin's series expansion	7
5	Partial differentiation: Partial derivatives, Euler's theorem, Modified Euler's theorem and their applications, Implicit functions, Chain rule, Total differentials.	7
6	Applications of Partial differentiation: Errors and approximations, Tangent plane and normal line to a surface, Constrained optimization using Lagrange's multiplier, Jacobian.	7
	Total Hours	42

Recommended Textbooks:

1. M. D. Weir *et al*: Thomas' Calculus, 11th Ed., Pearson Education, 2008.
2. Stewart James: Calculus Early Transcendental, 5th Ed., Thomson India, 2007
3. Wylie & Barrett: Advanced Engineering Mathematics, Mc Graw Hill pub.
4. Greenberg M D: Advanced Engineering Mathematics, 2nd ed., Pearson
5. B.S.Grewal: Higher Engineering Mathematics, 43rd ed., Khanna publisher
6. Erwin Kreyszig, Advanced Engineering Mathematics, 9/e, JOHN WILEY & SONS, INC
7. H. K. Dass, Advanced Engineering Mathematics, S Chand Publishing..

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
20%	20%	30%	15%	10%	5%

Instructional Method:

- A. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may

K. P. Singh



also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.

- B. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- C. Practical examination will be directed toward the completion of semester for assessment of performance of understudies in laboratory.
- D. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

- 1. <http://mathworld.wolfram.com/>
- 2. <http://en.wikipedia.org/wiki/Math>

K. P. Singh



01ME0101	Elements of Mechanical Engineering	B. Tech. Year - I
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Type of course: Engineering Science

Prerequisite: Zeal to learn the subject

Rationale: Understanding of basic principles of Mechanical Engineering is required in various field of engineering.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
3	0	2	4	50	30	20	25	25	150

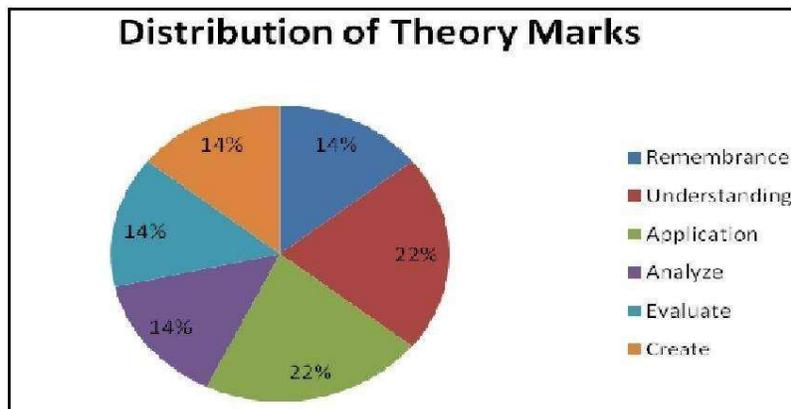
Content:

Sr. No.	Content	Total Hrs	%Weightage
1	Introduction: Prime movers and its types, Concept of Force, Pressure, Energy, Work, Power, System, Heat, Temperature, Specific heat capacity, Change of state, Path, Process, Cycle, Internal energy, Enthalpy, Statements of Zeroth Law and First law	4	25%
2	Properties of gases: Gas laws, Boyle's law, Charles law, Combined gas law, Gas constant, Relation between Cp and Cv, Various non-flow processes like constant volume process, constant pressure process, Isothermal process, Adiabatic process, Polytropic process	6	
3	Properties of Steam: Steam formation, Types of Steam, Enthalpy, Specific volume, Internal energy and dryness fraction of steam, use of Steam tables, steam calorimeters	6	
4	Heat Engines:		

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	Heat Engine cycle and Heat Engine, working substances, Classification of heat engines, Description and thermal efficiency of Carnot; Rankine;	6	30%
5	Steam Boilers: Introduction, Classification, Cochran, Lancashire and Babcock and Wilcox boiler, Functioning of different mountings and accessories	4	
6	Internal Combustion Engines: Introduction, Classification, Engine details, four-stroke/ two-stroke cycle Petrol/Diesel engines, Indicated power, Brake Power, Efficiencies	4	
7	Turbo machines: Types and operation of Reciprocating, Rotary and Centrifugal pumps, Priming and air compressors	4	20%
8	Refrigeration & Air Conditioning: Refrigerant, Vapor compression refrigeration system, vapor absorption refrigeration system, Domestic Refrigerator, Window and split air	4	
9	Couplings, Clutches and Brakes: Construction and applications of Couplings (Box; Flange; Pin type flexible; Universal and Oldham), Clutches (Disc and Centrifugal), and Brakes (Block; Shoe; Band and Disc)	4	25%
10	Transmission of Motion and Power: Shaft and axle, Belt drive, Chain drive, Friction drive, Gear drive	4	



Reference Books:

K. P. Singh



Marwadi University **Syllabus for Bachelor of Technology**
Department of Information Technology

1. Basic Mechanical Engineering by Pravin Kumar, Pearson
2. Thermal Science and Engineering by Dr. D.S. Kumar, S.K. Kataria & sons, Publication New Delhi
3. Fundamental of Mechanical Engineering by G.S. Sawhney, PHI Publication New Delhi
4. Elements of Mechanical Engineering by Sadhu Singh S. Chand Publication

Course Outcome: After learning the course the students should be able to:

1. To understand the fundamentals of mechanical systems
2. To understand and appreciate significance of mechanical engineering in different fields of engineering

List of Experiments:

1. To understand and appreciate significance of mechanical engineering in different fields of engineering
2. To understand construction and working of different boiler mountings and accessories.
3. To determine brake thermal efficiency of an I. C. Engine.
4. To understand construction and working of different types of air compressors.
5. To demonstrate vapor compression refrigeration cycle of domestic refrigerator OR window air conditioner OR split air conditioner.

Design based Problems(DP)/ Open Ended Problem:

1. Develop a prototype of gear train/drive for certain velocity ratios.
2. Develop a small boiler with different mountings.
3. Develop a hot air engine

List of Open Source Software/learning website:

1. <http://nptel.iitm.ac.in>,
2. <http://vlab.co.in/>

K. Prashant



01SL0101	Communication Skills	B.Tech. Year - I
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Objective: As students would make a transition to higher education, it is required that they develop an ability to comprehend written texts focusing on science and technology as well as the skill to compose different forms of academic writing. The course aims at equipping the students with basic competence in reading and writing for the purposes of their academic requirements.

Credits Earned: 3 Credits

Course Outcomes: After completion of this course, student will be able to

- Comprehend texts based on science and technology
- Develop the ability to interpret informative and analytical texts
- Evolve an understanding of components of academic writing
- Explain technical concepts in written form
- Compose written texts for the purposes of academic writing

Prerequisite of course: NA.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	CSE	Internal (IA)	Viva (V)	Term work (TW)	
2	0	2	3	50	20	30	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Essentials of Effective Communication Skills <ul style="list-style-type: none"> ● Definition and Process of Communication ● General and Technical Communication ● LSRW ● Non-verbal Communication 	6
2	Reading Skills	6

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	<ul style="list-style-type: none">● Reading Skills: An Overview● Informative and Analytical Texts● Viewpoint and Main Ideas● Exercises for Reading Comprehension	
3	Writing Skills <ul style="list-style-type: none">● Organization of Ideas● Coherence● Grammar, Punctuation and Usage● Paragraph Development, Explanation of Concepts, Assignment	6
4	Listening and Speaking Skills <ul style="list-style-type: none">● Types of Listening● Barriers to Effective Listening● Conversation Practice● Presentation Skills	6
	Total Hours	24

References:

1. Technical Communication by Meenakshi Raman (Oxford)
2. Comprehension 1 by D'Arcy Adrian-Vallance and Lewis Lansford (Longman)
3. 501 Reading Comprehension Passages, Learning Express, New York
4. Building Academic Reading Skills, Book 1, Dorothy Zemach
5. The Allyn & Bacon Guide To Writing Third Edition, John D. Ramage, John C. Bean, June Johnson, Longman
6. The Norton Field Guide to Writing with Handbook, Second Edition, W W Norton & Company
7. Oxford Guide To English Grammar by John Eastwood (Oxford)
8. Essential Grammar in Use by Raymond Murphy (Cambridge)
9. Longman Dictionary of Common Errors

Practical

1. Exercises for Reading, Writing, Listening and Speaking Skills

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

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Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
20%	20%	30%	15%	10%	5%

Instructional Method:

- A. The course delivery method will be discussion-based lectures, workshops, seminars role play, Quiz, brainstorming etc.
- B. The internal evaluation will be done on the basis of continuous evaluation of students through various activities.
- C. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Language lab sessions etc.

Supplementary Resources:

- 1. www.myenglishguru.com/
- 2. www.englishpage.com/
- 3. www.paragraphpunch.com/
- 4. <https://www.britishcouncil.in/>

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01CE0101	Computer Programming	B.Tech. Year - I
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Objective: Students are expected to learn basics of Computer Programming which will help them to apply these concepts in day to day life. The course discusses various notations that required for developing algorithm and for C language, which is used in many commercial, industrial as well as industrial applications. Keeping in view wide applications of files, a special unit of files is introduced.

Credits Earned: 4 Credits

Course Outcomes: After completion of this course, student will be able to

- Recognize importance of C language and its day to day applications.
- Analyze the various control structures that requires to use in real time applications
- How to convert real time applications into algorithms and device the program using C language notations
- Identify various basic programming principles using C language.
- Illustrate various programming syntax.
- Express and distinguish various loops in C language.
- Express programming problems logically through flow charts and algorithms.
- Prepare effective team-oriented problem solver as well as communicator with non-technical stakeholders in computer and software systems development.
- Apply fundamental principles of problem solving in software engineering.

Prerequisite of course: NA.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	CSE	Viva (V)	Term work (TW)	
3	0	2	4	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Introduction : Basic organization of a Computer, Languages Low level – high	6

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	Number level, System – Binary – Decimal conversion problems, Flowchart, Algorithm, problem solving using flowchart and algorithm	
2	C Programming Basics : Introduction to C Programming, Structure of 'C' program, compilation and linking processes, Constants, Variables, Data Types, C Tokens, Expression using operators in 'C', Type Conversion and Type Casting	7
3	Control Structure and Looping : Decision Making statements, Switch statement, Conditional operator, Looping – Entry and Exit control loops, concept of jump, break and continue.	6
4	Array and String : Declaration and initialization of array, Types of array, sorting and matrix operation using array, String – string operations, string array, string function	5
5	Functions and Pointers : Functions – Definition of function, Declaration of function, Call by value, Call by references, Recursion. Pointers – Definition, Initialization, pointer arithmetic, pointer and array, Chain of pointer.	8
6	Structure and Union : Need of structure data type, structure definition, structure declaration, structure within structure, difference between structure and union.	2
7	Dynamic Memory Allocation : DMA concepts, DMA functions – Malloc(), Calloc(), Realloc(), Free().	2
8	File Management : Introduction to file management and its functions.	3
9	Introduction to Data Structure using C : Introduction, Types - Linear and Non Linear Data structure Linear – Basics of Stack, Queue and Linked List	3
	Total Hours	42

References:

1. Programming in ANSI C by Balaguruswamy
2. Programming With Ansi And Turbo C book : Ashok Kamthane
3. Programming in C Ansi standard, by Yashwant Kanetkar

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4. Programming with C, Gottfried, McGraw-Hill.

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
20%	20%	30%	15%	10%	5%

Suggested List of Experiments:

1. Write a program to print student detail.
2. Write a program to calculate simple interest.
3. Write a program that accepts centigrade and convert it into Fahrenheit.
4. Write a program that accepts two numbers in A and B interchange value of A and B variable.
5. Write a program to demonstrate the use of the basic data types int, char and float.
6. Write a program to demonstrate the use of Arithmetic operators by getting two numbers from the user.
7. Write a program that accepts a number from keyboard and find whether the number is ODD or EVEN using Conditional operators.
8. Write a program to demonstrate the use of increment and decrement operator.
9. Write a program to demonstrate the use of shorthand operators.
10. Write a program to demonstrate the use of sizeof() of operator.
11. Write a program to demonstrate the use of bitwise operators.
12. Write a program that accepts three numbers from the user and print maximum of them.
13. Demonstrate the use of GOTO statement.
14. Write a program to input the Name and the Salary of an Employee. Calculate and print the Name, Salary and Bonus of the Employee, where bonus= 5.3% if salary is at least Rs. 10,000 and 6.5% otherwise.
15. Admission to professional course is subject to the following conditions. Marks in Mathematics \geq 60 Marks in Physics \geq 50 Marks in Chemistry \geq 40 Total in all three subjects \geq 200 or total in mathematics and physics \geq 150 Given the marks in the three subjects, Write a program to process the application to list the eligible candidates.

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16. Write a program that accepts two numbers and one code (1,2,3,4) from the user. According to the code, the operations to be performed, using switch case statements as follows: (Code : 1→ Addition, 2→ Subtraction, 3→ Multiplication, 4→ Division).
17. Write a program that reads the marks for five subjects of a student. Calculate and print the grade for the student [i.e. Grade A,B,C,D and F] using Else-If ladder.
18. Write a program that do sum=1+3+5+.....N terms Print value of Sum.
19. Write a program to print the Fibonacci Series[i.e 1,1,2,3,5,8,13...N terms].
20. Write a program to accept one number from the user. i) Display reverse of that number. ii) Find if it is Armstrong or not.
21. Write a program that accepts a number from the user and print prime numbers from 0 to that number.
22. Write a C program to display following different Patterns.

1	1
1 2	1 0
1 2 3	1 0 1
1 2 3 4	1 0 1 0
1 2 3 4 5	1 0 1 0 1

1	a
2 1	b c
1 2 3 2 1	d e f
2 3 4 3 2 1	g h i j
1 2 3 4 5 4 3 2 1	k l m n o
1	1
A B	A B
1 2 3	2 3 4
A B C D	C D E F
1 2 3 4 5	5 6 7 8 9

23. Write a program to accept 5 numbers in an array and display it.
24. Write a program to accept 9 numbers in form of matrix and display in matrix form.

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25. Write a program to accept 5 numbers in array and find maximum and minimum value of it.
26. Write a program to accept 5 numbers in array and find maximum and minimum value of it.
27. Write a program to sort all elements of 1-D array in ascending and descending order.
28. Write a program to calculate and display addition of two matrix.
29. Write a program to count number of vowels in a given string.
30. Write a program to check whether entered string is palindrome or not.
31. Write a program for string concatenation without using library function.
32. Write a program to demonstrate the Library function for string.
33. Write a function which receives number as argument and return sum of digit.
34. Write a program for calculating Fibonacci series using UDF and call by value
35. Write a program to calculate Factorial using recursion in UDF.
36. Write a program to find Average, maximum and minimum of Array elements using UDF.
37. Write a program to calculate total number of positive, negative and zero value in array using UDF.
38. Write a program to swap two numbers using UDF and pointer.
39. Write a program using pointer to read in an array of integers and print its elements in reverse order.
40. Write a C program to create a structure of employees with Full Name, Last Name, City and Salary. Display it for n employees.
41. Write a program to demonstrate nested structure.(make structures for circle and rectangle)
42. Write a program to create array of structure. Make a structure for student having student_no, student_name, student_marks.
43. Write a program to create union cricketer having player_name, batting_avg, player_age. P for swapping of two values with help of UDF and call by reference.
44. Write a program to Display contents of a file on screen. Use functions (fopen, fclose, getc, putchar, eof)
45. Write a program to count number of characters in a file.

Instructional Method:

1. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming,

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MOOCs etc.

2. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
3. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
4. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources

1. <http://nptel.ac.in/courses/106104128/>
2. <http://nptel.ac.in/courses/106106133/>
3. <http://nptel.ac.in/courses/106104128/>
4. <http://vlab.amrita.edu/index.php>
5. <http://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-087-practical-programming-in-c-january-iap-2010/>

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01CR0101	Career Readiness Program	B.Tech. Year – I (I-Semester)
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Objective: The course is intended to focus on communication skills

Credits Earned: 02 Credits

Course Outcomes: After completion of this course, student will be able to:

1. Understand the importance of verbal skills.
2. Apply the communication knowledge into practice

Prerequisite of course:

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	CSE	Internal (I)	Viva (V)	Term work (TW)	
2	0	0	3	50	20	30	0	0	100

Contents:

Unit	Topics	Contact Hours
1	Verbal Aptitude and Soft skills Introduction to the Sound of English Language, Self Discipline, Monophthongs and Diphthongs, Nouns and Determiners, Conjunctions: Coordinating & Subordinating	8

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01EC0101	Basics of Electronics Engineering	B.Tech. Year – I
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Objective: The subject aims to prepare the students:

- To understand the basic Electronic Engineering concepts required in analysis and design of electronic circuits and systems.
- To understand the construction and operation of various components and circuits such as Diodes, BJT, JFET, MOSFET, OpAmp, Oscillators and Voltage Regulator and also the capability to analyze and design the simple electronic circuits.

Credits Earned: 4 Credits

Course Outcomes: After completion of this course, student will be able to:

- Identify the difference between electronics and electrical engineering.
- Perceive the detail understanding of construction, operation and applications of various components like Diode, BJT, JFET and MOSFET.
- Recognize basic electronic devices used in various circuits.
- Apply basic knowledge and techniques of electronics engineering for designing and analyzing various electronic circuits like Rectifier, Amplifier, Integrator, Differentiator, Oscillator and Voltage Regulator.
- Understand the role of electronics in solving various engineering problems.

Prerequisite of course: Basic knowledge of physics and fundamental concept of electrical engineering.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
3	0	2	4	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Fundamentals of Semiconductor Material :	4

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	Energy Band Diagram of conductor, semiconductor and insulator; Bohr Atomic Model for Atom, Crystal Structure of Semiconductor Materials, Intrinsic and Extrinsic Semiconductor Materials.	
2	Semiconductor Diodes : Symbol and Construction, Operating Characteristics in Forward and Reverse Bias, Applications of Diode as Switch, Clipper, Clamper and Rectifier; Special Purpose Diodes : Zener Diode; Optical Diodes like LED, Photo Diode, Laser Diode, Seven Segment Display; Other Diodes like Varactor Diode, Schottkey Diode, PIN Diode, Tunnel Diode , Step Recovery Diode.	6
3	Bipolar Junction Transistor (BJT) : History of BJT invention; Types, Symbol and Construction of BJT; Basic Operation of BJT; BJT Configurations : Common Base, Common Emitter, Common Collector with Operation, Input/Output Characteristics; Applications of Transistors as Switch and Amplifier.	6
4	BJT Biasing : DC Operating Point, Fixed (Base) Biasing, Emitter Biasing, Voltage Divider Bias, Emitter Feedback Bias, Collector Feedback Bias, Collector and Emitter Feedback Bias.	7
5	Field Effect Transistor : Types, Symbol, Construction, Operation, Input/Output Characteristics and Applications of Junction Filed Effect Transistor (JFET), Metal Filed Effect Transistor (MOSFET)	6
6	Operational Amplifiers : Introduction to OpAmp, Differential and Common Mode Operation, OpAmp Basics, Practical OpAmp Circuits, OpAmp Applications as Summer, Integrator and Differentiator	7
7	Basic of Organic Electronics : Introduction, Types of Organic Materials, Organic Electronic Devices, Applications	6
Total Hours :		42

References:

1. Albert Malvino and David Bates, "Electronics Principles" Tata McGraw-Hill, 7th Edition, 2006.
2. Robert Boylestad and Louis Nashelsky, "Electronic Devices and Circuit Theory", Pearson Education, 10th Edition, 2009.
3. Hagen Klauk "Organic Electronics: Materials, Manufacturing, and Applications", WILEY –

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VCH, 2006, ISBN: 978-3-527-31264-1

4. Thomas L. Floyd, "Electronics Devices: Conventional Current Version", Pearson Education, 7th Edition, 2008.
5. S Salivahanan and N Suresh Kumar, "Electronics Device and Circuits" Tata McGraw-Hill Education Private Limited, 2nd Edition, 2008.
6. Jacob Milman and Christos C. Halkias, "Electronics Device and Circuits", Tata McGraw-Hill, 3rd Edition, 2008.
- 7.

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's Taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process.

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
20%	20%	30%	15%	10%	5%

Suggested List of Experiments:

1. To study and perform the V-I characteristic of Silicon Diode and Zener Diode.
2. To use the Zener Diode as voltage regulator.
3. To use silicon Diode as a Clipper and Clamper.
4. To analyze the Half Wave, Full Wave and Bridge Rectifiers.
5. To study and perform the Input and Output characteristic of BJT.
6. To use Transistor as a Switch.
7. To Analyze CE, CB and CC Amplifier Circuit.
8. To measure the variation of current gain with variation in temperature for different biasing of a transistor.
9. To study and perform the Input and Output characteristic of FET.
10. To study and perform the Input and Output characteristic of MOSFET.
11. To Study and Perform the Common mode and Differential mode of operation for OpAmp.
12. To use OpAmp as summer, Integrator and Differentiator.
13. To test the performance of negative feedback amplifier and compare gain, BW with and without feedback.
14. To Study and Perform Wien Bridge Oscillator.
15. To Analyze Voltage Regulator by using Integrated Circuit.

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Open ended problems:

1. Design a full wave bridge rectifier for input 50 Hz 10Vp-p AC signal and expected output of 5 V DC signal.
2. Design a regulated power supply using zener diode for input variation of 10 to 20 Vp-p.
3. A silicon diode has a reverse current of 5 μ A at 25°C and 100 μ A at 100°C. What are the values of the saturation current and the surface-leakage current at 25°C?
4. Demonstrate Automatic street light control system using LED.
5. Design a +5 to +25 V variable power supply.

Instructional Methods:

1. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
2. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
3. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
4. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory.

Supplementary Resources:

1. <http://textofvideo.nptel.iitm.ac.in/video.php?courseId=117103063>
2. <https://www.coursera.org/course/eefunlab>
3. <https://www.coursera.org/course/introtoelectronics>
4. <https://www.edx.org/course/circuits-electronics-1-basic-circuit-mitx-6-002-1x>
5. <http://www.learnabout-electronics.org>
6. <http://www.electronics-tutorials.ws>
7. <http://101science.com/Radio.htm>
8. <http://www.electronicandyou.com>

List of simulation software:

1. TINA
2. NI Multisim
3. OrCAD
4. Circuit Wizard

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5. Ngspice (free ware)
6. Logisim (free ware)
7. 123d circuits (online free ware)

Major equipment:

CRO/DSO, Function generator, Power supply, Multi meter, Bread board, Components, Experimental trainer Kits, Bread board, General purpose PCB, Connectors, Soldering iron

Special skill development (Self-study / Communication):

Each student group (2-3 members) has to present a latest devices / technology based on electronic principles using PPT/functional models as part of laboratory term work submission.

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01EC0102	Digital Electronics	B.Tech. Year – I
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Objective: The subject aims to prepare the students,

- To understand the basic of Digital Electronic concepts required in analysis and design of digital electronic circuits and systems.
- To understand the number system, logic gates, Boolean algebra, etc.
- To understand Construction and operation of various digital circuits such as Adder, Subtractor, Multiplexer, Demultiplexer, Decoder, Encoder, Flip-flops, Counters, Registers and memory devices.
- To devolve the capability to Simplify, Analyze and Design the Various Digital Electronic Circuits.

Credits Earned: 4 Credits

Course Outcomes: After completion of this course, student will be able to

- Perform conversion between various number systems.
- Apply knowledge of Boolean algebra and other minimization techniques for digital circuit design.
- Identify, formulate and solve a problem based on combinational and sequential circuits
- Select the appropriate hardware and software tools for combinational and sequential circuit design.
- Design various counters.
- Verify the functions of various digital integrated circuits.
- Evaluate the specifications of logic families.
- Create a course project using digital integrated circuits.

Prerequisite of the course: Elementary knowledge of science and mathematics

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
3	0	2	4	50	30	20	25	25	150

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Contents:

Unit	Topics	Contact Hours
1	Number Systems and Codes : Analogue versus Digital, Various Number Systems and Conversion between them, Accuracy of Conversion, Floating-Point Numbers, Various Binary Codes.	6
2	Digital Arithmetic : Basic Rules of Binary Addition and Subtraction, Binary Addition and Subtraction using Complements, BCD Addition and Subtraction, Binary Multiplication and Division, Floating-Point Arithmetic.	4
3	Logic Gates and Related Devices : Positive and Negative Logic, Various Logics Gates with IEEE/ANSI symbols, Boolean equations, truth table and IC Details. Universal Gates, Gates with Open Collector/Drain output, Tristate Gates, AND-OR-INVERT Gates, Schmitt Gates, Special Output Gates, Fan-Out of Logic Gates, Buffers and Transceivers	4
4	Logic Families : Significance of Families, Characteristic Parameters, Types of Logic Families: TTL, ECL, CMOS, Bi-CMOS, NMOS and PMOS, Comparison between various logic families. Interfacing between CMOS and TTL logic families	3
5	Boolean Algebra and Simplification Techniques : Introduction, Simplification Techniques - Karnaugh Map Method and Tabulation Method	4
6	Combinational Logic Circuits : Combinational Circuits and its implementations, Arithmetic Circuits - Adders and Magnitude comparator. Multiplexer, Encoders, Demultiplexers and Decoders, Parity Generation and Checking.	8
7	Sequential Logic Circuits : R-S and D Flip-flop, Level Triggered and Edge-Triggered Flip-flops, J-K and T Flip-flop, Synchronous and Asynchronous Input, Flip-flop Timing Parameters, Binary Ripple Counter, Synchronous Counters, UP/Down Counters, Decade and BCD Counters, Presettable Counters, Decoding	10

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	Counter, Cascading Counter, Designing Counter with Arbitrary Sequences, Shift Register, Shift Register, Counters, IEEE/ANSI Symbols for counters and Registers.	
8	Memory Devices : Anatomy of Computer, A computer Systems, Computer Memory, RAM and ROM, Expanding Memory Capacity	3
Total Hours :		42

References:

1. Anil K. Maini, "Digital Electronics: Principles, Devices and Applications" Wiley-India Pvt. Ltd, 1st Edition, 2008
2. David J. Comer "Digital Logic & State Machine Design", 3rd Indian Edition, Oxford University Press.
3. M Morris Mano, "Digital Logic and Computer Design", 4th Edition, 2009, Pearson, LPE, R.P.Jain, "Modern Digital Electronics", McGraw-Hill, 4th ed. 2010.
4. Malvino & Leach "Digital Principles and Applications", 7th Edition, McGraw-Hill Education

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's Taxonomy is as per follows. This distribution serves as guidelines to teachers and students for effective teaching-learning process.

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
15%	20%	30%	20%	10%	5%

Suggested List of Experiments:

1. Study data sheet of various digital logic circuits and see how to test these circuits using Digital IC Tester.
2. Study of Digital IC Testers, Logic State Analyzer and Digital Pattern Generators.
3. Verify the truth tables of various Digital Logic Gates.
4. Verify the application of NAND and NOR logic gates as universal gates.
5. Implementation of Boolean Logic Functions using logic gate ICs.
6. Design and implement digital logic for given case study.
7. Measure digital logic gate specifications such as propagation delay, noise margin, fan in and fan out.

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8. Implement various combinational logic circuits such as adder, subtractor, decoder, encoder, multiplexers, demultiplexer, etc.
9. Design any one code converter and implement using discrete ICs on the bread board.
10. Verify operation of various flip-flops, registers and counters using digital ICs.

Open ended problems:

1. Design and Implementation of combinational lock circuit with varying number of bits (For example 4, 8)
2. Design and Implementation of visitor counter for Shopping Mall.
3. Design and Implementation of 4 bit Arithmetic and Logic Unit with minimum 4 functions using digital integrated circuits.
4. Design and Implementation of a scrolling display.
5. Design and Implement a digital dice which will generate any random number from 1 to

Note: A student and faculty may choose any other such problem which includes the concept used in the course.

Instructional Methods:

1. The course delivery method will depend upon the requirement of content and need of the students. The teacher in addition to conventional teaching method (Chalk and Talk) may use any of the tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc. for effective teaching.
2. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
3. Practical examination will be conducted at the end of the semester for evaluation of performance of students in laboratory.
4. Students may use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory, etc.

Supplementary Learning Resources / Open Source Software:

1. PSpices and NGSpice
2. Xcircuit
3. NPTEL website and IITs virtual laboratory

Major equipment:

1. Pattern Generators
2. Logic State Analyzers
3. Digital Storage Oscilloscopes
4. Digital Integrated Circuits Tester.

Special skill development (Self-study / Communication):

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Marwadi Syllabus for Bachelor of Technology
University Department of Information Technology

Each student group (2-3 members) has to prepare any one of the syllabus topic allotted by the faculty using PPT/functional model and submit the video of presentation as part of the laboratory term work submission.

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01EN0101	Basics of Environmental Studies	B.Tech. Year – I
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Objective: Students should gain basic understanding of Environmental Engineering.

Credits Earned: 3 Credits

Course Outcomes: After completion of this course, student will be able to

- Understand and realize the multidisciplinary nature of Environment & its components.
- Know the importance of natural resources for the sustainable development of life.
- Understand the effect of growing population on the Environment.
- Classify the different types of pollution and measure to control pollution
- Learn about the Environmental issues faced globally and various steps taken globally to solve such Environmental issues.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
3	0	0	3	50	30	20	0	0	100

Contents:

Unit	Topics	Contact Hours
1	Introduction and Ecology Introduction to Environment, Ecology, Ecosystem	8
2	Population and Environment Factors Affecting Human Settlement, Define Over Population & Explain the Cause, Effect on Environment & Control of it, Methods of Population forecasting	8
3	Environmental Resources Forest resources, Energy resources, Water Resources and Land Resources	8
4	Environmental Pollution Water pollution, Air & Noise Pollution, Environmental sinks, solid and hazardous waste, E-waste & Biomedical waste, Introduction to Green	8

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	chemistry	
5	Global Environmental Issues Green house Effect, Global warming, ozone layer depletion, Climate change, Acid Rain, Global Efforts to control issues	6
6	Governmental bodies for Environmental protection	4
	Total Hours	42

Recommended Textbooks:

1. Basics of Environmental Studies by U K Khare, 2011 Published by Tata McGraw Hill
2. Environmental Science A Global Concern by William P. Cunningham and Mary Ann Cunningham Published by Tata Mc Graw Hill

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
30%	25%	25%	5%	5%	10%

Instructional Method:

1. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
2. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
3. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

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01MA0151	Engineering Mathematics - II	B.Tech. Year – I (Sem-II)
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Objective: To study the central ideas of Engineering Mathematics to get a sound learning of vital parts of the subject.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, understudy will have the capacity to

- Understand role of mathematical modeling in taking care of different issues related to heat transfer, mechanics, momentum, etc.
- Understand the role of multiple integral in finding volume of three dimensional objects, finding area between two curves, finding moment of inertia etc.
- Check the convergence and divergence of various functions which are expandable in infinite terms.
- Understand the key role of vector integral calculus in finding flux in vector field, finding potential function, etc.
- Gain the fundamental knowledge about special function like Beta and Gamma and its applications.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Multiple Integrals: Calculation of double and triple integrals, reverse the order of integration, Change into polar spherical and cylindrical coordinates.	10
2	Vector differential calculus: Recall the concept of vector algebra, Scalar and vector functions, gradient of a scalar point functions, Divergence and Curl of a vector	10

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	point function, Physical meaning of gradient, divergence and curl, directional derivatives, Conservative vector fields, Irrotational and Solenoidal function.	
3	Vector Integral calculus: Line integrals, Path Independence of Line Integrals, Concept of surface integrals, Green's theorem, Stoke's theorem and Divergence theorem.	10
4	Ordinary Differential Equations: Reorientation, order and degree, Variable separable method, Linear differential equations, Bernoulli's and Exact differential equations.	10
5	Infinite Series: Concept of sequence, nature of infinite series, Properties for convergence, geometric series, Tests for convergence of positive term series.	10
6	Special Functions: Convergence of Improper integrals, Beta, Gamma and error functions with properties.	10
	Total Hours	60

Recommended Textbooks:

1. M. D. Weir *et al*: Thomas' Calculus, 11th Ed., Pearson Education, 2008.
2. Stewart James: Calculus Early Transcendental, 5th Ed., Thomson India, 2007
3. Wylie & Barrett: Advanced Engineering Mathematics, McGraw-Hill pub.
4. Greenberg M D: Advanced Engineering Mathematics, 2nd ed., Pearson
5. Erwin Kreyszig, Advanced Engineering Mathematics, 9/e, John Wiley, INC
6. H. K. Dass, Advanced Engineering Mathematics, S Chand Publishing.

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
20%	20%	30%	15%	10%	5%

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Instructional Method:

1. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
2. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
3. Practical examination will be directed toward the completion of semester for assessment of performance of understudies in laboratory.
4. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. <http://mathworld.wolfram.com/>
2. <http://en.wikipedia.org/wiki/Math>

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01ME0103	Engineering Drawing	B.Tech. Year - I
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Objective: Engineering Drawing is an effective language of engineers. It is the foundation block which strengthens the engineering & technological structure. Moreover, it is the transmitting link between ideas and realization.

Credits Earned: 4 Credits

Prerequisite of course: Zeal to learn the subject.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
2	0	4	4	50	30	20	25	25	150

Contents:

Unit	Topics	Hours
1	Introduction to Engineering Graphics: Drawing instruments and accessories, BIS – SP 46. Use of plane scales, Diagonal Scales and Representative Fraction	4
2	Engineering Curves: Classification and application of Engineering Curves, Construction of Conics, Cycloidal Curves, Involute and Spirals along with normal and tangent to each curve	8
3	Projections of Points and Lines: Introduction to principal planes of projections, Projections of the points located in same quadrant and different quadrants, Projections of line with its inclination to one reference plane and with two reference planes. True length and inclination with the reference planes	
4	Projections of Planes: Projections of planes (polygons, circle and ellipse) with its inclination to one reference plane and with two reference planes, Concept of	10

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	auxiliary plane, method for projections of the plane	
5	Orthographic Projections: (To be cover in Laboratory) Fundamental of projection along with classification, Projections from the pictorial view of the object on the principal planes for view from front, top and sides using first angle projection method and third angle projection method, full sectional view	10
6	Isometric Projections and Isometric View or Drawing: (To be cover in Laboratory) Isometric Scale, Conversion of orthographic views into isometric projection, isometric view or drawing	10
Total Hours		42

References Book:

1. Engineering Graphics by Ramdevsinh Jhala, Tata McGraw Hill, New Delhi
2. A TextBook of Engineering Graphics by P.J.Shah S.Chand & Company Ltd., New Delhi
3. Elementary Engineering Drawing by N.D.Bhatt Charotar Publishing House, Anand
4. A text book of Engineering Drawing by R.K.Dhawan, S.Chand & Company Ltd., New Delhi
5. A text book of Engineering Drawing by P.S.Gill, S.K. Kataria & sons, Delhi

Course Outcomes: After completion of this course, student will be able to

- To know and understand the conventions and the methods of engineering drawing.
- Interpret engineering drawings using fundamental technical mathematics.
- Construct basic and intermediate geometry.
- To improve their visualization skills so that they can apply these skills in developing new products.
- To improve their technical communication skill in the form of communicative drawings.
Comprehend the theory of projection

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process.

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
14%	22%	22%	14%	14%	14%

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Suggested List of Experiments:

Students are required to prepare drawing sheets on the following topics.

Minimum three problems must be given for sheet number 3 to 8.

1. Practice sheet (which includes dimensioning methods, different types of line, construction of different polygon, divide the line and angle in parts, use of stencil,)
2. Plane scale and diagonal scale
3. Engineering curves
4. Projection of line and Projection of plane (minimum two problems on each)
5. Orthographic projection
6. Isometric projection

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses

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Semester – III

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01CE0301	Data Structure	B.Tech. Year - II
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Objective: To implement efficient algorithms and programs it is necessary to organize or structure the data. Understanding of data structures and their related applications are highly needed to build sustainable program.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, students will be able to

- Recognize the need of data structures in real time applications. (Knowledge)
- Analyse various data structures and their applications. (Analysis)
- Design and implement various techniques for searching and sorting algorithms to the small and large data sets. (Create)
- Identify appropriate data structures for the requested requirement for a given application. (Knowledge)

Prerequisite of course: Computer Programming in C

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Introduction to Data Structures: Data Management concepts, Data types – primitive and non-primitive, Types of Data Structures, Linear & non-linear Data Structures	6
2	Linear Data Structures & their representation: Representation of arrays, sparse matrix and its representation, Storage Structures for arrays, Applications of arrays.	16

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	<p>Stack definitions and concepts, operations on stacks (push, pop, peep, change), Polish Expressions and their compilation and Tower of Hanoi.</p> <p>Representation of queue, operations on queue (insert, delete), Simple Queue, Circular Queue, Double Ended Queue, Priority queues, Applications of Queue.</p> <p>Linked list Understanding and their Operations, Singly Linked List, Doubly Linked List, Circular Linked List, Circular Doubly Linked, Applications of Linked List.</p>	
3	<p>Nonlinear Data Structure:</p> <p>Tree definitions and their concepts, Representation of binary tree, Binary tree traversal methods and their examples (Inorder, postorder, preorder), Binary search trees.</p> <p>Method to Convert a general trees to binary tree, Threaded binary tree, Applications of Trees, Balanced tree and its mechanism, AVL tree, Weight Balanced Trees, B Tree and B+ Tree.</p> <p>Graphs and their understanding, Matrix representations of a given graph.</p> <p>Depth First Search (DFS), Breadth First Search (BFS), Minimum Spanning Trees Algorithms (Prims, Kruskal, Dijkstra), Path Matrix, Warshall's Algorithm.</p>	16
4	<p>Sorting & Searching techniques :</p> <p>Sorting Concepts and methods</p> <ul style="list-style-type: none">● Bubble Sort,● Selection Sort● Insertion Sort● Quick Sort● Merge Sort <p>Searching Concepts and Methods</p> <ul style="list-style-type: none">● Sequential Search● Binary Search	8
5	<p>Hashing and Collusion</p> <p>Hashing Concepts and methods. Hash Table Methods-Introduction, Hashing Functions.</p> <p>Collusion and its understanding. Discuss different Collision-Resolution Techniques with examples.</p>	8
	Total Hours	54

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References:

1. Jean-Paul Tremblay and Paul G. Sorenson, An Introduction to Data Structures with Applications, Tata McGraw Hill
2. Tanenbaum, Data Structures using C & C++, PHI
3. Robert L. Kruse, Data Structures and Program Design in C, PHI
4. Mary E.S. Loomis, Data Management and file processing, PHI

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
20%	20%	20%	15%	10%	15%

Suggested List of Experiments:

1. Introduction to pointers. Call by Value and Call by reference.
2. Introduction to Dynamic Memory Allocation. DMA functions malloc(), calloc(), free() etc.
3. Implement a program using array for stack that performs operations (a) PUSH (b) POP (c) PEEP (d) CHANGE (e) DISPLAY
4. Implement a program to convert infix notation to postfix notation using stack.
5. Write a program to implement QUEUE using arrays that performs following operations (a) INSERT (b) DELETE (c) DISPLAY
6. Write a program to implement Circular Queue using arrays that performs following operations. (a) INSERT (b) DELETE (c) DISPLAY
7. Write a menu driven program to implement following operations on the singly linked list.
 - a. Insert a node at the front of the linked list.
 - b. Insert a node at the end of the linked list.
 - c. Insert a node such that linked list is in ascending order.(according to info. Field)
 - d. Delete a first node of the linked list.
 - e. Delete a node before specified position.
 - f. Delete a node after specified position.
8. Write a program to implement stack using linked list.
9. Write a program to implement queue using linked list.

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10. Write a program to implement following operations on the doubly linked list.
 - a. Insert a node at the front of the linked list.
 - b. Insert a node at the end of the linked list.
 - c. Delete a last node of the linked list.
 - d. Delete a node before specified position.
11. Write a program which create binary search tree and traversal methods.
12. Write a program to implement Quick Sort.
13. Write a program to implement Merge Sort.
14. Write a program to implement Bubble Sort.
15. Write a program to implement Linear and Binary Search.

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.

Supplementary Resources:

- a. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory.
- b. <https://visualgo.net/en>
- c. <https://www.cs.usfca.edu/~galles/visualization/Algorithms.html>
- d. <https://quizlet.com>

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01CE0302	Database Management System	B.Tech. Year - II
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Objective: A major purpose of a database system is to provide users with an abstract view of the data. The lowest level of abstraction, the physical level, describes how the data are actually stored. The next-higher level of abstraction, the logical level, describes what data are stored, and what relationships exist among those data. The highest level of abstraction, the view level, describes parts of the database that are relevant to each user; application programs used to access a database form part of the view level. The SQL will help the user to retrieve the data from the database as per the requirement.

Credits Earned: 4 Credits

Course Outcomes: After learning the course, the students should be able:

- Use Relational Database and different models of Database. (Apply)
- Design ER Model for an Application. (Create)
- Apply Concepts of normalization with functional dependency to construct Data dictionary. (Apply)
- Implement Structured Query Language (SQL) and evaluate query expression. (Evaluate)
- Differentiate and Execute transactional Concepts and locking mechanism (Analyze)
- Use concepts of Database Security on Database. (Apply)

Prerequisite of course: NA.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
3	0	2	4	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Introductory concepts of DBMS : <ul style="list-style-type: none"> ● Introduction and applications of DBMS ● Purpose of data base 	3

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	<ul style="list-style-type: none">● Data Independence● Database System architecture- levels Mappings● Database, users and DBA	
2	Relational Model : <ul style="list-style-type: none">● Structure of relational databases● Domains● Relations● Relational algebra – fundamental operators and syntax, relational algebra queries, tuple relational calculus	4
3	Entity-Relationship model : <ul style="list-style-type: none">● Basic concepts● Design process● Constraints, Keys, Design issues● E-R diagrams - weak entity sets, extended E-R features – generalization, specialization, aggregation, reduction to E-R database schema	5
4	Relational Database design : <ul style="list-style-type: none">● Functional Dependency – definition, trivial and non-trivial FD● Closure of FD set● Closure of attributes● Irreducible set of FD● Normalization – 1NF, 2NF, 3NF, Decomposition using FD-dependency preservation, BCNF, 4NF● Multi- valued dependency● Join dependency and 5NF	5
5	Query Processing & Query Optimization : <ul style="list-style-type: none">● Introduction● Measures of query cost● Selection operation● Sorting and Join● Evaluation of expressions, transformation of relational expressions, estimating statistics of expression results,● Evaluation plans and materialized views	5
6	Transaction Management : <ul style="list-style-type: none">● Transaction concepts● Properties of transactions	10

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	<ul style="list-style-type: none">● Serializability of transaction and testing for serializability,● System recovery - Two- Phase Commit protocol● Recovery and Atomicity - Log-based recovery● Concurrent executions of transactions● Concepts of dead lock using locking mechanism● Locking mechanism - two-phase locking protocol,● Isolation and Intent locking	
7	Security: <ul style="list-style-type: none">● Overview● Discretionary access control● Mandatory Access Control● Data Encryption	2
8	SQL Concepts <ul style="list-style-type: none">● Working with DDL,Creating and Managing Constraints --- NOT NULL, UNIQUE constraints, PRIMARY KEY, FOREIGN KEY, and CHECK constraints, Managing constraints,● Constructing DML Statements,SELECT Statements and Relational Database Technology,Using the WHERE Clause, Restricting Rows - -- Logical comparisons and precedence rules, Sorting rows ,Introduction to functions – single row functions,● Using Character, Number, and Date Functions, Conversion functions, NULL functions, Conditional expressions,Executing Database Joins--- Cross joins and natural joins, Join clauses, Inner versus outer joins, Self joins and hierarchical queries,● Working with Group Functions,Using Complex SQL with Aggregated Data,Creating Subqueries, Creating and Managing Views-- Creating views, DML operations and views, Managing views,● Working with Sequences---Working with sequences, Indexes and synonyms,● Fundamentals of Database Security--- Controlling user access, Creating and revoking object privileges, Regular expressions,● Oracle Proprietary Join Syntax--Cartesian product and the JOIN operations, NONEQUIJOINS, OUTER joins	13
9	PL/SQL Concepts : <ul style="list-style-type: none">● Cursors	3

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	<ul style="list-style-type: none"> • Stored Procedures and Stored Function, • Database Triggers 	
	Total Hours	50

References:

1. An introduction to Database Systems, C J Date, Addition-Wesley.
2. Database System Concepts, Abraham Silberschatz, Henry F. Korth & S. Sudarshan, McGraw Hill.
3. Understanding SQL by Martin Gruber, BPB
4. SQL- PL/SQL by Ivan bayross
5. Oracle – The complete reference – TMH /oracle press

Suggested Theory distribution:

The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
10%	30%	40%	10%	5%	5%

Suggested List of Experiments:

Practical -1

Create a table ACCOUNT

Column name	Data Type	Size
acc_no	varchar2	5
Name	varchar2	30
City	varchar2	20
Balance	Number	10,2
loan_taken	varchar2	5

Insert the following records.

acc_no	Name	City	Balance	loan_taken
A001	Patel Jigar	Mehsana	50000	YES
A002	Patel Ramesh	Mehsana	50000	YES

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A003	Dave Hardik	Ahmedabad	75000	NO
A004	Soni Hetal	Ahmedabad	100000	NO
A005	Sony Atul	Vadodara	100000	YES

Create a Table LOAN

Column Name	Data Type	Size
loan_no	varchar2	5
acc_no	varchar2	5
loan_amt	number	10,2
interest_rate	number	5,2
loan_date	date	
remaining_loan	number	10,2

Insert the following Records.

Loan_no	Acc_no	Loan_amt	Interest_rate	Loan_date	Remaining_loan
L001	A001	100000	7	1-jan-04	75000
L002	A002	300000	9	18-may-04	150000
L003	A005	500000	11	15-june-04	300000

Create a table INSTALLMENT

Column Name	Data Type	Size
loan_no	varchar2	5
inst_no	varchar2	5
inst_Date	Date	
Amount	Number	10,2

Insert following Records

Loan_no	Inst_no	Date	Amount
L001	I001	2-Feb-04	15000
L002	I002	18-June-04	20000
L003	I003	15-July-04	20000

Create a Table TRANSACTION

Column Name	Data Type	Size
acc_no	Varchar2	5

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tr_Date	Date	
Amt	Number	10,2
type_of_tr	Char	1
mode_of_pay	Varchar2	10

Insert a Following Records

Acc_no	Date	Amt	Type_of_tr	Mode_of_pay
A001	3-may-04	10000	D	Cash
A002	5-july-04	5000	W	Cheque
A003	12-Aug-04	25000	D	Cheque
A004	15-may-04	30000	D	Cheque
A005	22-oct-04	15000	W	Cash

List of queries

1. Display all rows and all columns of table Transaction.
2. Display all rows and selected columns of table Installment.
3. Display selected rows and selected columns of table Account.
4. Display selected rows and all columns of table loan.
5. Show the structure of the table loan, account and transaction.

PRACTICAL-2

Table: **ACCOUNT.**

1. Insert the following records if you have not inserted in PRACTICAL - 1

Acc_no	Name	City	Balance	Loan_taken
A001	Patel Jigar	Mehsana	50000	YES
A002	Patel Ramesh	Mehsana	50000	Yes
A003	Dave Hardik	Ahmedabad	75000	NO
A004	Soni Hetal	Ahmedabad	100000	NO
A005	Soni Atul	Vadodara	100000	YES

2. Change the name 'patel jigar' to 'patel hiren'.
3. Change the name and city where account number is A005. (new name = 'kothari nehal' and new city = 'patan').
4. Display only those records where loan taken status is 'YES'.
5. Add the new column (address varchar2 (20)) into table ACCOUNT.
6. Create another table ACCOUNT_TEMP (acc_no, name, balance) from table ACCOUNT.

K. Patel



7. Rename the table ACCOUNT to ACCOUNT_MASTER.
8. Update the column balance for all the account holders. (Multiply the balance by 2 for each account holders)
9. Describe the structure of table ACCOUNT.
10. Delete the records whose account no is A004.

Table: **LOAN**.

1. Insert the following Records if you have not inserted in PRACTICAL-1

Loan_no	Acc_no	Loan_amt	Interest_rate	Loan_date	Remaining_loan
L001	A001	100000	7	1-jan-04	75000
L002	A002	300000	9	18-may-04	150000
L003	A005	500000	11	15-june-04	300000

2. for each loan holders Add 100000 Rs. Amount into the column loan_amt.
3. for each loan holders Increase the interest rate 2%.
4. Create another table LOAN_TEMP (loan_no, Acc_no, loan_amt, loan_date) from the table LOAN
5. Display only those records where loan holder taken a loan in month of January.
6. Modify the structure of table LOAN by adding one column credit_no varchar2 (4).
7. Display the Loan amount*2 of table LOAN.
8. Display the records of table LOAN by date wise in ascending order.
9. Display the records of table LOAN by account number wise in descending Order.
10. Increase the size 5 to 7 of column acc_no.

Table: **INSTALLMENT**.

1. Insert following Records if you have not inserted in PRACTICAL-1.

Loan_no	Inst_no	Inst_Date	Amount
L001	I001	2-Feb-04	15000
L002	I002	18-June-04	20000
L003	I003	15-July-04	20000

2. Change the Inst_Date '2-Feb-04' to '3-Mar-04'.
3. Reduce 5000 amount from all Installment holders.
4. Add the amount 5000 where loan no is 'L003' and 'L002'.
5. Change the column size of 5 to 7 where column name is Loan_no.
6. Decrease the column size 5 to 4 where column name Inst_no.
7. Show the structure of the Table.
8. Change the amount 15000 to 5000 where loan number is L001

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9. Perform delete operation. (Delete only particular one record)
10. Only create a structure of table installment1 from table installment.

Table: **TRANSACTION.**

1. Insert a Following Records if you have not inserted in PRACTICAL-1.

Acc_no	Trans_Date	Amt	Type_of_tr	Mode_of_pay
A001	3-may-04	10000	D	Cash
A002	5-july-04	5000	W	Check
A003	12-Aug-04	25000	D	Check
A004	15-may-04	30000	D	Check
A005	22-oct-04	15000	W	Cash

2. Insert any duplicate value and display all the records without any duplicate rows.
3. Select all the records in descending order(account number wise).
4. Display amt, date, and type of transaction by date wise.
5. Create another table TRANSACTION_TEMP from this table.
6. Create a another table TRANS_TEMP by change the column name acc_no to account_no.
7. Delete a table TRANSACTION_TEMP.
8. Rename the table TRANSACTION to TRANS.
9. Only create a structure of table transaction1 from table transaction.
10. Display account number where type of transaction is 'D'.

PRACTICAL-3

Note: Bold and Underline column name indicates a primary key

Create a table **ACCOUNT.**

Column name	Data Type	Size	Attributes
<u>Acc no</u>	Varchar2	5	Primary key/first letter must start with 'A'
Name	Varchar2	30	NOT NULL
City	Varchar2	20	NOT NULL
Balance	Number	10,2	Balance >=500
Loan_taken	Varchar2	3	Values('NO','YES')

1. Insert the records using Practical list-1.

Create a Table **LOAN.**

Column Name	Data Type	Size	Attributes
<u>Loan no</u>	Varchar2	5	Primary Key / first letter must start with 'L'

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Acc_no	Varchar2	5	Foreign key References Acc_no of account table
Loan_amt	Number	10,2	NOT NULL
Interest_rate	Number	5,2	NOT NULL
Loan_date	Date		
Remaining_loan	Number	10,2	Remaining loan<loan amount

2. Insert the records using Practical list-1.

Create a table **INSTALLMENT**.

Column Name	Data Type	Size	Attributes
<u>Loan_no</u>	Varchar2	5	Foreign key References Loan_no of Loan table
Inst_no	Varchar2	5	first letter must start with 'I'
IDate	Date		NOT NULL
Amount	Number	10,2	NOT NULL

3. Insert the records using Practical list-1.

Create a Table **TRANSACTION**.

Column Name	Data Type	Size	Attributes
<u>Acc_no</u>	Varchar2	5	Foreign key References Acc_no of account table
Trans_Date	Date		NOT NULL
Amt	Number	10,2	NOT NULL
Type_of_tr	Char	1	Values in ('D','W')
Mode_of_pay	Varchar2	10	Values in ('cash','check')

4. Insert the records using Practical list-1.

Using Operator: NOT,BETWEEN,NOT BETWEEN,IN,NOT IN

1. Retrieve specified information for the account holder who are not in 'Ahmedabad'.
2. Retrieve specified information for the account holder who are not in 'Ahmedabad' or 'Vadodara'.
3. Retrieve those records of Account holder whose balance between is 50000 and 100000.
4. Retrieve those records of Account holder whose balance not between is 50000 and 100000.
5. Display only those records whose amount is 5000, 25000, 30000.
6. Display only those records whose amount not in 5000, 25000, 30000.
7. Display System date.
8. Find the date,15 days after today's date.
9. Perform following operation using DUAL table.

5*5,34+34,1000/300,length of 'uvpce',display only month of systemdate

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10. Find the date, 20 days before today's date.

Function Based Queries.

1. Find the total transaction amount of account holder from transaction table.
2. Find minimum amount of transaction.
3. Find maximum amount of transaction.
4. Count the total account holders.
5. Count only those records whose made of payment is 'cash'.
6. Count only those records whose transaction made in the month of 'MAY'.
7. Find the average value of transaction.
8. Display the result of 4 rest to 4.
9. Find the square root of 25.
10. Write the query for the following Function.

LOWER,INITCAP,UPPER,SUBSTR,LENGTH,LTRIM,RTRIM,LPAD,RPAD

CONSTRAINTS Based queries.

Create a table:**STUDENT**

Name of column	Type and Size
Rollno	Varchar2(6)
Name	Varchar2(20)
Branch	Varchar2(6)
Address	Varchar2(20)

1. Add PRIMARY KEY (roll no) and provide constraint name PRIM_rollno.
2. Add NOT NULL constraint to name,branch for student table.
3. Add check constraint and check name is in capital letter.
4. Drop the primary key.
5. Drop the constraint.

Create a Table **REGISTER.**

Name of column	Type and Size
Rollno	Varchar2(6)
Name	Varchar2(20)

1. Provide foreign key references rollno of student table.
2. Add check constraint to check name's first letter is always capital.
3. Add NOT NULL constraint to name of register table.
4. Drop foreign key of REGISTER table.

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5. Drop NOT NULL constraint.

PRACTICAL-4

NOTE: for following queries use TABLES of PRACTICAL-1

1. Display the sum of balance of account holders who's live in same city 'Mehsana' using group by clause.
2. Display the information about account where balance is less than total balance of all account holders.
3. Displays the information of account holders whose loan amount and balance both are same.
4. Display the name of city, remaining loan amount, account, date of loan and loan number of account holders.
5. Display name of account holder, installment number and installment amount Whose loan number is 'L001'.
6. Display name of account holder, city, loan amount and installment amount.
7. Display the balance of account holders whose balance and remaining loan both are same.
8. List of all account holders' information whose balance is same as loan amount.
9. Display the amount of transaction, name of account holders, account number and mode of payment whose mode of payment is 'CHEQUE'.
10. Display account no, loan amount, amount of transaction.
11. List of installment information whose amount is less than average amount of transaction.
12. Display the sum of installment amount and transaction amount.
13. Display the balance and amount of transaction group by amount and balance.
14. List of installment number and account number of account holders.
15. Display loan amount, transaction amount and mode of payment where transaction date and loan taken date both are done in month of 'MAY'.
16. Display all the information of installment and transaction where installment date and transaction date both are done in month of 'JULY'.
17. Display the last three row of account table.
18. Display the balance, mode of payment, loan taken status whose mode of payment is 'CHEQUE' and loan taken is 'YES'.
19. Retrieve only rows 2 to 5 from account table.

PRACTICAL-5

TABLE: SALESMEN

Column Name	Data Type	Size	Attributes
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SNUM	Varchar2	6	Primary key/first letter must start with 'S'
SNAME	Varchar2	20	Not null
CITY	Varchar2	15	
COMM	Number	5,2	

Insert the following records:

SNUM	SNAME	CITY	COMM
S1001	Piyush	London	0.12
S1002	Niraj	San jose	0.13
S1003	Miti	London	0.11
S1004	Rajesh	Barcelona	0.15
S1005	Haresh	New york	0.10
S1006	Ram	Bombay	0.10
S1007	Nehal	Delhi	0.09

TABLE: CUSTOMER

Column Name	Data Type	Size	Attributes
CNUM	Varchar2	6	Primary key/first letter must start with 'C'
CNAME	Varchar2	20	Not null
CITY	Varchar2	15	
RATING	Number	5	
SNUM	Varchar2	6	

Insert the following records

CNUM	CNAME	CITY	RATING	SNUM
C2001	Hardik	London	100	S1001
C2002	Geeta	Rome	200	S1003
C2003	Kavish	San jose	200	S1002
C2004	Dhruv	Berlin	300	S1002
C2005	Pratham	London	100	S1001
C2006	Vyomesh	San jose	300	S1007
C2007	Kirit	Rome	100	S1004

TABLE: ORDER

Column Name	Data Type	Size	Attributes
ONUM	Varchar2	6	Primary key/first letter must start with 'O'

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AMT	Number	10,2	Not null
ODATE	Date		
CNUM	Varchar2	6	
SNUM	Varchar2	6	

Insert the following records

ONUM	AMT	ODATE	CNUM	SNUM
O3001	18.69	10-Mar-90	C2008	S1007
O3003	767.19	10-Mar-90	C2001	S1001
O3002	1900.10	03-Oct-90	C2007	S1004
O3005	5160.45	04-Oct-90	C2003	S1002
O3006	1098.16	10-Mar_90	C2008	S1007
O3009	1713.23	10-April-90	C2002	S1003
O3007	75.75	10-April-90	C2004	S1002
O3008	4723.00	10-May-90	C2006	S1001
O3010	1309.95	10-May-90	C2004	S1002
O3011	9891.88	10-June-90	C2006	S1001

Perform following queries.

SELECT

1. Display all the information of salesmen.
2. Display snum,sname,city from salesmen table.
3. Display odate,snum,onum and amt from orders.
4. Display the information of orders without duplication.
5. List of sname, city from salesmen where city is 'LONDON'.
6. List all records of customers where rating is equal to 100.
7. Write a select command that produces the order number,amount and date for all rows in the order table.
8. Produces all rows from the customer table for which the salesperson's number is S1001.
9. Display the salesperson table with the column in the following order: city,sname,snum,comm.
10. Write a select command that produces the rating followed by the name of each customer in SAN JOSE.
11. Display SNUM values of all salesmen without any repeat.

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OPERATORS

12. List all customers with a rating above 200.
13. List all customers in SAN JOSE who have a rating above 200.
14. List all customers who were either located in SAN JOSE or had a rating above 200.
15. List of all customers who were either located in SAN JOSE or not rating above 200.
16. List of all customers who were not located in SAN JOSE or rating is not above 200.
17. Write a query that will give you all orders for more than \$1000.
18. Write a query that will give you the names and cities of all salesmen in LONDON with a commission above 0.10.
19. Write a query on the customers table whose output will exclude all customers with a rating ≤ 100 and they are located in ROME.

SPECIAL OPERATORS

20. Display all salesmen that were located in either BARCELONA or LONDON (use IN keyword).
21. Find all customers matched with salesmen S1001, S1007 and S1004.
22. Display all salesmen with commission between 0.10 and 0.12.
23. Select all customers whose names fall in a 'A' and 'G' alphabetical.

LIKE OPERATORS.

24. List all the customers whose names begin with 'G'.
25. List all salesmen whose name start with letter 'P' and end letter is 'H'.

NULL OPERATORS.

26. Find all records in customer table with NULL values in the city column.
27. Write a two queries that will produce all orders taken on October 3rd or 4th, 1990 (use IN operator and Use BETWEEN operator)
28. Write a query that selects all of the customers matched with S1001 and S1002.
29. Write a query that will produce all of the customers whose names begin with a letter from A to H.
30. Write a query that selects all customers whose names begin with 'C'.
31. Write a query that selects all orders without ZEROS or NULLS in amt field..

FUNCTIONS

32. Display sum of amt, average of orders.
33. To count the numbers of salesmen without duplication in the orders tables.
34. Count the rating of customers (with NULL and without NULL).
35. Find the largest order taken by each salesperson. (hint: use group by)
36. Find the largest order taken by each salesperson on each date.
37. Find out which day had the higher total amount ordered.

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38. Write a query that counts all orders for October 3rd.
39. Write a query that counts the number of different non-NULL city in the customer table.
40. Write a query that selects the first customer in alphabetical order whose name begin with 'G'.
41. write a query that selects each customers smallest order.
42. Write a query that selects the highest rating in each city.
43. Write a query that counts the number of salesmen registering orders for each day(if a salesperson has more than one order on a given day , he or she should be counted only once)
44. Display all the information in descending orders(use column CNUM).
45. Display all the information in descending orders(use column CNUM,AMT).
46. Display sname and comm. From salesmen in descending order(in place of column name use column number).
47. Assume each salesperson has a 0.12 commission. Write a query on the orders table that will produce the order number,the salesperson number and the amount of the salesperson's commission for that order.
48. Write a query on the customers table that will find the highest rating in each city. Put the output in this form.
For the city (city) , the highest rating is: (rating).
49. Write a query that lists customers in descending order of rating. Output the rating field first, followed by the customer's name and number.
50. Write a query that totals the orders for each day and places the results in descending order.

JOIN

51. Show the names of all customers matched with the salesmen serving them.
52. Write a query that lists each order number followed by the name of the customer who made the order.
53. Write a query that gives the names of both the salesperson and the customer for each order after the order number.
54. Write a query that produces all customers serviced by salesmen with a commission above 0.12. Output the customer's name, the salesperson's name and the salesperson's rate of commission.
55. Write a query that calculates the amount of the salesperson's commission on each order by a customer with a rating above 100.

OTHERS

56. List all customer located in cities where salesperson 'PIYUSH' has customer.

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57. List all salesmen who are living in same city without duplicate rows.
58. Extract all orders of 'PIYUSH'.
59. Extract all orders of LONDON'S salesmen.
60. Find all customers whose cnum is 1000 above than the snum of 'PIYUSH'.
61. Count the no. of customers with the rating above than average Rating of 'LONDON'.
62. Produce the name and rating of all customers who have above average Rating.
63. List all salesmen with customers located in their cities.
64. Select all customers whose rating doesn't match with any rating customer of 'SAN JOSE'.
65. Create a union of two queries that shows the names,cities and ratings of all customers. Those with rating of ≥ 200 should display 'HIGH RATING' and those with < 200 should display 'LOW RATING'.
66. Find all customers with orders on 3rd october 1990 using correlate sub query.
67. Find all customers having rating greater than any customer in 'ROME'.
68. Insert a row into salesmen table with the values snum is s1008,salesmen name is 'RAKESH', city is unknown and commission is 14%.
69. Create another table London_staff having same structure as salesmen table.
70. Delete all orders from customer 'PIYUSH' from the order table.
71. Set the ratings of all the customers of PIYUSH to 400.
72. Increase the rating of all the customers in ROME by 100.
73. Double the commission of all salesmen of LONDON.
74. Set ratings for all customers in LONDON to NULL.
75. Delete all salesmen who have at least one customer with a rating of 100 from salesmen table.

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

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Supplementary Resources:

1. <https://apex.oracle.com/en/>
2. <https://ilearning.oracle.com/>
3. <https://lagunita.stanford.edu/courses/DB/2014/SelfPaced/about>

01CE0303	Object Oriented Design and Programming	B.Tech. Year - II
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Objective: The objectives of the course are to have students identify and practice the object-oriented programming concepts and techniques, practice the use of C++ classes and class libraries, modify existing C++ classes, develop C++ classes for simple applications.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, student will be capable to

- Identify potential benefits of object oriented programming features and compare structure oriented programming and object oriented programming features. (knowledge, comprehension)
- Able to make use of classes and objects for designing programs and concept of reusability.(application)
- Able to apply various object oriented features to solve various computing problems using C++ language. (application)
- Able to analyze programs based on exception handling and using advanced features like STL for faster development. (application, analysis)
- Develop real world applications using concepts of object oriented programming. (synthesis)

Prerequisite of course: Programming Fundamentals

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Unit	Topics	Contact
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		Hours
1	Introduction : Introduction to Object Oriented Programming, Procedural Vs. Object Oriented Programming, Principles of OOP, Access Modifiers, Basics of a Typical C++ Environment, Pre-processors Directives, C++ Program structure. Header Files and Namespaces, library files.	8
2	Programming Basics : Output using cout. Directives. Input with cin. Type bool. The setw manipulator. Type conversions.	7
3	Functions : Call and Return by reference. Overloaded function. Macro Vs. Inline functions. Default arguments, friend functions.	6
4	Object and Classes : Introduction, Structure Definitions, Accessing Members of Structures, Class Scope and Accessing Class Members. Initializing Class Objects: constructors and their types, destructors.	8
5	Operator overloading : Overloading unary operations. Overloading binary operators, data conversion, pitfalls of operators overloading and Type conversion.	8
6	Inheritance : Concept of inheritance. Derived class and based class. Derived class constructors, member function, class hierarchies, public and private inheritance.	4
7	Polymorphism : Pointers in C++, Objects and Pointers, virtual and pure virtual functions, this pointer, Implementing run time polymorphism.	5
9	Streams and Files : Concept of streams, C++ stream classes, formatted and Unformatted I/O , File stream, manipulators, C++ File stream classes, File modes, File management functions, Binary Files, random Files.	3
10	Templates & Exception Handling : What is template? Function templates and class templates, Overloading Template Functions, Inheritance and Templates, Templates and Friend Function, Overview and use of Standard Template Library, try-catch-throw, multiple catch, catch all, Re-throwing Exception.	5

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	Total Hours	54
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References:

1. **Object Object oriented Programming with C++** by E Balagurusamy, 2001, Tata McGraw-Hill
2. C++ Programming, Black Book, Steven Holzner, dreamtech
3. Object Oriented Programming in Turbo C++ by Robert Lafore ,1994, The WAITE Group Press.
4. Compete Reference C++, Herbert Schlitz, TMH

Suggested Theory distribution:

The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
20%	20%	30%	15%	10%	5%

Suggested List of Experiments:

Experiment # 1 (Basic OOPC)

1. Write a Program to display WELCOME TO MEFGI and elaborate all the Statements.
2. Write a program to perform the following:
 - a. Accept three numbers
 - b. Calculate average
 - c. Find smallest and largest numbers
 - d. Display the results such as average, maximum, and minimum.
3. Write a program to make a calculator which performs following operations:
 - a. Addition
 - b. Subtraction
 - c. Multiplication
 - d. Division
 - e. Modulo
4. Write a Write program in C ++ that tells the form of Water whether it is Ice, Water or Steam. Display the menu also as under
 - Temperature Less than 0 = ICE
 - Temperature Greater than 0 & Less than 100 = Water

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Temperature Greater than 100 = STEAM

5. Write a program to reverse a string.

Experiment # 2 (Basic OOPC)

6. Write a program to perform matrix addition.
7. Write a program which takes string as an input and counts numbers of occurrences of each vowel and total vowels.
8. Write a program to find area of circle, rectangle and triangle using enum datatype.

Experiment # 3 (Function)

9. Write a CPP Program to swap two values (using call by value and call by reference).
10. Write a Function called zeroSmaller() that is passed two int argument by reference and then set the smaller of the two numbers to 0. Write a main () to call this function.
11. Write a program to evaluate following investment equation $V = P(1+r)^n$ and print the tables which would give the value of V for various combination of the following values of P, r, and n:

P: 1000, 2000, 3000,....., 10000

r: 0.10, 0.12, 0.13,....., 0.20

n: 1, 2, 3,....., 10

12. Write a function power () to raise a number m to a power n without using Math.h header file for following scenario.
 - a. The Function takes double value for m and int value for n, and returns the result correctly.
 - b. Use a default value of 2 for n to make function to calculate squares when this argument is omitted.
 - c. Take an int value for m.

In above all cases function name must be same. Write a main() that calls above 3 cases.

13. Write a program to obtain the largest of three numbers using inline function.

Experiment # 4 (Class)

14. Create a class that imitates part of the functionality of the base data type int. Call the class Int. The only data in this class is an int variable. Include member functions to initialize an int to 0, to initialize it to an int value, to display it, and to add two Int values. Write a program that exercises this class by creating two initialized Int values, adding these two initialized values, adding these two initialized value and placing the respond in the un-initialized value, and then display this result.

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15. Define a Class “**bank_account**” having following data members and member functions:

➤ **Data members :**

1. Name of the depositor
2. Account number
3. Type of account
4. Balance amount in the account

➤ **Member functions :**

1. To assign the initial values
2. To deposit an amount
3. To withdraw an amount after checking the balance
4. To display name and balance

Write a main program to test the program for 10 customers.

16. Create two classes **DM** and **DB** which store the value of distances. DM stores distance in meters and centimeters and DB in feet and inches. Write a program that can read values for the class objects and add one object of DM with another object of DB by keeping following in mind.

- a. Use friendly function to carry out the addition.
- b. The object that stores the results may be a DM or DB object, Depending on the unit in which the results are required.

17. Write a program to calculate number of object created for particular class.

Experiment # 5 (Class)

18. Define a Class “**complex**” having data members as **real** and **imag** and member functions as **add_comp()** & **show_comp()**. Write a C++ program to get information of **2 complex numbers** and **add** these **2 complex numbers** and display this result using **Overloaded Constructor** Concept.

19. Create a class **FLOAT** that contains one float data member. Overload all the four arithmetic operators(+, -, *, /) so that they operate on the objects of **FLOAT**.

20. Define a class **String**. Use overloaded ‘==’ operator to compare two strings.

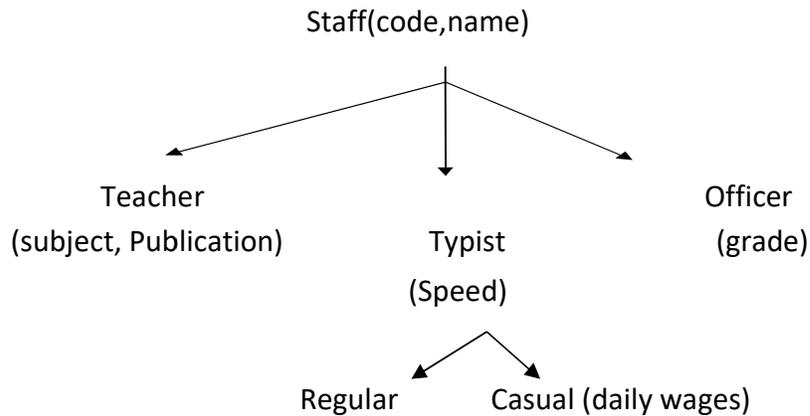
21. Write a program which overload cin and cout of iostream.

22. Define a circle class with radius as data member, necessary constructors and member function to compute area of circle. Class should overload the == operator to compare two circle objects whether they are equal in radius. Demonstrate its use in main().

Experiment # 6 (Inheritance)

23. Implement following class relationship and test with main class.

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24. Add education details for above classes except for typist. This class will include two information namely, highest education in general studies and highest professional qualification.

25. Implement the following class using abstract class.

a. Shape

i. TwoDimensional

1. Triangle
2. Rectangle
3. Circle

ii. ThreeDimensional

1. Box
2. Cone
3. Cylinder
4. Sphere

Experiment # 7 (Polymorphism)

26. Define two Classes “Time-12” and “Time-24” to represent time format. Write a C++ program to convert one time format to another time format using **Type Conversion** Concept.

27. Demonstrate Runtime Polymorphism by defining media class as Base class and Book and Tape as Sub Class. Keep display () function such that, It provides run time polymorphism.

Experiment # 8 (File)

28. Write a program that reads a text file and create another file that is identical except that every sequence of consecutive blank spaces is replaced by a single space.

29. Write a program that reads data from one file and copy it to other file.

30. Write a Program which stores name and mobile number in phonebook and performs

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following tasks:

- a. Determine the mobile number of the specified person.
- b. Determine the name of if a mobile number is known.
- c. Update the mobile number, whenever there is a change.

Experiment # 9 (Standard Template Library)

31. Write a function templates for finding the minimum value contained in an array.
32. Write a class template to represent a generic vector. Include the member functions to perform the following tasks:
 - a. To create a vector
 - b. To modify the value of given element
 - c. To multiply by a scalar value.
33. A table gives a list of car models and the number of units sold in each type in a specified period. Write a program to store this table in suitable container and to display interactively the total value of a particular model sold, given the unit-cost of that model.
34. Write a program that accepts a shopping list of five items from the keyboard and stores them in a vector. Extend the program to accomplish the following tasks:
 - a. To delete a specified item in the list.
 - b. To add an item at a specified location.
 - c. To add an item at the end.
 - d. To print the contents of the vector.
35. Write a program with the following:
 - a. A function to read two double type numbers from keyboard
 - b. A function to calculate the division of these two numbers
 - c. A try block to throw an exception when wrong type of data is keyed in
 - d. A try block to detect and throw an exception if the condition "divide-by-zero" occurs
 - e. Appropriate catch block to handle the exception thrown.

Instructional Method:

1. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
2. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
3. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.

K. Prash



4. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. Open source software dev C++
2. www.nptel.ac.in
3. www.learncpp.com

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01GS0301	Engineering Management	B.Tech. Year – II
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Objective: A major purpose of Engineering Management is to enhance the knowledge of individual for management and finance and overall to understand market movement and factors influencing them.

Credits Earned: 2 Credits

Course Outcomes: After learning the course the students should be able:

1. To understand the globe trade and market
2. Importance of Quality
3. People management
4. Support of Technology for Industries development
5. Review the financial market
6. Understanding the marketing and concepts

Prerequisite of course: NA

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
2	0	0	2	50	30	20	0	0	100

Contents:

Sr. No.	Topics	Hours	Module Weightage
1.	Introduction to Engineering Management, Leadership & Organizations Management	02	10%
2.	Global Trade & International Operations, Operations Management, Lean Systems	03	10%
3.	Intellectual Property, Legal Issues In Engineering Management, Principal Ethics For Engineering Managers	03	10%
4.	Human resource planning and management, selection,	04	15%

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Marwadi University Syllabus for Bachelor of Technology
Department of Information Technology

	recruitment, training, retraining, skill development, competence development, promotion and career development, participative management, trade unions, and collective bargaining, Management of Physical Resources.		
5.	Plant: site selection procedures, factors affecting selection. Layout-types and relative merits and demerits, Material : Functions, objectives, planning and control including inventory models with or without storage costs, price break. Different classes of inventory. Material Requirement Planning (MRP). Project : Project Planning – Risk identification, Assessment & Response Planning	04	15%
6.	Management of Technology: Information technology and management. Role of information, management information system and decision support system, introduction to e-business, ecommerce and integration tools like enterprise resource planning (ERP).	04	12%
7.	Financial management: Introduction to standard forms of financial statements, ie., balance-sheet, profit and loss, and income statement. Fixed and current asset items. Fixed and current liability items. Funds flow statement. Financial ratios and their implications.	04	13%
8.	Quality management: Quality definition, quality planning, quality control and quality management, Total quality management, ISO 9000 systems, simple quality control techniques like control charts and acceptance sampling.	03	10%
9.	Marketing management: Consumer behavior, market research, product design and development pricing and promotion.	02	5%

References:

1. G Dieter, Engineering Design, McGraw-Hill International.
2. E S Buffa. Modern Production/Operations Management. New Age International (P) Ltd., New Delhi.
3. A K Gupta and J K Sharma. Management of Systems. Macmillan India Ltd., New Delhi

Suggested Theory distribution:

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The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
30%	20%	10%	15%	20%	5%

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01IT0301	Data Communication and Networking	B.Tech. Year – II
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Objective: Students are expected to learn basics of Communication Technologies and data communication which will help them to build fundamentals for learning Computer Networks in higher semester. The course is designed to let students demonstrate an understanding of the fundamentals of data communication, types of transmission mediums and interfacing standards along with current edge of the data compression techniques.

Credits Earned: 4 Credits

Course Outcomes: After completion of this course, student will be able to

- Understand importance of data communication systems and fundamentals. (Understand)
- Distinguish and relate various physical Medias, interfacing standards and adapters. (Analyze)
- Evaluate various flow control techniques. (Evaluate)
- Apply various modulation technique in analog and digital career system (Apply)
- Understand Physical layer of LAN, MAN and WAN. (Understand)
- Analyse short range and long range wireless technologies. (Analyze)

Prerequisite of course: Digital Electronics

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
3	0	2	4	50	30	20	25	25	150

Contents:

Unit	Topics	Content Hours
1	Signal Characteristic: Analog and Digital, Periodic Analog Signals, Digital Signals, Transmission Impairments, Data rate limits, Performance	4
2	Data Communication: Basics of data communication, Networks, Internet and protocol standards,	5

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	OSI, TCP -IP models.	
3	Signal Encoding Techniques: Digital to digital Conversion, Data transmission modes, Analog to analog transmission, Digital to analog transmission.	7
4	Bandwidth Utilization: Multiplexing and Spreading Frequency division multiplexing (FDM), Time division multiplexing (TDM), T1 multiplexing hierarchy, E1 multiplexing hierarchy, Statistical TDM, Spread Spectrum, SONET/ SDH	7
5	Transmission Media: Guided media, optical fibre, wireless media	2
6	Switching System and Communication Networks: Circuit Switching, Datagram and virtual network, structure of switch networks, Telephone network, Modem and DSL, cable TV networks	6
7	Wireless WAN: Cellular telephone, Satellite communication,	3
8	Communication Technologies: Ethernet, Bluetooth, WIFI, RF, Infrared, Zigbee, NFC	3
9	Data Link Control: Framing, Flow and error control, protocols, noiseless channels, noisy channel, HDLC, Point to Point Protocol	5
	Total Hours	42

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Create	Evaluate	Analyze	Apply	Understand	Remember
0%	10%	25%	20%	35%	10%

Suggested List of Experiments:

1. Perform pulse coded modulation for analog to digital conversion. Analyze bandwidth requirement, data rate generation, synchronous and asynchronous mode of transmission.
2. Perform bandwidth utilization technique time division multiplexing.
3. Perform various line coding formats and compare transmission characteristic of each formats.
4. Perform digital carrier modulation techniques used in wireless communication.

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5. Perform amplitude modulation and demodulation.
6. Perform serial data communication between two data terminal equipment using optical link.
7. Perform digital data transfer through RF transmitter and receiver.
8. Demonstration of different types of cables used in data communication.
9. Perform Installation of LAN and troubleshooting of frequently occurred problems.
10. Create and test wireless sensor networks using zigbee.
11. To study various aspects of data communication by field visit at data centre.
12. Perform data communication using IR.

Reference Book:

1. Data Communication and Networking by Behrouz A . Forouzan, 4th edition (Mc Graw Hill)
2. Computer Networks by Andrew S. Tanenbaum, 4th edition (Pearson Publication)
3. Data and Computer Communication by William Stallings, 8th edition (PHI Publication).

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class -room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of student s in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. [http:// nptel.ac.in/courses/106105082/](http://nptel.ac.in/courses/106105082/)
2. [http:// www.networkworld.com/blogs](http://www.networkworld.com/blogs)
3. [https:// ocw.mit.edu/ courses/electrical -engineering-and-computer - science/6 -02- introduction -to-eecs-ii-digital -communication-systems-fall - 2012/ index.htm#](https://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-02-introduction-to-eecs-ii-digital-communication-systems-fall-2012/index.htm#)
4. [http:// nptel.ac.in/courses/117102059/](http://nptel.ac.in/courses/117102059/)
5. [http://www.iitk.ac.in/karmaa/DownloadTools/MCIT_DataCompressionProject/Data_Compression_Techniques_for_E -Learning.html](http://www.iitk.ac.in/karmaa/DownloadTools/MCIT_DataCompressionProject/Data_Compression_Techniques_for_E-Learning.html)

K. P. Singh



01MA0231	Discrete Mathematics & Graph Theory	B.Tech. Year - II
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Objective: Engineering Mathematics is one of the essential tools for learning Technology, Engineering and Sciences. In this course students will come across several theorems and proofs. This course is aimed to cover a variety of different problems in Graph Theory. Theorems will be stated and proved formally using various techniques. Various graphs algorithms will also be taught along with its analysis.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, students will be able to

- Apply concept of Predicate Calculus in computer science like design of computing machines, artificial intelligence, definition of data structures for programming languages etc. (Application)
- Understand the concepts of graph theory, Lattices, and Boolean Algebra in analysis of various computer science applications. (Knowledge, Comprehension)
- Apply the knowledge of Boolean algebra in computer science for its wide applicability in switching theory, building basic electronic circuits and design of digital computers. (Knowledge, Application)
- Understand the application of various type of graphs in real life problem. (Knowledge, Comprehension)
- Apply abstract concepts of graph theory in modeling and solving non-trivial problems in different field of study. (Application, Analysis)

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
4	2	-	5	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Predicate Calculus:	10

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	Proposition, Logical operators and expressions, predicates, Rules of quantifiers. Rules of Inference for propositions and predicates.	
2	Lattices: Relation, Poset, Hasse diagram, Lattice as Poset, Properties of lattices, Lattice as an algebraic system, Duality	10
3	Boolean Algebra: Definition and properties of Boolean algebra, Sub-Boolean algebra Atoms and anti-atoms, Boolean expression and their equivalences Min-terms and Max terms, values of Boolean expressions, Canonical forms, Karnaugh map	10
4	Concepts of Graphs and Trees: Definition of a graph theory, incidence and degree, walks, paths, circuits, Connectedness, Eulerian and Hamiltonian graphs, Trees, basic properties of trees, Binary trees Spanning and Minimal spanning trees	10
5	Matrix representations and Graph Algorithms: Connectivity and Separability, fundamental circuits and cut sets, Isomorphism of graphs: 1 and 2-isomorphism Matrix representation of graphs, adjacency and incidence matrix Graph theoretical algorithms: Dijkstra, Prims and Kruskal	10
6	Planar graphs and their properties: Planarity of graphs, Planar graphs, Stereographic projection and embedding on a sphere, Kurtowski's two graphs, Euler's formula, Detection of planarity and elementary reduction	10
	Total Hours	60

Recommended Textbooks:

1. Rosen Kenneth: Discrete mathematics and its applications. McGraw hill- New Delhi.
2. Stanat and McAlister: Discrete Mathematics for Computer Science, PHI
3. Narsingh Deo: Graph Theory with Applications to Engineering and Computer Science, PHI, 1974
4. B. Kolman and R.C. Busby: Discrete mathematical structures for computer science Prantice Hall, New-Delhi.
5. J.P. Tremblay and Manohar: Discrete mathematical structures with application to Computer Science, McGraw hill- New Delhi.
6. S. Malik and M. K. Sen: Discrete Mathematics, Cengage Learning India Pvt. Ltd.
7. Thomas S. Cormen, Charles E. Leiserson, Ronald L. Rivest and Clifford Stein: Introduction to Algorithms, The MIT Press.

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Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
30%	35%	30%	5%	0%	0%

Instructional Method:

- The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- Students will use supplementary resources such as online videos, NPTEL Videos, e-courses, Virtual Laboratory.

Supplementary Resources:

- <http://mathworld.wolfram.com/>
- <http://en.wikipedia.org/wiki/Mat>

L. P. Singh



Marwadi
University

Syllabus for Bachelor of Technology
Department of Information Technology

Semester – IV

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01CE0401	Operating System	B.Tech. Year – II
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Objective: Student will understand Modern Operating System and their principles. The course will cover theory as well as practice aspects of a subject through scheduled lectures and labs, course will cover details of processes, CPU scheduling, memory management, file system, storage subsystem, and input/output management.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, student will be able to

- Understanding the role of operating system with its function and services. (Understanding)
- Compare Various Algorithm used for CPU Scheduling, Memory management and Disk Scheduling Algorithm. (Evaluate)
- Apply various concepts related with Deadlock to solve Problems. (Apply)
- Analyse Protection and Security Mechanism in Operating System. (Analyse)

Prerequisite: Data structures like stack, queue, linked list, tree, graph, hashing, file structures, any structured programming language (like C or python).

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Operating System: Operating Systems Overview- Overview and Functions of operating systems, protection and security, distributed systems, operating Systems structures, services, system calls and their working. History And generation of operating system.	4
2	Process and Threads: Process and Threads - Process concepts, threads, scheduling-criteria,	8

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	Algorithms, and their evaluation. Process Scheduling, Scheduling, case studies UNIX, Linux, Windows	
3	Concurrency Control(IPC): Process synchronization, critical- section problem. classic problems of Synchronization, Software Solutions for synchronization problem. Hardware Solutions for synchronization problem. Synchronization and Their applications. [Understanding of Semaphore – Mutex – Monitor – Event Counters]	10
4	Memory Management: Memory: Swapping, contiguous memory allocation, paging, page table, segmentation, virtual memory, demand paging, page- replacement, Allocation of frames, Virtual Memory: Basics of Virtual Memory – Hardware and control structures – Locality of reference, Page fault, Working Set, Dirty page/Dirty bit Demand paging (Concepts only) – Page Replacement policies : Least Recently used (LRU) Optimal (OPT) , Second Chance (SC), First in First Out (FIFO), Not recently used (NRU).	15
5	Principles of Deadlock: Deadlock - system model, deadlock and its characterization with example, deadlock prevention techniques with example, detection and avoidance of a deadlock, methods to get recovery form deadlock	6
6	File System Interface: File system Interface- the concept of a file, Access Methods. Directory Structure. File system mounting, file protection and sharing mechanism. File System implementation- File system structure, file/directory implementation, efficiency and performance, file allocation methods, Free-space management.	4
7	Mass Storage Structure & I/O System: Mass-storage structure- RAID structure, Disk structure, disk Attachment, disk scheduling, swap-space management. stable-storage Implementation. Overview of Mass-storage structure. Tertiary storage Structure. I/O systems- Hardware, application I/o interface, kernel I/O subsystem, Transforming I/O requests to Hardware operations. STREAMS, performance	4
8	Protection & Security: Protection - Protection. Goals of Protection, Principles of Protection.	3

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	Domain of protection Access Matrix, Implementation of Access Matrix. Access control, Revocation of Access Rights. Capability- Based systems, Language - Based Protection Security-Problems, Program Threats, System and Network Threats, cryptography as security tool, user authentication, implementing security defence, fire walling to protect system and networks, computer security classifications.	
	Total Hours	54

References:

1. Operating System Concepts- Abraham Silberchatz, Peter B. Galvin, Greg Gagne, 8th edition.
2. Operating Systems - Internals and Design Principles. Stallings, 6th Edition-2009. Pearson education.
3. Operating systems- A Concept based Approach-D.M.Dhamdhare. 3rd Edition.TMH
4. Modern Operating Systems, Andrew S Tanenbaum 3rd edition PHI.
5. Principles of Operating Systems, B.L.Stuart. Cengage learning, India Edition.
6. Operating Systems. A.S. Godboie.2nd Edition, TMH

Suggested Theory distribution:

The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
20%	25%	25%	15%	15%	-

Suggested List of Experiments:

1. Study of Different OS Installation and its working.
2. Study of Basic commands to understand the system and working of Linux.
3. Write a script to reverse a number and string given by user.
4. Write a script to find the smallest of three numbers as well as largest among three numbers.
5. Write script that prints names of all sub directories present in the current directory.
6. Write a script to reverse the contents of a file.
7. Write a script to check entered string or a number is palindrome or not
8. Write a menu driven shell script for Copy a file, remove a file, Move a file in Linux.
9. Shell Script to make a menu driven calculator using case in UNIX / Linux / Ubuntu.
10. Write a script to display the digits which are in odd position in a given 6 digit number in Linux

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11. Write a script to translate the string from capital letters to small and small letters to capital using awk command.
12. Write a script to do the sorting of given numbers (use command line argument).
13. Write a program for process creation using C. (Use of gcc compiler).

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. <http://williamstallings.com/OS/Animation/Animations.html>
2. <http://nptel.ac.in/courses/106106144/>
3. <http://nptel.ac.in/courses/106108101/>
4. <http://codex.cs.yale.edu/avi/os-book/OS9/slide-dir>

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01CE0402	Computer Organization and Architecture	B.Tech. Year – II
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Objective: To conceptualize the basics of organizational and architectural issues of a digital computer. Further, analyze performance issues in processor and memory design of a digital computer. Also, understanding various data transfer techniques in digital computer and to analyse processor performance improvement using instruction level parallelism.

Credits Earned: 4 Credits

Course Outcomes: After completion of this course, student will be able to

- Understand and describe the basics of various architectural units of the Computer System[Knowledge]
- Apply the knowledge of combinational and sequential logical circuits to mimic a simple computer architecture[Application]
- Apply logic to create assembly language programs for different micro-operations.[Application]
- Demonstrate ALU operations and instruction level parallelism. [Application].
- Identify and differentiate various methods for I/O mechanisms [Analyze].

Prerequisite of course: Fundamentals of Computer, Digital Logic Circuits.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
3	2	0	4	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Computer Data Representation & Register Transfer and Micro-operations: Basic computer data types, Complements, Fixed point representation, Floating point representation, Register Transfer language, Register Transfer, Bus and Memory Transfers (Tree-State Bus Buffers, Memory	6

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	Transfer), Arithmetic Micro-Operations, Logic Micro-Operations, Shift Micro-Operations, Arithmetic logical shift unit	
2	Basic Computer Organization and Design: Instruction codes, Computer registers, Computer instructions, Timing and Control, Instruction cycle, Memory-Reference Instructions, Input-output and interrupt, Complete computer description.	6
3	Micro programmed Control: Control Memory, Address sequencing, Micro program Example, design of control Unit	4
4	Central Processing Unit: Introduction, General Register Organization, Stack Organization, Instruction format, Addressing Modes, data transfer and manipulation, Program Control, Reduced Instruction Set Computer (RISC)	8
5	Pipeline: Flynn's taxonomy, Parallel Processing, Pipelining, Arithmetic Pipeline, Instruction, Pipeline, RISC Pipeline,	4
6	Computer Arithmetic: Introduction, Addition and subtraction, Multiplication Algorithms (Booth Multiplication Algorithm), Division Algorithms, Floating Point Arithmetic operations, Decimal Arithmetic Unit.	6
7	Input-Output Organization: Input-Output Interface, Asynchronous Data Transfer, Modes Of Transfer, Priority Interrupt, DMA, Input-Output Processor (IOP), CPU IOP Communication, Serial communication.	4
8	Memory Organization: Memory Hierarchy, Main Memory, Auxiliary Memory, Associative Memory, Cache Memory, Virtual Memory.	4
	Total Hours	42

References:

1. M. Morris Mano, Computer System Architecture, Pearson
2. Andrew S. Tanenbaum and Todd Austin, Structured Computer Organization, Sixth Edition, PHI
3. M. Murdocca & V. Heuring, Computer Architecture & Organization, WILEY
4. John Hayes, Computer Architecture and Organization, McGrawHill

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Suggested Theory distribution:

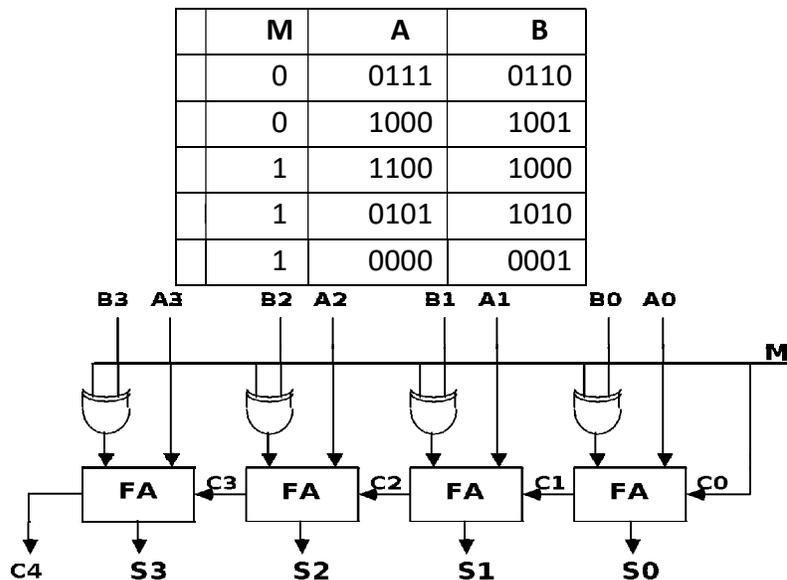
The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
20%	20%	30%	15%	10%	5%

Suggested List of Tutorials:

- A digital computer has a common bus system for 16 registers of 32 bits each. The bus is constructed with multiplexers.
 - How many selection inputs are there in each multiplexer?
 - What size of multiplexers is needed?
 - How many multiplexers are there in the bus?
- The following transfer statements specify a memory. Explain the memory operation in each case.

R2 <-M[AR]
M[AR] <-R3
R5<-M[R5]
- The adder-subtractor circuit in following Fig has the following values for input mode M and data inputs A and B. In each case, determine the values of the outputs : S3, S2, S1, S0 and C4.



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4. Design a 4-bit combinational circuit decrementer using four full-adder circuits.
5. Design a digital circuit that performs the four logic operations of exclusive-OR, exclusive-NOR, NOR, and NAND. Use two selection variables. Show the logic diagram of one typical stage.
6. Register **A** holds the 8-bit binary 11011001. Determine the B operand and the logic microoperation to be performed in order to change the value in A to :
 - I. 01101101
 - II. 11111101
7. The 8bit registers AR, BR, CR and DR initially have the following values :
AR = 11110010 BR = 11111111
CR = 10111001 DR = 11101010
Determine the 8bit values in each register after the execution of the following sequence of micro-operations.
AR <- AR + BR
CR <- CR \wedge DR, BR <- BR + 1
AR <- AR – CR
8. An output program resides in memory starting from address 2300. It is executed after the computer recognizes an interrupt when FGO becomes a 1 (while IEN = 1).
 - I. What instruction must be placed at address 1 ?
 - II. What must be the last two instruction of the output program?
9. Explain the difference between hardwired control and microprogrammed control. Is it possible to have a hardwired control associated with a control memory?
10. Define the following: (a) microoperation; (b) microinstruction; (c) micro-program; (d) microcode.
11. Explain how the mapping from an instruction code to a microinstruction address can be done by means of a read-only memory. What is the advantage of this method?
12. Show how a 9-bit microoperation field in a microinstruction can be divided into subfields to specify 46 microoperations. How many microoperations can be specified in one microinstruction?
13. A computer has 16 registers, an ALU (Arithmetic Logic Unit) with 32 operations, and a shifter with eight operations, all connected to a common bus system.
 - a. Formulate a control word for a microoperation.
 - b. Specify the number of bits in each field of the control word and give a general encoding scheme.
 - c. Show the bits of the control word that specify the microoperation: $R_4 \rightarrow R_5 + R_6$.

Handwritten signature



14. Convert the following arithmetic expressions from infix to reverse Polish notation.

1. $A * B + C * D + E * F$

2. $A * B + A * (B * D + C * E)$

c. $A + B * [C * D + E * (F + G)]$

$A * [B + C * (D + E)]$

d. $F * (G + H)$

15. Formulate a six-segment instruction pipeline for a computer. Specify the operations to be performed in each segment.

16. Explain four possible hardware schemes that can be used in an instruction pipeline in order to minimize the performance degradation caused by instruction branching.

17. Perform the arithmetic operations below with binary numbers and with negative numbers in signed-2's complement representation. Use seven bits to accommodate each number together with its sign. In each case, determine if there is an overflow by checking the carries into and out of the sign bit position.

(a) $(+35) + (+40)$ (b) $(-35) + (-40)$ (c) $(-35) - (+40)$

18. Prove that the multiplication of two n-digit numbers in base r gives a product no more than $2n$ digits in length. Show that this statement implies that no overflow can occur in the multiplication operations.

19. Design an array multiplier that multiplies two 4-bit numbers. Use AND gates and binary adders.

20. Show the hardware to be used for the addition and subtraction of two decimal numbers with negative numbers in signed-10's complement representation. Indicate how an overflow is detected. Derive the flowchart algorithm and try a few numbers to convince yourself that the algorithm produces correct results.

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

- 1. NPTEL Lecture Series
- 2. <http://www.intel.com/pressroom/kits/quickreffam.htm>

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3. web.stanford.edu/class/ee282/

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01CE0403	Object Oriented Programming with Java	B.Tech. Year - II
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Objective: Java is a computer programming language having feature like object-oriented, polymorphism, inheritance and multithreading. It comprises of large third-party library using which we can develop software.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, student will be able to

- To understand object-oriented programming concepts and implement in java. (Understand)
- To comprehend building blocks of OOPs language, inheritance, package and interfaces. (Understand)
- To identify exception handling methods. (Apply)
- To implement multithreading in object-oriented programs. (Apply)
- To develop GUI based desktop application in project-based learning. (Create)

Prerequisite of course: NA.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Java Overview: Java Introduction, Platform Independence, JVM & JDK, Data types, Operators, If, else statement, Switch condition, while, do-while, for loop, break and continue statement.	4
2	Array and String: Single Array & Multidimensional Array, Library Classes-String, String Buffer & Wrapper Class, Command line arguments and Various String Operations.	6
3	Classes, Objects and Methods:	8

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	Class and Object, Object reference, Constructor: Constructor Overloading, Method: Method Overloading, Recursion, Passing and Returning object form Method, new operator, this and static keyword, finalize() method, Import statement, Static import, Access control, Nested class, Inner class, Anonymous inner class.	
4	Inheritance and Interfaces in Java: Overview of Inheritance, inheritance in constructor, Inheriting Data members and Methods, Multilevel Inheritance – method overriding Handle multilevel constructors Explain super keyword, Stop Inheritance ,Explain Final keywords, Creation and Implementation of an interface, Interface reference, instance of operator, Interface inheritance, Dynamic method dispatch, Abstract class, Comparison between Abstract Class and interface, inside of System.out.println – statements.	8
5	Exception Handling in Java: Exception and Error, Use of try, catch, throw, throws and finally, Built in Exception, Custom exception, Throwable Class.	4
6	Multithreaded in Java: Introduction of Multithread programming, Thread classes and Runnable interface, Thread priority and synchronization, Thread communication and Deadlock.	6
7	JAVA File Handling: Overview of Different Stream (Byte Stream, Character stream), Readers and Writers class, File Class, File Input Stream, File Output Stream, Input Stream Reader and Output Stream Writer class, File reader and writer class, File Writer, Buffered Reader class.	6
8	Collection Classes: List Class (Abstract List), Array List class, LinkedList class, Enumeration Iterative Statement, Vector class.	4
9	Applet, AWT and Swing: MVC Architecture, Applet: Applet Fundamental, Applet Architecture, Applet Skeleton, Requesting Repainting, , Event Handling: various event handling mechanisms, Delegation Event Model, Events, Event Sources, Event Listeners, various classes related to event sources and event listeners, AWT: window fundamentals, creating frames, Adding removing various controls, Layout managers, Introduction To Swing, Applications and	10

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	Pluggable look and feel, Basic swing components : Text Fields, Buttons, Toggle Buttons, Checkboxes, and Radio Buttons.	
	Total Hours	56

References:

1. Java 7 Programming Black Book by Kogent Learning Solutions Inc, DreamTech press
2. Java Fundamentals A comprehensive introduction By Herbert Schildt, Dale Skrien, McGraw Hill Education.
3. Programming with Java A Primer – E. Balaguruswamy, Mc Grawhill
4. The Complete Reference, Java 2 (Fourth Edition), Herbert Schildt, - TMH.
5. Core Java Volume-I Fundamentals Horstmann & Cornell, - Pearson Education. - Eight Edition
6. Head First Java by Kathy Sierra, Bert Bates, O'Reilly publications

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
10%	20%	40%	10%	10%	10%

Suggested List of Experiments:

1. Demonstrate HelloWorld Application with Single and Multiple Main in a java program.
2. Write a console program to define and initialize a variable of type byte to 1, and then successively multiply it by 2 and display its value 8 times. Explain the reason for the last result.
3. Write a program that defines a floating-point variable initialized with a dollar value for your income and a second floating-point variable initialized with a value corresponding to a tax rate of 35 percent. Calculate and output the amount of tax you must pay with the Rs. and paisa stored as separate integer values (use two variables of type int to hold the tax, perhaps taxRs and taxPaisa).
4. Write a program that calculate percentage marks of the student if marks of 6 subjects are given.
5. Write a program to display a random choice from a set of six choices for breakfast (you could use any set; for example, scrambled eggs, waffles, fruit, cereal, toast, or yogurt).
6. When testing whether an integer is a prime, it is sufficient to try to divide by integers up to

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the square root of the number being tested. Write a program to use this approach.

7. A lottery requires that you select six different numbers from the integers 1 to 49. Write a program to do this for you and generate five sets of entries.
8. Write a program to generate a random sequence of capital letters that does not include vowels.
9. Write an interactive program to print a string entered in a pyramid form. For instance, the string "stream" has to be displayed as follows:

```
S
St
S t r
S t r e
S t r e a
S t r e a m
```

10. Write an interactive program to print a diamond shape. For example, if user enters the number 3, the diamond will be as follows:

```
*
* *
* * *
* *
*
```

11. Create an array of String variables and initialize the array with the names of the months from January to December. Create an array containing 12 random decimal values between 0.0 and 100.0. Display the names of each month along with the corresponding decimal value. Calculate and display the average of the 12 decimal values.
12. Write a program to accept a line and check how many consonants and vowels are there in line.
13. Write a program to find length of string and print second half of the string.
14. Write a program to find that given number or string is palindrome or not.
15. Write a program that sets up a String variable containing a paragraph of text of your choice. Extract the words from the text and sort them into alphabetical order. Display the sorted list of words. Also count the number of words that start with capital letters. You could use a simple sorting method called the bubble sort. To sort an array into ascending order the process is as follows:
 - a. Starting with the first element in the array, compare successive elements (0 and 1, 1 and 2, 2 and 3, and so on).
 - b. If the first element of any pair is greater than the second, interchange the two elements.

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- c. Repeat the process for the whole array until no interchanges are necessary. The array elements will now be in ascending order.
16. Create a class which ask the user to enter a sentence, and it should display count of each vowel type in the sentence. The program should continue till user enters a word "quit". Display the total count of each vowel for all sentences
17. Define a class, mcmLength, to represent a length measured in meters, centimeters, and millimeters, each stored as integers. Include methods to add and subtract objects, to multiply and divide an object by an integer value, to calculate an area resulting from the product of two objects, and to compare objects. Include constructors that accept three arguments—meters, centimeters, and millimeters; one integer argument in millimeters; one double argument in centimeters; and no arguments, which creates an object with the length set to zero. Check the class by creating some objects and testing the class operations.
18. Define a class, tkgWeight, to represent a weight in tons, kilograms, and grams, and include a similar range of methods and constructors as the previous example. Demonstrate this class by creating and combining some class objects.
19. Put both the previous classes in a package called Measures. Import this package into a program that will calculate and display the total weight of the following: 200 carpets—size: 4 meters by 2 meters 9 centimeters, that weigh 1.25 kilograms per square meter; and 60 carpets—size: 3 meters 57 centimeters by 5 meters, that weigh 1.05 kilograms per square meter.
20. Define an abstract base class Shape that includes protected data members for the (x, y) position of a shape, a public method to move a shape, and a public abstract method show() to output a shape. Derive subclasses for lines, circles, and rectangles. You can represent a line as two points, a circle as a center and a radius, and a rectangle as two points on diagonally opposite corners. Implement the toString() method for each class. Test the classes by selecting ten random objects of the derived classes, and then invoking the show() method for each. Use the toString() methods in the derived classes.
21. Define a class, ShapeList, which can store an arbitrary collection of any objects of subclasses of the Shape class.
22. Implement the classes for shapes using an interface for the common methods, rather than inheritance from the superclass, while still keeping Shape as a base class.
23. Write a program that will generate exceptions of type NullPointerException, NegativeArraySizeException, and IndexOutOfBoundsException. Record the catching of each exception by displaying the message stored in the exception object and the stack trace record.
24. Add an exception class to the last example that will differentiate between the index-out-

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of bounds error possibilities, rethrow an appropriate object of this exception class in `divide()`, and handle the exception in `main()`.

25. Write a program that calls a method that throws an exception of type `ArithmeticException` at a random iteration in a `for` loop. Catch the exception in the method and pass the iteration count when the exception occurred to the calling method by using an object of an exception class you define.
26. Add a `finally` block to the method in the previous example to output the iteration count when the method exits.
27. Write a `Main` method that takes the name of a text file as a command line argument and prints every line in lower case.
28. Write a `main()` method that counts the number of words in a text file whose name is accepted from standard input. Also print the size of a file.
29. Write a program using `BufferedInputStream`, `FileInputStream`, `BufferedOutputStream`, `FileOutputStream` to copy content of one file `File1.txt` into another file `File2.txt`.
30. Create a class called `Student`. Write a student manager program to manipulate the student information from files by using `FileInputStream` and `FileOutputStream`.
31. Refine the student manager program to manipulate the student information from files by using the `BufferedReader` and `BufferedWriter`.
32. Refine the student manager program to manipulate the student information from files by using the `DataInputStream` and `DataOutputStream`. Assume suitable data.
33. Write a complete multi-threaded program to meet following requirements:
 - a. Two threads of same type are to be instantiated in the method `main`.
 - b. Each thread acts as a producer as well as a consumer.
 - c. A shared buffer can store only one integer information along with the source & destination of the information at a time.
 - d. The information produced is to be consumed by appropriate consumer.
 - e. Both producers produce information for both consumers.
 - f. Each thread produces 5 information.
 - g. Demonstrate `kill` and `suspended` scenario for `Thread`.
34. Develop an applet that draws a circle. The dimension of the applet should be 500 x 300 pixels. The circle should be centered in the applet and have a radius of 100 pixels. Display your name centered in a circle. (using `drawOval()` method)
35. Draw ten red circles in a vertical column in the center of the applet.
36. Build an applet that displays a horizontal rectangle in its center. Let the rectangle fill with color from left to right.
37. Develop an applet that displays the position of the mouse at the upper left corner of the

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- applet when it is dragged or moved. Draw a 10x10 pixel rectangle filed with black at the current mouse position.
38. Develop an applet that contains one button. Initialize the label on the button to “start”, when the user presses the button, which changes the label between these two values each time the button is pressed.
 39. Develop an applet that uses the mouse listener, which overrides only two methods which are mousePressed and mouseReleased.
 40. Develop a Demo swing application with different component
 - a. Using JLabel and Icon – using JApplet
 - b. Using JTextField and JTextArea – using JApplet
 - c. Using JButton – using JApplet
 - d. Using JToggleButton – Application (JFrame)
 - e. Using JRadioButton and JCheckBox – Application (JFrame)
 41. Write a java application to create a Calculator using JButton and JTextField. Use Grid layout manager.

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. <http://www.oracle.com/technetwork/java/javase/downloads/index.html>
2. <http://docs.oracle.com/javase/specs/jls/se7/html/index.html>
3. <http://docs.oracle.com/javase/tutorial/java/index.html>
4. <http://www.javatpoint.com/>
5. <http://www.tutorialspoint.com/java/>
6. <http://www.learnjavaonline.org/>
7. <http://www.c4learn.com/javaprogramming/>
8. <http://www.learn-java-tutorial.com/>

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01CE0404	Mini Project	B.Tech. Year – II
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Objective: The objective is to analyze real world problems and solve it using acquired engineering knowledge which will help students in transition from traditional practical work to open ended projects. This is a laboratory oriented course which will provide a platform to students to enhance their practical knowledge and skills by development of small scale projects/systems.

Credits Earned: 1 Credit

Course Outcomes: After completion of this course, student will be able to

- Apply the acquired engineering knowledge to practical situations.
- Formulate a real world problem and develop its requirements
- Develop a design solution for a set of requirements.
- Test and validate the conformance of the developed prototype against the original requirements of the problem
- Work as a responsible member and possibly a leader of a team in developing software/hardware solutions
- Express technical ideas, strategies and methodologies in written form and oral presentations
- Self learn new tools, algorithms, and/or techniques that contribute to the software/hardware solution of the project

Prerequisite of course: Basic Knowledge of Hardware / Software Programming.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
0	0	2	1	0	0	0	50	50	100

Contents:

Unit	Topics	Contact Hours
1	Project Identification	4

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2	Requirement gathering & Analysis of existing similar work	4
3	Design Solution / Prototype development and validation against original requirement	4
4	Project Implementation	12
5	Report Writing and Presentation	4
	Total Hours	28

Instructional Method:

- a. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory.
- b. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.

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01IT0401	Computer Network	B. Tech. Year – II
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Objective: Students are expected to learn basics of Computer Network which will help them to build LAN, MAN and WAN. The course is designed to let students demonstrate an understanding of the protocols, network metrics and applications of the Internet. Additionally, to demonstrate a basic understanding of various internetworking devices.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, student will be able to

- Describe the Importance of computer networks and analyze various performance metrics. (Analyze)
- Distinguish and relate various protocols in layered architecture of computer networks. (Analyze)
- Implement various topological and routing strategies for IP based networks. (Apply)
- Design & implement client server application using socket programming. (Create)
- Compare various devices and protocols that builds computer network. (Apply)

Prerequisite of course: NA.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Unit	Topics	Content Hours
1	Introduction: Basic Understanding of Computer Network and Internet, Transmission Media, Switching Techniques, Network Metrics, OSI Model, TCP/IP Model.	8
2	Application Layer : Principles of Network applications, Web & HTTP, Domain Name System, Electronic Mail, Socket Programming.	10

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3	Transport Layer : Transport layer Protocols and its services, Multiplexing and Demultiplexing, User Datagram Protocol, Transmission Control Protocol, Principles of Congestion Control.	12
4	Network Layer : Introduction, Connection Oriented and Connectionless networks, Interconnecting Devices, IP Protocol and Subnets, Distance Vector Routing, Link State Routing, Hierarchical Routing.	12
5	Data link Layer : Data Link layer Design Issues, Link layer services, error-detection and correction techniques, Multiple Access Protocols (MAP), Ethernet.	10
Total Hours		52

References:

1. Kurose and Ross, Computer Networking- A Top-Down approach, Pearson
2. Forouzan, Data Communication Networking TMH Publication
3. Andrew S. Tanenbaum, Computer Networks PHI Publication
4. William Stallings, Data and computer Communication, Pearson.

Suggested Theory distribution:

The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
10%	20%	30%	30%	5%	5%

Suggested List of Experiments:

1. Introduction to Cisco Packet Tracer and configuring various network devices, hosts & transmission media.
2. Configuration of DHCP Server in Packet Tracer Software and analysis of DHCP messages.
3. Configuration of HTTP Server in Packet Tracer Software and analysis of HTTP request & response messages.
4. Configuration of DNS Server with Recursive & Iterative approach in Packet Tracer Software.

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5. Configuration of E-mail Server in Packet Tracer Software.
6. Study of basic network commands.
7. Study of Network devices configuration commands.
8. Echo application using Socket programming in C/Java/Python.
9. Chat application using Socket programming in C/Java/Python.
10. Configure Link State Vector Routing (e.g. OSPF) in Packet Tracer Software.
11. Configure Distance Vector Routing (e.g. RIP) in Packet Tracer Software.

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. <https://www.netacad.com/about-networking-academy/packet-tracer/>
2. <http://vlssit.iitkgp.ernet.in/ant/ant/>
3. <http://www.nptelvideos.in/2012/11/computer-networks.html>
4. <http://www.networkworld.com/blogs>
5. <https://www.tutorialspoint.com/ipv6/>

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01MA0281	Statistical and Numerical Methods (CE/IT/ES/CHEMICAL)	B.Tech. Year – II
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Objective: A good Engineer has to have an excellent background of Mathematics. Numerical and statistical methods are one of the essential tools for learning Technology, Engineering and Sciences. This course lays the foundation for Numerical and statistical methods in subsequent semesters, so that students get a sound knowledge and important aspects of the course.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, student will be able to

- Understand the basic concepts of probability and distribution.
- Apply the knowledge of Numerical methods in C++, solving linear equations problems in various branch of engineering.
- Apply the concept of and Data representation and analysis in various field of engineering like image processing etc.
- Apply concept of Correlation and Regression in result analysis and Business forecasting using EXCEL.
- Understand the importance of Interpolation and curve fitting and its application to solve problems.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
4	2	-	5	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Data representation and Analysis Revision of basic concept of statistics, Measure of central tendency and dispersion, Statistical diagram: scattered diagram, histogram, ogie curve, pai chart...etc, Use of EXCEL software to compute statistical measures and diagrammatic representation, Use of this concept in image processing	10

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2	Regression and Correlation Measure of association between two variables. Types of correlation, Karl Pearson's Coefficient of correlation and its mathematical properties., Spearman's Rank correlation and its interpretations, Spearman's Rank correlation and its interpretations, Regression Analysis: Concept and difference between correlation and regression, linear regression equations, properties of regression coefficients, Use in forecasting and estimation computational through EXCEL.	10
3	Random variable and Probability distribution Revision of elementary concept of Probability, Discrete and continuous random variable, Mass, Density and cumulative distribution functions, expected values and variance of random variable, Standard probability distributions: Uniform, Binomial, Poisson, Exponential and Normal distribution.	10
4	Errors in Digital computations and solutions of nonlinear equations Concepts and definitions, Representation of numbers in computers, types of errors, Basic sources of errors, significant digits, Computer arithmetic, errors in computations with digital computer ,Least squares curve fitting methods ,linear and nonlinear curve fitting.	7
5	Interpolation, Curve fitting Finite difference, Forward and backward differences, Interpolation and Extrapolation, Newton's forward interpolation formula, Newton's backward interpolation formula, Lagrange's interpolation formula and Newton's divided difference formula, Least squares curve fitting methods, linear and nonlinear curve fitting.	11
6	Numerical Integration and solution of differential equations Numerical Integration: Gaussian integration, Newton – cotes quadrature formula Composite rules: Trapezoidal rule and Simpson's rules Newton-Raphson, False position (Regula falsi) and Bisection method Solution of ODE by Euler's, Taylor's series, Picard's, Runge kutta (2 nd and 4 th order) methods.	12
Total Hours		60

Recommended Textbooks:

1. Miller and Freund's Probability and Statistics for Engineers: Richard A Johnson, Prentice Hall of India.

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2. Introductory Methods of Numerical Analysis: S.S. Sastry, Prentice Hall of India.
3. Computer Oriented Numerical Methods: V. Rajaraman, Prentice Hall of India
4. Numerical methods with programs in C++: S Balachandra Rao & C K Shantha
5. Numerical Methods with programs in C and C++: Veerarajan & Ramchnadran. Tata McGraw Hill
6. A textbook of Computer based numerical and Statistical Techniques: A. K. Jaiswal & Anju Khandelwal, New Age International Publishers.

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
20%	20%	30%	15%	10%	5%

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. <http://mathworld.wolfram.com/>
 2. <http://en.wikipedia.org/wiki/Math>
- Web site: <http://numericalmethods.eng.usf.edu>

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Marwadi
University

Syllabus for Bachelor of Technology
Department of Information Technology

Semester – V

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01CE0502	Advanced Java Programming	B.Tech. Year – III
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Objective: This course develops programming ability of students to create dynamic web applications using server side technology with Java Database Connectivity. Students can learn networking and remote method invocation using Java API. Different Java frameworks like Spring, Java Server Faces and Hibernate will increase ability of students in web application development.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, student will be able to

- Describe the components of J2EE Architecture, MVC Framework and Multi-tier Application and Various Network Protocol. (Understand)
- To make use of Servlet and JSP API in the process of enterprise application deployment. (Apply)
- Implement components such as Session, Filters, JSTL, Beans. (Apply)
- Distinguish Application Server, Web Container, JDBC and ORM tools.(Analyze)
- Design and Development of web application having collaboration of Servlets, JSPs, JSF, Spring and Hibernate based upon the requirement. (Create)

Prerequisite of course: Core Java

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Sr. No.	Content	Contact Hours
1	Advance Networking Networking Basics, Introduction of Socket, Types of Socket, Socket API, TCP-IP: Client/Server Sockets, URL,UDP: Datagrams, java.net package classes: Socket, ServerSocket, InetAddress, URL, URLConnection, RMI	6

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	Architecture, Client Server Application using RMI.	
2	JDBC Programming JDBC Architecture, Types of JDBC Drivers, Introduction to major JDBC Classes and Interface, Creating simple JDBC Application, Types of Statement (Statement Interface, PreparedStatement, CallableStatement), Exploring ResultSet Operations, Batch Updates in JDBC, Creating CRUD Application, Using Rowsets Objects, Managing Database Transaction.	8
3	J2EE and Web Development J2EE Architecture Types, J2EE Containers, Types of Servers in J2EE Application, HTTP Protocols and API, Request Processing in Web Application, Web Application Structure, Web Containers and Web Architecture Models.	2
4	Servlet API and Overview Servlet Introduction, Servlet Life Cycle(SLC), Types of Servlet, Servlet Configuration with Deployment Descriptor, Working with ServletContext and ServletConfig Object, Attributes in Servlet,, Response and Redirection using Request Dispatcher and using sendRedirect Method, Filter API, Manipulating Responses using Filter API, Session Tracking: using Cookies, HttpSession, Hidden Form Fields and URL Rewriting,Types of Servlet Event: ContextLevel and SessionLevel.	8
5	Java Server Pages Introduction to JSP , Comparison with Servlet, JSP Architecture, JSP: Life Cycle, Scripting Elements, Directives, Action Tags, Implicit Objects, Expression Language(EL), JSP Standard Tag Libraries(JSTL), Custom Tag, Session Management, Exception Handling, CRUD Application.	10
6	Hibernate Introduction to Hibernate, Exploring Architecture of Hibernate, Object Relation Mapping(ORM) with Hibernate, Hibernate Annotation, Hibernate Query Language (HQL), CRUD Operation using Hibernate API.	6
7	Java Web Frameworks: Spring MVC Spring: Introduction, Architecture, Spring MVC Module, Life Cycle of Bean Factory, Explore: Constructor Injection, Dependency Injection, Inner Beans, Aliases in Bean, Bean Scopes, Spring Annotations, Spring AOP Module, Spring DAO, Database Transaction Management, CRUD	10

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	Operation using DAO and Spring API.	
8	Java Server Faces Features of JSF, JSF: Architecture, Request processing Life cycle, Elements, Expression Language (EL), Standard Component, Facelets Tag, Converter Tag, Validation Tag, Database Access, PrimeFaces.	6
	Total Hours	56 hrs

References:

1. Black Book "Java server programming" J2EE, 1st ed., Dream Tech Publishers, 2008. 3. Katiwalath
2. Complete Reference J2EE by James Keogh mcgraw publication
3. Professional Java Server Programming by Subrahmanyam Allamaraju, Cedric Buest Wi Publication
4. SCWCD, Matthew Scarpino, Hanumant Deshmukh, Jignesh Malavie, Manning publication
5. Core Java, Volume II: Advanced Features by Cay Horstmann and Gary Cornell Pears Publication
6. Java Persistence with Hibernate by Christian Bauer, Gavin King
7. Spring in Action 3rd edition , Craig walls, Manning Publication
8. Hibernate 2nd edition, Jeff Linwood and Dave Minter, Beginning Après publication
9. Java Server Faces in Action, Kito D. Mann, Manning Publication
10. JDBC™ API Tutorial and Reference, Third Edition, Maydene Fisher, Jon Ellis, Jonathan Bru Addison Wesley
11. Beginning JSP, JSF and Tomcat, Giulio Zambon, Apress
12. JSF2.0 CookBook, Anghel Leonard, PACKT publication

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process.

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
10%	20%	50%	10%	0%	10%

Suggested List of Experiments:

Experiment# 1 Java Networking

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Sr. No.	Practical Name
1	Write an application which will retrieve IP address for given website.
2	Write an application which will retrieve the content of the given URL with different web-page related information.
3	Write a two – way network based chat application. It will use TCP/IP protocol and it will do communication in serial manner.
4	Write an application which will retrieve file from server machine and save that file on client machine. File name will be provided by client.
5	Write a client program to send any string from its standard input to the server program. The server program reads the string, finds number of characters and digits and sends it back to client program. Use connection-oriented communication.
6	Write a client program to send any string from its standard input to the server program. The server program reads the string, finds number of characters and digits and sends it back to client program. Use connection-less communication.

Experiment# 2 JDBC Programming

Sr. No.	Practical Name
1	Write down Five Basic steps to establish JDBC connection from Java Application. Also mention sample code for each step.
2	Write a JDBC application which will interact with Database and perform the following task. 1. Create Student Table with RollNo, Name, and Address field and insert few records. 2. Using Statement Object display the content of Record. 3. Using Statement Object Insert Two Record. 4. Using Statement Object Update One Record. 5. Using Statement Object Delete One Record. 6. Using Statement Object display the content of Record.
3	Write a JDBC application which will interact with Database and perform the following task. 1. Create Student Table with RollNo, Name, and Address field and insert few records. 2. Using PreparedStatement Object display the content of Record. 3. Using PreparedStatement Object Insert Two Record. 4. Using PreparedStatement Object Update One Record. 5. Using PreparedStatement Object Delete One Record. 6. Using PreparedStatement Object display the content of Record.
4	Write a JDBC application which will interact with Database and perform the following task. 1. Create a store procedure which will insert one record into employee table. 2. Create a store procedure which will retrieve salary for given employee id.

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	3. Write a java application which will call the above procedure and display appropriate information on screen.
5	Design a JDBC application which will demonstrate Scrollable ResultSet functionality.
6	Design a JDBC application which will demonstrate Updatable ResultSet functionality.
7	Design a JDBC application which will demonstrate Transaction management functionality.

Experiment# 3 Servlet

Sr. No.	Practical Name
1	Write down the Program for testing the Servlet and study deployment descriptor.
2	Write down the program for testing the include action for servlet collaboration.
3	Write down the program for testing the forward action for servlet collaboration.
4	Create login form and perform state management using Cookies, HttpSession and URL Rewriting.
5	Create Servlet file which contains following functions: 1. Connect 2. Create Database 3. Create Table 4. Insert Records into respective table 5. Update records of particular table of database 6. Delete Records from table. 7. Delete table and also database.
6	Write down the Program in which error is handled by the deployment descriptor file (web.xml).
7	Implement Authentication filter using filter API.
8	Write down the Program for testing the servlet context interface.

Experiment# 4 JSP

Sr. No.	Practical Name
1	Write down the Program which displays the simple JSP file.
2	Write down the program in which input the two numbers in an html file and then display the addition in JSP file.
3	Write down the program in which display the error by common file for all general pages.
4	Perform Database Access through JSP.
5	Write down the Program for testing the include action tag in jsp.
6	Write down the Program for testing the forward action tag.
7	Write down a program which demonstrates the core tag of JSTL.
8	Write down a program which demonstrates the Format tag of JSTL.
9	Write down a program which demonstrates the Function tag of JSTL.

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10	Write down a program which demonstrates the SQL tag of JSTL.
11	Write down a program which demonstrates the XML tag of JSTL.
12	Write down a program which demonstrates the Tag Handler with appropriate output.
13	Create database of student subject-wise data and retrieve all data using JSP and generate xml structure along with DTD and XML Schema definition.

Experiment# 5 Hibernate Framework

Sr. No.	Practical Name
1	Study and implement Hibernate.
2	Study and Implement Hibernate Annotations.
3	Use Hibernate Query Language to insert, update and delete records in database.

Experiment# 6 Spring Framework

Sr. No.	Practical Name
1	Study and Implement MVC using Spring Framework
2	Inject Service using Aspect Oriented Programming.
3	Using Spring Template manages Database and Transaction.

Experiment# 7 JSF

Sr. No.	Practical Name
1	Use JSF Standard Components and Facelets Tags.
2	Implement JSF Converter Tag and Validation Tags.

Instructional Method:

1. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
2. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
3. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
4. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

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Supplementary Resources:

- a) <http://www.oracle.com/technetwork/java/javase/downloads/index.html>
- b) <https://docs.oracle.com/javaee/6/tutorial/doc/>
- c) <https://javaee.github.io/tutorial/>
- d) <http://docs.oracle.com/javase/tutorial/java/index.html>
- e) <https://spring.io/guides>

01CE0503	Design and Analysis of Algorithm	B.Tech. Year – III
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Objective: Obtaining efficient algorithm is very important in modern computer engineering as the world wants applications to be time and space and energy efficient. This course enables to understand and analyse efficient algorithms for various applications.

Credits Earned: 5 Credits

Course Outcomes:

- Learn and understand asymptotic notations for performance of different algorithms. (Understand)
- Derive and solve recurrences describing the performance of divide-and-conquer algo (Evaluate)
- Design optimal solution by applying various methods like Dynamic Programming and G Method. (Application)
- Summarize the certain graph algorithms and their analysis.(Application)
- Apply pattern matching algorithms (Application)
- Differentiate polynomial and non-polynomial problems. (Analysis)

Prerequisite of course: Data Structure and proficiency in programming language, knowledge of Mathematical functions like logarithms, graphs etc.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

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Sr No	Course content	Total Hrs
1	Introduction to Design and Analysis of Algorithms: What is an algorithm, Mathematics for Algorithmic Sets, Functions and Relations, Vectors and Matrices, Linear Inequalities and Linear Equations.	02
2	Analysis of Algorithm: The efficient algorithm, Average, Best and worst case analysis, Amortized analysis, Asymptotic Notations (Big Oh, Big Theta, Big Omega), Master Method, Sorting Algorithms and analysis: Bubble sort, Selection sort, Insertion sort, Shell sort, Heap sort, Sorting in linear time : Bucket sort, Radix sort and Counting sort	08
3	Divide and Conquer: Introduction, Recurrence and different methods to solve recurrence, Multiplying large Integers Problem, Problem Solving using divide and conquer algorithm - Binary Search, Max-Min problem, Sorting (Merge Sort, Quick Sort), Matrix Multiplication, Exponential.	08
4	Dynamic Programming: Introduction, Elements of Dynamic Programming, The Principle of Optimality, Problem Solving using Dynamic Programming – Calculating the Binomial Coefficient, Making Change Problem, Assembly Line-Scheduling, Knapsack problem, Matrix chain multiplication, Longest Common Subsequence.	08
5	Greedy Algorithm General Characteristics of greedy algorithms, Elements of greedy strategy, Problem solving using - Activity selection problem, Fractional Knapsack Problem, Job Scheduling Problem.	06
6	Graph Algorithms Representation of Undirected & Directed Graph, Traversing Graphs, Depth First Search, Breath First Search, Topological sort, Strongly Connected components. Single pair shortest path and Minimum Spanning trees (Kruskal's algorithm, Prim's algorithm) using greedy approach, All Points Shortest path using Dynamic Programming,	08
7	Backtracking and Branch and Bound: Introduction, The Eight queens problem, Knapsack problem, Travelling Salesman problem, Minimax principle.	05
8	String Matching:	05

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	Introduction, The naive string matching algorithm, The Rabin-Karp algorithm, String Matching with finite automata, The Knuth-Morris-Pratt algorithm.	
9	Introduction to NP-Completeness: The class P and NP, Polynomial reduction, 2-CNF Satisfiability, 3- CNF Satisfiability, NP- Completeness Problem, NP-Hard Problems. Travelling Salesman problem, Hamiltonian problem.	06
	Total Hours	56 hrs

References:

1. Introduction to Algorithms, Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest and Clifford Stein, PHI.
2. Fundamental of Algorithms by Gills Brassard, Paul Bratley, PHI.
3. Introduction to Design and Analysis of Algorithms, Anany Levitin, Pearson.
4. Foundations of Algorithms, Shailesh R Sathe, Penram
5. Design and Analysis of Algorithms, Dave and Dave, Pearson.

Suggested Theory distribution:

The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
0%	20%	40%	20%	20%	0%

Suggested List of Experiments:

1. Implementation and Time analysis of sorting algorithms.
Bubble sort, Selection sort, Insertion sort, Merge sort and Quicksort
2. Implementation and Time analysis of linear and binary search algorithm.
3. Implementation of max-heap sort algorithm
4. Implementation and Time analysis of factorial program using iterative and recursive method
5. Implementation of a knapsack problem using dynamic programming.
6. Implementation of chain matrix multiplication using dynamic programming.
7. Implementation of making a change problem using dynamic programming
8. Implementation of a knapsack problem using greedy algorithm
9. Implementation of Graph and Searching (DFS and BFS).

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10. Implement prim's algorithm.
11. Implement Kruskal's algorithm.
12. Implement LCS problem.
13. To implement following string matching algorithms and analyze time complexities:
 - a. Naïve
 - b. Rabin Karp
 - c. Knuth Morris Pratt
14. Write a program for Floyd-Warshal algorithm.
15. Write a program for travelling salesman problem.
16. Write a program for Hamiltonian cycle problem.
17. To implement Huffman coding and analyze its time complexity.
18. Write a program for Strassen's Matrix Multiplication.

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.

Supplementary Resources:

Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory.

1. <http://www.personal.kent.edu/~rmuhamma/Algorithms/algorithm.html>
2. <http://nptel.ac.in/courses/106101060/>
3. <http://www.comp.nus.edu.sg/~cs5234/Links/Course-Links.htm>
4. <https://www.coursera.org/learn/algorithm-design-analysis>
5. <http://apps.topcoder.com/wiki/di...>
6. <http://www.geeksforgeeks.org>,
7. <http://www.algolist.net>
8. <http://www.cprogramming.com>
9. <http://www.codingunit.com>

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01CE0504	Theory of Automata and Formal Languages	B.Tech. Year – III
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Objective: This subject will introduce students to the algorithms, formal languages and grammars, automata theory, decidability, complexity, and computability. It helps students to understand and conduct mathematical proofs for computation and algorithms.

Credits Earned: 3 Credits

Course Outcomes: After completion of this course, students will be able to

- Gain the knowledge of basic kinds of finite automata and their capabilities. (Knowledge)
- To understanding of regular and context-free languages (Comprehension)
- To understand the time and space complexity for p and np problems. (Comprehension)
- To apply proved results using proof by induction, proof by contradiction, proof by construction, proof by case exhaustion. (Application)
- Gain the knowledge of describe and change language to regular expressions and grammars. (Application)
- Constructing the Turing machine for Recursive languages. (Analysis)

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
3	0	0	3	50	30	20	0	0	100

Contents:

Unit	Topics	Contact Hours
1	Preliminaries: Set theory, propositions, predicate logic, relation, one-to-one function, onto function, bijection function, Direct proof, proof by contradiction, proof by contrapositive, Principle of mathematical induction, Recursive Definition	4
2	Regular Languages: Symbol, Alphabet, String, Language, Regular expression and Language, Pumping Lemna.	3

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3	Finite State Machine: Basics of Automata theory, Finite automata, Deterministic and Non-Deterministic Automata, λ - Transition Finite automata, Conversion NFA - λ to NFA, Conversion NFA to DFA, Conversion RE (Regular Expression) to Non-Deterministic Finite Automata, Subset Algorithm to convert Non DFA to DFA, Finite automata minimization, Moore and Mealey machine and their Conversion.	9
4	Context Free Grammar (CFG): Context free language, Chomsky normal forms, Greibach normal forms, derivation - derivation tree with their relation, Ambiguous and unambiguous CFG, Algebraic expression, Closure properties of Context Free Language.	8
5	Push Down Automata (PDA): Introduction about PDA, equivalence between CFG and PDA, Deterministic PDA, Pumping Lemna for Context Free Language, Acceptance of Empty and Final state.	6
6	Turing machine and REL: Basics of Turing machine, Language acceptor, Turing machine variations, Church Turing thesis, Universal Turing machine, Looping vs Halting, Recursively and Enumerable Languages.	6
7	Computability: Partial function, Primitive recursive functions, undecidable problem, Class P and NP, Np Completeness.	6
Total Hours		42

References:

1. Martin, John C., Introduction to Languages and the Theory of Computation, 3rd ed., Tata Mcgraw Hill Education Private Limited
2. Moret, Bernard M., Theory of Computation, Pearson Education
3. Lewis, Harry R, Elements of The Theory of Computation, Phi Learning pvt Ltd.
4. Greenlaw, Raymond Hoover, H. James, Fundamentals of the Theory of Computation: Principles and Practice, Morgan Kaufmann Publishers
5. Sipser, Michael, Theory of Computation, Cenagage Learning India Private Limited

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution

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serves as guidelines for teachers and students to achieve effective teaching-learning process.

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
12%	33%	38%	12%	5%	0%

Instructional Method:

- The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, also need to use ICT tools and facilities.
- The internal evaluation will be done on the basis of continuous evaluation of students in the class-room.

Supplementary Resources:

Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory.

<http://nptel.ac.in>

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01IT0501	Linux Administration	B.Tech. Year – III
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Objective: To impart knowledge and skills on various practical and theoretical aspects of Linux operating system (OS) basics and Linux OS based server configuration, management and administration.

Credits Earned: 4 Credits

Course Outcomes: After completion of this course, students will be able to

- c. Gain the knowledge of basic kinds of finite automata and their capabilities. (Knowledge)
- d. To understanding of regular and context-free languages (Comprehension)
- e. To understand the time and space complexity for p and np problems. (Comprehension)
- f. To apply proved results using proof by induction, proof by contradiction, proof by construction, proof by case exhaustion. (Application)
- g. Gain the knowledge of describe and change language to regular expressions and grammars. (Application)
- h. Constructing the Turing machine for Recursive languages. (Analysis)

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
3	0	2	4	50	30	20	0	0	150

Contents:

Unit	Topics	Contact Hours
1	Management of File using Command Line Introduction to BASH, Command-line shortcuts, File Types, Ownership and Permissions, File management and manipulation, Moving users & its directories, Miscellaneous Tools, Editors	4
2	Managing Users and Groups Creating and managing user/sand group commands, User management Tools, Users and Access Permissions, Updating users and group attributes, PAM(Pluggable Authentication Modules)	4
3	Booting and Shutting down	4

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	Boot Loaders, The init process, rc scripts, enabling and disabling services, Booting in recovery mode	
4	File Systems Make up of file systems, Managing file systems, Adding a new disk, Volume Management, Creating file systems.	6
5	Core System Services TheinitDaemon,xinetdandinetd,TheLoggingDaemon,ConfiguringLoggingDa emon,TheCRONprogram	6
6	Compiling the Linux Kernel Kernel concepts, Finding Kernel Source Code, Building the Kernel, Patching the Kernel	4
7	DNS Installing DNS Server, Configuring DNS server, DNS records types, Setting up BIND database file, The DNS Toolbox, Configuring DNS clients.	6
8	Apache Web Server HTTP Protocol, Installing Apache HTTP Server, Starting up and shutting down apache, Testing Apache Installation, Configuring Apache, Trouble shooting Apache	4
9	Virtualization Virtualization Implementation, Kernel based Virtual Machines(KVM)	4
	Total Hours	42

References:

- i. Steve Shah and Wale Soyinka “ Linux Administration: A Beginner’s Guide”, 4th Edition, Tata McGraw-Hill Publishing Company Limited, New Delhi, ISBN: 978-0072262599
- j. Susan Lauber, Philip Sweany, Rudolf Kastl and George Hacker, “REDHAT System Administration-1 Student Work book”, REDHAT Inc. 2014

Suggested Theory distribution:

The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process.

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
20%	25%	25%	15%	5%	10%

Suggested List of Practicals

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- 1) File Handling Commands
- 2) User Handling Commands
- 3) Group Handling Commands
- 4) Start-up and Shutdown Commands
- 5) Installation and Configuration of DNS server
- 6) Installation and Configuration of Apache Server
- 7) Building and patching Linux Kernel

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brain storming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

- https://www.tutorialspoint.com/linux_admin/index.htm
- <https://linode.com/docs/tools-reference/linux-system-administration-basics/>
- opensourceforu.com/2016/07/introduction-linux-system-administration/
- <https://www.linuxfoundation.org>

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01IT0503	Advanced Computer Network	B.Tech. Year – III
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Objective: Introduction of primary networking concepts and technologies is prime objective of this course. This course specifically make student able to develop the skills required to plan and implement small networks across a variety of networking applications.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, student will be able to

- Describe concepts of scaling networks and wireless LAN (Analyze)
- Implement OSPF operations, configuration and troubleshoot (Apply)
- Implement EIGRP operations, configuration and troubleshoot (Apply)
- Implement PPP operations, configuration and troubleshoot (Apply)
- Design ACL for IPv4 and IPv6 with advance configuration (Create)

Prerequisite of course: Basics of Computer Networks.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Introduction to Scaling Networks Introduction to Scaling Networks, Implementing a network design, selecting network devices, LAN redundancy, spanning tree concepts, variety of spanning tree protocols, spanning tree configuration, first hop redundancy protocol (FHRP), Link aggregation concepts and configuration	6
2	Wireless LAN Wireless concepts, Wireless LAN operations, Wireless LAN security,	6

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	Wireless LAN configurations	
3	OSPF Advanced Single-Area OSPF concepts and configuration, Advanced Single-Area OSPF implementation and troubleshooting, Multiarea OSPF operations, Multiarea OSPF configuration	6
4	EIGRP Characteristics of EIGRP, EIGRP configuration for IPv4, EIGRP operations, EIGRP configuration for IPv6, Advanced EIGRP configurations, EIGRP troubleshooting	8
5	Connecting Networks WAN concepts, Overview and selection of WAN technologies, Concepts of point-to-point connections, Serial Point-to-Point Overview, PPP Operation and Implementation, PPP troubleshooting	6
6	Branch Connections Remote Access Connections, PPPoE, VPNs, GRE, eBGP	5
7	ACL Standard ACL Operation and Configuration, Extended IPv4 ACLs, IPv6 ACLs, Troubleshoot ACLs	5
8	Network Security and Monitoring LAN Security, SNMP, Switch Port Analyzer (SPAN), QoS Overview, QoS Mechanisms	7
9	Network Evolution Internet of Things, Cloud and Virtualization, Network Programming	7
	Total Hours	56

References:

1. CCENT/CCNA ICND1 100-105 Official Cert Guide, 1st Edition by Wendell Odom, Cisco publication
2. CCNA Routing and Switching ICND2 200-105 Official Cert Guide 1st Edition by Wendell Odom, Cisco publication
3. CCENT ICND1 Study Guide: Exam 100-105 3rd Edition by Todd Lammle, Cisco publication

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution

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serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
5%	10%	30%	25%	15%	15%

Suggested List of Experiments:

1. Configuring VLANs Instructions and Configuration of Trunks.
2. Configuring VLANs, VTP (VLAN Trunking Protocol) and DTP (Dynamic Trunking Protocol) in network topology.
3. Configuring STP (Spanning Tree Protocol) in network topology.
4. Configuring PVST+ (Per VLAN Spanning Tree) in network topology.
5. Configuring Ether Channel in network topology.
6. Configuring Basic EIGRP with IPv4.
7. Configuring OSPFv2 in a Single Area.
8. Configuring PAP and CHAP Authentication.

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. <http://www.ciscopress.com/store/scaling-networks-companion-guide-9781587133282>
2. <https://www.netacad.com/courses/ccna/>
3. <https://learningnetwork.cisco.com/community/connections>
4. https://www.cisco.com/c/en/us/td/docs/net_mgmt/cisco_network_assistant/version5_0/quick/guide/English/gsg_en/install.html

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01CE0506	Distributed Operating System	B. Tech. Year – III
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Objective: Emphasis would be to provide the knowledge of communication, synchronization, resource management and security as distributed operating system.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, students will be able to

- Gain knowledge of distributed operating system architecture(Knowledge)
- Illustrate principles and importance of distributed operating system(Understand)
- Implement distributed client server applications using remote method invocation(Apply)
- Distinguish between centralized systems and distributed systems(Analyze)
- Create stateful and state-less applications(Create)

Prerequisite of course: Operating System, Computer Network

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ES (E)	IA	(CE)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Unit	Topics	Hours
1	Introduction: Introduction of Distributed Operating System (DOS), Functions of DOS, Basic concepts, goals & challenges of distributed systems, architectures of DOS. Revisit the inter process communication.	6
2	Communication in DOS : Study of case studies for distributed environment,	9

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	Issues in communication, message-oriented communication, remote procedure call, remote method invocation, stream-oriented communication, communication between processes, unstructured Vs structured communication, blocking Vs non-blocking communication	
3	Synchronization: Introduction of synchronization, Clocks, events, Time in distributed systems 1. Cristian's algorithm 2. The Berkeley Algorithm, 3. Network Time Protocol (NTP) 4. Logical time and logical clocks 5. Lamport logical clock 6. vector clock	7
4	Transaction and Concurrency Control: Basic concurrency control mechanism in DOS mutual exclusion in distributed environment, Transactions and Concurrency Control in distributed environment, distributed deadlocks in distributed environment.	8
5	Distributed and Shared Memory Management(DSM): Basic fundamentals of shared memory in DOS, Architecture and algorithm of distributed shared memory, advantages & challenges of DSM, Memory coherence, consistency model, consistency with uni- processor system, consistency with multiprocessing environment.	6
6	Resource Management in DOS: Types of resources, issues of resource sharing, Task assignment, Types of distributed load balancing algorithms, load estimation policy, process transfer, location policy, state information exchange policy, priority assignment policy, process migration and case studies.	8
7	Security in DOS: Importance of security, Types of external attacks, Basic elements of Information System security and policy, Trust Management, Access control models, cryptography.	8
8	Case study: Andrew Network file system, SUN Network File system.	4
	Total Hours	56

References Books:

- Andrew S. Tanenbaum & Maarten van Steen, Distributed Systems: Principles and

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Paradigms, Prentice-Hall(2002) ISBN0-13-088893-1

- D. L. Galli, Distributed Operating Systems, Prentice-Hall(2000) ISBN0-13-079843-6
- Principles of Distributed Database Systems, M. Tamer Ozsü, Patrick Valduriez, Prentice Hall International
- Distributed Operating Systems and Algorithms, Randy Chow, T. Johnson, Addison Wesley
- Distributed Systems Concepts and Design, G. Coulouris, J. Dollimore, Addison Wesley

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Remember	Understand	Application	Analyse	Evaluation	Create
25%	25%	15%	15%	10%	10%

List of experiments:

1. Concurrent client server application demo program to implement.
2. Remote procedure call program needs to implement.
3. Remote Method Invocation implementation.
4. Thread Programming in any application using JAVA.
5. Program counter management in shared memory.
6. Learning of RPCGEN interface.
7. Basic calculator program to understand RPCGEN.
8. Find a length of given string as an input of a RPCGEN utility.
9. Temperature conversation using RPCGEN.
10. Basic calculator program using RMI.
11. Implementation of state-full and stateless server

Open Ended Problem :

- Linux kernel compilation
- Study of process scheduling in Linux OS

Supplementary Resources

- <http://nptel.ac.in/syllabus/106106107/>

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01CE0507	Image Processing	B. Tech. Year – III
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Objective: To study fundamental concepts of digital image processing. To understand and learn image processing operations and algorithms. To expose students to current trends in field of digital image processing.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, students will be able to

- To understand the formation of digital image and its various formats.[Understand]
- Implement various filtering techniques in spatial domain and frequency domain.[Apply]
- Implement the colour and gray level image enhancement techniques[Apply]
- Create Matlab program to apply morphological operators and Image Segmentation.[Apply]

Prerequisite of course: Knowledge of Mathematics

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Unit	Topics	Hours
1	Introduction To Digital Image Processing: Fundamentals Of Elements Of Digital Image, Image As Data, Pixels, Components Of Digital Image, Types Of Image Representation, Measures Of Image, Application Of Digital Image Processing	08
2	Image Enhancement: Point processing, Image Negation, Contrast Stretching, Gamma Correction, Bit plane slicing, Histogram Processing, Histogram Matching, Histogram Equalization.	10

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3	Image Filtering Techniques: Low Pass Filters – Smoothing, High Pass Filters - Edge Detection, Sharpening	08
4	Image Degradation/Restoration: Noise Models, Model Of Image Degradation/Restoration Process, Noise Reduction, Inverse Filtering, M Minimum Mean Square Error (Weiner) Filtering.	08
5	Color Image Fundamentals: Color Models, Representation of Color in Images, Color Image Processing., Basics Of Color Image Processing Smoothing And Sharpening	06
6	Image Morphology: Different Morphological Algorithm, Morphological Measures	06
7	Image Segmentation: Thresholding, Histogram Based Segmentation, Clustering, Region Growing Method, Point, Line and Edge Detection	10
Total Hours		56

Text Book:

1. Pearson Education - Rafael C. Gonzalez and Richard E. Woods - Digital Image Processing

References Books:

1. PHI - Anil K Jain - Fundamentals of Digital Image Processing
2. Gonzalez & Woods - Digital Image Processing Using Matlab
3. Bhabatosh Chanda and Dwijesh Majumder - Digital Image Processing

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Remember	Understand	Application	Analyse	Evaluation	Create
10 %	25%	30%	25%	0%	10%

List of experiments:

1. Study of matlab image processing toolkit and various commands on matlab.
2. Point processing in spatial domain
 - a. Negation of an image
 - b. Thresholding of an image
 - c. Contrast Stretching of an image

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3. Write a program for histogram equalization.
4. Write a program to apply various filtering techniques in matlab.
 - a. Low pass filtering
 - b. High pass filtering
 - c. Median filtering
5. Write a program for image segmentation
 - a. Local thresholding
 - b. Global thresholding
6. Write a program for color image processing
 - a. Color approximation
 - b. Quantization
7. Write a program, for Image restoration
 - a. Facial Images
 - b. Texture Images
8. Write a program for edge detection.
9. Write a program for smoothing and sharpening for 8-bit color image.
10. Write a program to implement morphological operations.

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, also need to use ICT tools and facilities.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.

Supplementary Resources

1. <https://nptel.ac.in/courses/117105079>
2. <https://spoken-tutorial.org/scilab>
3. <https://in.mathworks.com>
4. <https://www.tutorialspoint.com/dip/>

Open Ended Problems :

1. Image In-painting Techniques
2. Image Mosaicing

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Syllabus for Bachelor of Technology
Department of Information Technology

3. Medical image segmentation

Dr. P. S. J.



01CE0508	Reverse Engineering	B.Tech. Year - III
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Objective: The objective of the module is to go through the Reverse Engineering process as it is a self-learning tool used to summarize the process of reconstructing/ reformation of an already existing object.

Credits Earned: 1 Credit

Course Outcomes: After completion of this course, student will be able to

1. Understand the problem in the existing process.
2. Collect the large number of data/ information for the product
3. Depth analyze of the products and extraction of real time data
4. Understand the principles behind the design of the product, ways to redesign and improve the performance of the system.

Prerequisite of course: Not Required

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
0	0	2	1	0	0	0	25	25	50

Contents:

Units	Topics	Contact Hours
Module-1 Reverse Engineering Basics	Need of reverse engineering, Methodologies for Reverse Engineering, understanding of Reverse Engineering through example, reasons for reverse engineering, process for Reverse Engineering, Phases of Reverse Engineering, conceptual System Reasons for Reverse Engineering, Difficulties in Reverse Engineering, Levels of abstraction: Application level, Functional level, Structural level	6
Module-2	Detailed study of Reverse Engineering for Branch	6

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Reverse Engineering Methodology	Specific learning Disassemble the existing selected artefact/ product/ component/ process/ system to study technical aspects and design detail, Reverse engineering in various computer software/ application, CASE STUDY EIS Client Application, Implementation level	
Module-3 Software Reverse Engineering	Reverse engineering of software, Binary reverse engineering, Binary software techniques, Software classification, Source code, number of UML tools, Reverse engineering of Protocols	10
Module-4 Capstone Project	Mini project exercise based on understanding of modules contents	6
Total Hours		28

Note: Mentors are advised to take suitable project/activity to explore the above topics and make students understand the various concepts.

References:

1. Reversing: Secret of Reverse Engineering, Eldad Eilam, Wiley Publishing, Inc.
2. Reverse Engineering, Wills, Linda M., Newcomb, Philip (Eds.), Springer, 1996, ISBN 978-0-585-27477-5
3. Practical Reverse Engineering: x86, x64, ARM, Windows® Kernel, Reversing Tools, and Obfuscation, Bruce Dang, Alexandre Gazet, Elias Bachaalany, John Wiley & Sons, Inc, ISBN: 978-1-118-78731-1.

Instructional Method:

1. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
2. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
3. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
4. Students will use supplementary resources such as online videos, NPTEL videos, e- courses, Virtual Laboratory

Supplementary Resources:

1. <https://canvas.instructure.com/courses/838884/pages/unit-3-lesson-6-reverse-engineering>
2. <https://www.cs.drexel.edu/~spiros/teaching/CS675/>

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Marwadi Syllabus for Bachelor of Technology
University Department of Information Technology

3. <https://eforensicsmag.com/course/software-reverse-engineering-techniques-level-1/>
4. <http://www.npd-solutions.com/remethodology.html>

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01IT0502	Seminar	B.Tech. Year – III
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Objective: The oral dissemination and defense of engineering concepts is an elementary communication tool that learners will employ throughout their professional career. In this course, learners will have to go through five activities that will inculcate oral presentation skills: observation, question, critique, research, and presentation.

Credits Earned: 1 Credit

Course Outcomes: After completion of this course, student will be able to

1. Analyzing, Construct/creat, and evaluate information presented in technical and/or scientific journals.
2. Examine best methods and implement them for developing and presenting a quality scientific presentation on recent trends using various presentation software like PowerPoint, Prezi (<http://prezi.com>), etc.
3. Create 5-10 minute video presentation to be delivered via YouTube based upon the analysis and learning f one journal article or recent technology for a second seminar presentation.
4. Practice critical evaluation of peer students' work.

Prerequisite of course: Internet Surfing

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
0	0	2	1	0	0	0	25	25	50

COURSE REQUIREMENT

Seminar activity and Assessment:

During this course only two assignments are there –

Assignment 1: Each student has to refer, Scientific Journals, magazines, Newspapers, from library and also from electronic media Internet, to identify their recent topic in the field of computer engineering or relevant fields. **(8 hours)**

For first assignment, each student will have to deliver a 15-20 minute presentation with 5

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minutes for questions and discussion session.

Criteria of first Presentation

1. Well Structured Presentation with any advanced tool is expected, proper referencing in IEEE Format. Minimum of five refereed journal articles cited throughout the presentation with proper format with at least four published after 2015.
2. Your presentation should follows best practices of design. Please review: <https://designshack.net/articles/graphics/10-tips-for-designing-presentations-that-dont-suck/> for more information.

Assignment 2: For second assignment, individual student have to make a 5-10 minute presentation via YouTube after analyzing over the one any topic of latest trend or anyjournal article. Your presentation should include following **(8 hours)**

1. A brief introduction to the article,
2. The methodology used,
3. Findings and a conclusion.
4. More information will be provided during lab hours

Evaluation Criteria

Marks will be determined via a grading rubric –

1. Each Presentation will be assessed by the audience members and me and an average will be taken.
2. Points will be deducted for presentations if student did not attended presentation.
3. The grading rubric for the presentation is below.
 - 4 YouTube presentation will be assessed by your peers members and by faculty in charge online and an average will be taken.
4. The rubric will be made available to audience electronically or in hardcopy every members are expected to watch the videos and provide comments in rubric. More information will be provided during lab hours.
5. Both presentations are worth 100 points each.

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Marwadi
University

Syllabus for Bachelor of Technology
Department of Information Technology

Semester – VI

K. P. Singh



01CE0601	Compiler Design	B.Tech. Year – III
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Objective: The purposive of this course is intended to teach the students about the basic techniques, theory and tools underlie the practice and act of Compiler Construction.

Prerequisite: Programming fundamentals, Data Structure and Theory of Computation

Credits Earned: 4

Course Outcomes: After completion of this course, students will be able to

- Construct syntax tree, three address code and assembly code. (Create)
- Apply first and follow to generate LL(1) Parser. (Apply)
- Differentiate top-down and bottom-up parsing, validate SLR, CLR, LALR parsers. (Analyze)
- Construct DAG from three address code. (Create)
- Apply Code optimization techniques on three address code.(Apply)

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
3	0	2	4	50	30	20	25	25	150

Contents:

Unit	Topics	Content Hours
1	Introduction to Compiler Translators-Compilation and Compiler, Interpreter and Assembler, overview of linker and loader -The Phases of Compiler-Errors Encountered in Different Phases -Compiler Construction Tools - Programming Language basics, pass structure.	5
2	Scanner Role of Lexical Analyzer-Lexical Errors-Tokens-Regular Expressions-A Language for Specifying Lexical Analyzer-Defining relations and conversion process between Finite Automata and Regular Expression-Minimization of	7

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	DFA-Introduction to LEX- Design of Lexical Analyzer for a sample Language.	
3	Parsing Top-down Parsing, Predictive parsing, non-recursive predictive parsing, First and Follow set, LL(1) grammar, error handling for LL(1), Bottom-up parsing, handle pruning, shift reduce parsing, operator precedence parser, LR(0) parser, SLR(1) Parser, Canonical LR(1) Parser, LALR(1) Parser, error detection and recovery in LR Parser, Parser generators (Yacc & Lex)	10
4	Intermediate Code Generation Introduction, Intermediate Languages, Types of intermediate forms, Three Address Statements, Syntax Directed Translation Attributes and Mechanism, Directed Acyclic Graph, Static Single Assignment	5
5	Memory Management Introduction, Importance of Memory Management, organization for storage purpose, static allocation, stack allocation, dynamic allocation, different methods of parameter passing, activation record, symbol table	5
6	Code Optimization Introduction of Code Optimization, Advantage of code optimization, Types of Code Optimization, Block and Loop Optimization, Global Data Flow Analysis	5
7	Code Generation Issues, flow graph, basic block, basic block optimization, register allocation, simple code generator, directed acyclic graph representation, code generation from directed acyclic graph, peephole optimization, generators of code generator, dynamic code generation algorithm.	5
	Total Hours	42

Reference Books:

1. Aho, Lam, Sethi, and Ullman, Compilers: Principles, Techniques and Tools, Second Edition, Pearson, 2014
2. D. M. Dhamdhere: System Programming, Mc Graw Hill Publication
3. Dick Grune, Henri E. Bal, Jacob, Langendoen: Modern Compiler Design, Wiley India Publication

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Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	17%	33%	19%	16%	10%

Suggested List of Experiments:

1. WAP to remove Left Recursion from the grammar.
2. WAP to remove Left Factoring from the grammar.
3. WAP to verify that the given input is valid identifier or keyword.
4. WAP to compute FIRST and FOLLOW Set of the given grammar.
5. WAP to implement Operator precedence parser.
6. Prepare report for Lex, Flex and Yet Another Compiler Compiler Tool.
7. WAP with the help of Lex and Yacc file to implement Calculator which performs basic operations like addition, subtraction, multiplication and division.
8. WALEXP to count words, characters, lines, Vowels and consonants from given input.
9. WALEXP to generate string which is ending with zeros.
10. WALEXP to check given string is simple or compound string.
11. WALEXP to count the total number of printf and scanf statement in given C file. Also convert it into readf and writeout respectively to another file.
12. WALEXP to check given number is positive negative or zero.
13. WALEXP Program to print HTML tags of given file.
14. WA YACC Program to generate Calculator.

Supplementary Resources:

<http://nptel.ac.in>

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01CE0602	. Net Technology	B.Tech. Year – III
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Objective: .Net Technologies are blend of technologies supported by Microsoft .Net Framework, that allows user to create various applications. Students will be able to work with various technologies provided by Microsoft .NET platform.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, student will be able to

- To Review the components of .Net Framework[Understand]
- To practice Console based C# application. [Apply]
- To practice desktop application using C# Win-form application[Apply]
- To practice basic database application using ADO.net technology[Apply]
- To Design and develop basic applications using WPF.[Create]

Prerequisite of course: Object oriented concepts, Programming fundamentals

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Introduction To .Net Architecture: Introduction to .NET Framework Architecture, Program Execution in .NET, CLR structure, Assemblies, Creating strong named assemblies, putting dll in GAC, Garbage Collection, DLL Hell, Side by Side Execution, Debugging.	6
2	Basics of C#: Basic datatypes, declaring variables and constants Type Conversion , Boxing and Unboxing , Array , Structure String Manipulation , String Builder, Decision making statements, Conditional Loops, Switch Case.	6

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3	Object Oriented Programming in C#: Creating Class , Declaring variables and methods ,Access Modifiers, Constructors ,Abstract Class, Partial Class , Inheritance , method overloading ,method overriding, Anonymous method , Properties , Indexers, Exception Handling	7
4	Advance C#: Attributes,Reflection,Delegates,Events,Threading,Collections,FileIO	8
5	Building GUI with C#: Working with C# windows applications, Working with common form controls. Visual Inheritance, Creating MDI Form, Event Handling	8
6	Creating Advanced GUI using C# Printing in C#, Working with Graphics GDI+, Creating custom control from scratch, Dialog Boxes	6
7	Playing with data using ADO.net Overview of ADO.Net framework, working with SQLserver database, Managed Provider, Dataset , working with data source, Connected and disconnected architecture, Binding data with Datagrid ,Binding data with Crystal Report,	7
8	WPF: Introduction to WPF, XAML, Introduction to Expression Blend: Layouts, WPF controls	8
	Total Hours	56

References:

1. Pro C# 7 With .NET and .NET Core Apress Edition, Troelsen, Andrew, Japikse, Philip
2. Professional C# .Net Christian Nagel, Wrox Publication
3. C# The Basics Vijay Mukhi, BPB Publications
4. PRO XAML with C# Application Development Strategies (covers WPF, Windows 8.1, and Windows Phone 8.1) byJames, Buddy, Lalonde, Lori Apress Edition.
5. The Complete Reference C# by Herbert SchildtMcgrowHill Publication

Suggested Theory distribution:



The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
10%	20%	60%	0%	0%	10%

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

- 1. <http://www.c-sharpcorner.com>
- 2. <http://www.csharpshelp.com/index.html>
- 3. <http://www.codeproject.com>
- 4. <http://telerikacademy.com>
- 5. <https://msdn.microsoft.com>

Tutorial List:

- 1. Write a C# console program to know whether a number is even or odd.
- 2. Write a C# console program that implements basic calculation functions (Addition, Subtraction, Multiplication, Division) using switch case.
- 3. Write a C# console program to implement following pattern
*
* *
* * *
* * * *
- 4. Create a console application based on the assigned definition to implement basic OOP concepts like abstract class, inheritance, interface ,constructors ,properties ,method

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overloading and method overriding.

5. Create a console application to implement advance concept like Reflection, Delegates, Attributes, Indexer.
6. Create a console application to demonstrate multithreaded application.
7. Create a console application that implements all Collection classes.
8. Create a console application that reads a content from user and store it in file using FILEIO.
9. Create a console application that list all the files in given folder which are having read only permission.
10. Create a windows application to implement fully functional notepad.
11. Create a windows application that implements MDI form and dialog boxes.
12. Implement the tutorial4 definition in windows form using ADO.net, Grid view control, and Crystal report
13. Create a WPF project to implement multiform desktop application.
14. Create a WPF project to implement a Calculator

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01CE0603	Computer Security	B. Tech. Year – III
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Objective: This course is to provide students with acknowledge of the Computer Security with different models and practical aspects of securing information on computer through various cryptography approach.

Credits Earned: 05 Credits

Course Outcomes

- Apply the ideas of classical crypto systems and public key crypto systems techniques.(Apply)
- Analyze different crypto graphic protocols.(Analyze).
- Test Different Digital Signature Schemes and Digital Certificates mechanisms and its requirement.(analyze)
- Analyze different security models.(Analyze)
- Apply methods for authentication, access control, intrusion detection and prevention.(Apply)

Prerequisite of course: NA.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Introduction: Fundamentals of computer security <ul style="list-style-type: none"> ● Computer security keywords: Goals, Threats, Vulnerabilities ● Ethical aspects ● Organizational details 	8
2	Cryptography Fundamentals :	8

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	<ul style="list-style-type: none">• Symmetric-key cryptography: Models and attack types, Kerchoff's Principle• Block ciphers• AES and DES	
3	Cryptography Fundamentals : II <ul style="list-style-type: none">• Modes of operations• Integrity• MAC and Hash Functions, Cryptographic Hash Functions• Authenticated encryption	8
4	Cryptography Fundamentals : III <ul style="list-style-type: none">• Padding oracle attacks• Modular arithmetic• RSA Encryption Algorithm	8
5	Cryptography Fundamentals : IV <ul style="list-style-type: none">• Factoring Attacks• Digital signatures• Certificates and public-key infrastructures• TLS/SSL discussion	8
6	Crypto Passwords and authentication <ul style="list-style-type: none">• Crypto pitfalls: Random-number generation and side channels• Authentication and Passwords• Password hashing	8
7	Security Models <ul style="list-style-type: none">• Browser security model: The browser as an OS and execution platform, Protocols, isolation, communication.• Web application security: Application pitfalls and defenses• Session management and user authentication: How users authenticate to web sites, Browser-server mechanisms for managing state• HTTPS:goals and pitfalls: Network issues and browser protocol handling	8
	Total Hours	56

References:

- Cryptography And Network Security Principles And Practice Fourth Edition, William

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Stallings, Pearson Education.

- Modern Cryptography: Theory and Practice, by Wenbo Mao, Prentice Hall PTR
- Cryptography: Theory and Practice by Douglas R. Stinson, CRC press
- Kaufman, R. Perlman, and M. Speciner, Network Security: Private Communication in a Public World, Prentice Hall, 2002

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Rememb er	Understand	Apply	Analyse	Evaluate	Create
10%	20%	30%	30%	5%	5%

Suggested List of Experiments:

1. Study and write a program for any Classical Ciphers technique
2. Implement polyalphabetic Cipher
3. W.A.P. to implement Rail fence technique
4. Implement AES Algorithm
5. Implement DES Algorithm
6. Implement RSA Algorithm
7. Implement any one of the variant of SHA.
8. Design Digital signature for Any given document.

Note: Any Programming language can be used to implement above cryptographic algorithm. Also Perform above experiment using Virtual labs (<http://cse29-iiith.virtual-labs.ac.in/exp8/index.php>)

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01CE0604	Cyber Security	B. Tech. Year – III
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Objective: Objective of this course that provides students basic knowledge and skills in the fundamental theory and practical of Cyber Security.

Credits Earned: 05 Credits

Course Outcomes

- Understanding the basic technical, social and law suits aspect of Cyber Security (Remember)
- Integrate the ethical hacking process and scripting. (Create)
- The students can use basic security tools to enhance cyber security. (Analyse)
- Understand the security management methods and auditing. (Evaluation)
- Apply the security principles to system design. (Apply)

Prerequisite of course: NA.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Introduction: Introduction to Cyber Security, Importance and challenges in Cyber Security, Cyberspace, Cyber threats, Cyber warfare, CIA Triad, Cyber Terrorism, Cyber Security of Critical Infrastructure, Cyber security - Organizational Implications.	11
2	Hackers and Cyber Crimes: Types of Hackers, Hackers and Crackers, Cyber-Attacks and Vulnerabilities, Malware threats, Sniffing, Gaining Access, Escalating Privileges, Executing Applications, Hiding Files, Covering Tracks, Worms, Trojans, Viruses, Backdoors.	11

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3	Ethical Hacking and Social Engineering: Ethical Hacking Concepts and Scopes, Threats and Attack Vectors, Information Assurance, Threat Modeling, Enterprise Information Security Architecture, Vulnerability Assessment and Penetration Testing, Types of Social Engineering, Insider Attack, Preventing Insider Threats, Social Engineering Targets and Defence Strategies.	12
4	Cyber Forensics and Auditing: Introduction to Cyber Forensics, Computer Equipment and associated storage media, Role of forensics Investigator, Forensics Investigation Process, Collecting Network based Evidence, Writing Computer Forensics Reports, Auditing, Plan an audit against a set of audit criteria, Information Security Management System Management. Introduction to ISO 27001:2013	11
5	Cyber Ethics and Laws: Introduction to Cyber Laws, E-Commerce and E-Governance, Certifying Authority and Controller, Offences under IT Act, Computer Offences and its penalty under IT Act 2000, Intellectual Property Rights in Cyberspace.	11
Total Hours		56

References:

1. Donaldson, S., Siegel, S., Williams, C.K., Aslam, A., Enterprise Cybersecurity -How to Build a Successful Cyberdefense Program Against Advanced Threats, A-press
2. Nina Godbole, Sumit Belapure, Cyber Security, Willey
3. Hacking the Hacker, Roger Grimes, Wiley
4. Cyber Law By Bare Act, Govt Of India, It Act 2000.

Suggested Theory distribution:

The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation				
Remember	Apply	Analyse	Evaluate	Create
20%	25%	20%	15%	20%

Suggested List of Experiments:

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1. Install VM Workstation in Ubuntu and set up windows and kali.
2. Set up nginx and provide password credentials with Secure Socket Layer.
3. Write a program to sniff packet sent over the local network.
4. To perform DNS pharming attack using any method on computers in a LAN Environment.
5. Implement system hacking using tools.
6. Create virus with python script and implement attack and analyse the effect of various viruses.
7. Sniffing Website Credentials using Social Engineering Toolkit.
8. Study and Audit Marwadi University IT Infrastructure.

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01CE0605	Network Security	B.Tech. Year – III
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Objective: Objective of this course is to provide necessary study of Network Security issues and methods in networking systems. Topics to be covered include review of networking, advanced cryptography, access control, distributed authentication, IP Sec, Virtual Private Networks, intrusion detection systems, and advanced topics such as wireless security, identity management, etc.

Credits Earned: 05 Credits

Course Outcomes

- Designing of relatively stronger access control mechanism for secure identification and authentication.(Apply)
- Analysis of various identity management protocols.(Analyze)
- Design and deployment of firewalls to secure a private network.(Analyze)
- Implementation of security techniques for developing end-to-end communication systems.(Apply)
- Designing and performance analysis of security monitoring system to defend intrusion and impersonation(Evaluate)
- Integration and synthesis of modern security concepts in contemporary new technologies.(Evaluate)

Prerequisite of course: NA.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours

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1	Fundamentals & Perimeter Security: Overview of OSI7-layer Model, Need for Security in Computer network, Principles of Security, Overview of security components and mechanisms- Network Security and Architecture-ITU's Recommendation X.800, Device security.	11
2	Identity Management and Access Control: A Security Services and Protocols, IDS and IPS, Authentication: Kerberos V4 and V5, X.509 Authentication Service. Electronic Mail Security, IEEE802.1x protocol, PKI, key distribution, Smart cards, LDAP, OCSP.	11
3	End-to-End Security: Secure Routing, IP Security(IPSec), Overview of VPNs, Secure Socket Layer (SSL), MPLSVPN, SSH, Security in wireless networks, WEP, WPA, IEEE802.11 (WAP) Security, Security in GSM, Security in 3G.	12
4	Security Monitoring and Management: Network Intrusion and Prevention-Anomaly Detection & Mitigation- Security Monitoring & Correlation, DoS and DDoS Attack. Security Management - Security & Policy Management - Security Framework & Regulatory Compliance	11
5	Advance Topics: Web security: DNS security, Smart cards / Biometrics, Privacy, Reconnaissance and Social Attacks, Security in E-Services and Applications, Bluetooth Security, Mobile Terminal Security.	11
	Total Hours	56

References:

- Cryptography And Network Security Principles And Practice Fourth Edition, William Stallings, Pearson Education.
- Network Security: Current Status and Future Directions, By Christos Douligeris, Dimitrious N. Serpanos, IEEE Press Wiley-Interscience A JoHN Willey& Sons, Inc Publication.
- Network Security Essentials: Applications and Standards, by William Stallings. Prentice Hall
- Kaufman, R. Perlman, and M. Speciner, Network Security: Private Communication in a Public World, Prentice Hall, 2002

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution

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serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
5%	10%	30%	25%	25%	5%

Suggested List of Experiments:

- Scan Network ports Traffic using NMAP port scanner.
- Use Netcat and analyse TCP / UDP connectivity
- Use OpenVAS to check Network vulnerability
- Use DVWA for Web application testing
- Vulnerabilities and Threats - How can networks be compromised.
- Use trace Route for Scanning and Enumerating the Network for Targets and Address Spoofing.
- Exploring Wireshark's packet analysis capabilities
- Exploring Dsniff – a password sniffing and network traffic analysis tool
- Exploring Ettercap - a free and open source network security tool for man-in-the-middle attacks on LAN
- Detection and Response – How do we detect and respond to attacks Preparing for and Detecting Attacks
- Identify and Mitigate Network Attacks

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01CE0606	Design Engineering and Project Management	B. Tech. Year – III
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Objective: The main objective of this course is to put on the engineering problem solving procedure to solve basic engineering design and analysis problems using various techniques. This course is also designed with aim to demonstrate planning, execution and testing of various Projects.

Credits Earned: 1 Credit

Course Outcomes: After completion of this course, student will be able to

1. Understand the importance of Design Engineering.
2. Identify Various Design Engineering approaches.
3. Apply various methodologies to design the product and in testing the product.
4. Understand various Project Management Processes.
5. Demonstrate effective project execution and control techniques that result in successful projects.

Prerequisite of course: Not Required.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
0	0	2	1	0	0	0	25	25	50

Contents:

Units	Topics	Contact Hours
Module-1 Design Engineering Introduction	Design and its objectives, Design Constraints, Design functions, Role of Science Engineering and Technology in design Engineering as Business Proposition: How to Initiate Creative design? Initiating the thinking process for designing a product of daily use. Need Identification, problem Statement, Market survey-customer requirement, Design Attributes and objectives: Ideation: Brainstorming approach arriving at solution, closing on to Design Need.	6

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Module-2 Design Engineering Methodology	System level Design, Detailed Design, Design for performance, safety and reliability, (2) Design for Ergonomics and Aesthetics, (3) Design for Manufacturing & Assembly (DFMA), (4) Design for cost & Environment, (5) Modeling and Analysis of their design (6) Prototyping (7) Engineering Economics of Design, (8) Design for Use, Reuse and Sustainability and (9) Test the prototype. And additionally, students will also learn topic like (10) Ethics in Design.	6
Module-3 Project Management	PM Foundations, Project management processes, Project execution, Project closing, Global issues in PM, Product-based planning, PM documents	14
Total Hours		28

Note: Mentors are advised to take suitable project/activity to explore the above topics and make students understand the various concepts.

References:

1. Designing for Growth: a design thinking tool kit for managers, Jeanne Liedtka and Tim Ogilvie, Columbia Business School Publishing
2. Eva Dijksterhuis, Gilbert Silviu, "The Design thinking approach to projects", PM World Journal Vol. V, Issue VI, June 2016, pp. 1-15
3. Guide to the Project Management Body of Knowledge (PMBOK® Guide), Fifth Edition, Project Management Institute, Inc.
4. Wysocki, Robert K. (2014a). Effective Project Management: Traditional, Agile, Extreme, 7th Edition, John Wiley & Sons, Inc.
5. Wysocki, Robert K. (2014b). Effective Complex Project Management: An Adaptive Agile Framework for Delivering Business Value, J. Ross Publishing.

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done based on continuous evaluation of students in the laboratory and classroom.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

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Supplementary Resources

<http://nptel.ac.in/syllabus/107106009/>

01CR0501	Business Benchmark
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Objective: This, an upper-intermediate qualification that shows students have a level of English that is adequate for practical everyday use in a business environment.

Credits Earned: 1 Credit

Course Outcomes: This an upper-intermediate level qualification, which shows students can:

- ✓ Write short pieces of business correspondence reports or proposals.
- ✓ Read extracts from business publications. Ask for the information required.
- ✓ Listen to, understand and contribute to discussions in meetings.
- ✓ Give a prepared presentation on a familiar topic.

Prerequisite of course: NA.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
1	0	0	1	0	0	0	50	50	100

Contents:

Unit	Topics	Contact Hours
1	The working day Changing places, job swapping at work. Discussion on how to describe jobs. Understanding job titles names of company department.	1

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2	Getting the right job Reading through job satisfaction at Sony Mobile and advice on job applications for how to make web entries and writing a short email. Discussion on format of emails and letters. Language work on past simple regular and irregular verbs. Using comparatives and superlatives	2
3	Making Contact A quiz on telephone with phone answering tips. Short talk on what is important when making a business telephone call. Language work on present passive and modal verbs for obligation. Present simple and continuous: time expressions and state verbs, asking questions, expressing likes and introducing reasons.	1
4	Launching a product Reading through a Drink Me Chai success story. How to launch and promote new products. How to write a marketing report. Language work on Present Continuous for future, will and am going to forms and the differences between them.	2
5	Starting a business Setting up an international franchise. Writing the letter of enquiry. Language work on perfect tense and simple past tense & Past continuous and using prepositions in time phrase.	2
6	Making arrangements and transport How to make travel arrangements. Writing a letter responding to an invitation. Discussion on what factors are important while on a business trip.	1
7	Business Meetings Study on survey of meetings. Writing an email about giving instructions and business trip. Discussion on how meeting should be conducted. Language work on using collocations describing reasons for meetings and referencing. Using modals to Showcase responsibility and ability.	1
8	Social media and business Ways of using social media. Writing an email arranging a meeting and introducing a company. Discussion on how to use social media. Making recommendations and using passive to express opinions and ideas.	1
9	Job applications Writing your CV. Writing a letter inviting a candidate for interview and	2

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	letter giving the result of an application. Headings for CVs and describing application procedure.	
10	Communication with customers How to train for customer communication skills. Discussion on the best methods for communicating different things. Expressing result. Adjective & Noun collocations.	1
Total Hours		14

References:

- Cambridge English-Business Benchmark upper intermediate

Suggested Theory distribution:

The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
20%	20%	35%	10%	10%	15%

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01IT0601	Software Engineering	B. Tech. Year – III
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Objective: To understand and apply various software project management techniques based on Software Engineering guidelines and Principles.

Credits Earned: 4 Credits

Course Outcomes: After completion of this course, student will be able to

- Understand various software engineering principles and their application (Understand)
- Demonstrate use of various Agile methodologies for software development (Apply)
- Apply various modeling techniques for designing system requirement (Apply)
- Identify different types of risk and evaluate its impact on software system(Evaluate)
- Distinguish different testing strategies and Create test cases. (Create)

Prerequisite: Object Oriented Programming fundamental.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
3	0	2	4	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Introduction: Software engineering, Dual role of software, Software Crisis history ,Various Myths Associated with Software, Different Software Process Models, The Linear Sequential Model, The Prototyping Model, The RAD Model, Evolutionary Process Models, Component-Based Development, Process, Product and Process.	4
2	Agile Development: SDLC: Agile Method, Manifesto, Various Agile Modeling Techniques, Scrum, Scrum Reference Card, LSS (Large Scale Scrum), XP, ASD, Crystal.	4

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3	Project Management Concepts, Requirement Engineering & Metrics: The Management Spectrum, 4P's (The People, The Project, The Product), The W5HH Principle. Basic concept of Requirement (Functional & Non Functional), Requirement Modeling and Analysis. Software Process and Project Metrics, Measures, Metrics, and Indicators, Metrics in the Process and Project Domains, Software Measurement, Metrics for Software Quality.	5
4	Project Planning Scheduling & Tracking: Software Scope, Feasibility Analysis, Empirical Estimation Models, Defining a Task Set for the Software Project, Defining a Task Network, Scheduling	3
5	Risk Analysis And Management: Reactive versus Proactive Risk Strategies, Risk Management Process, Risk Identification, Risk Projection, Risk Refinement, RMMM Plans, Safety Risks and Hazards.	4
6	Software Quality & Configuration Management: Quality Concepts and Software Quality Assurance, Quality principles and Attributes, Quality Audits. Software Reviews, Formal Technical Reviews, The SQA Plan, Software Reliability, The Quality Standards: ISO 9000, CMM, Six Sigma for SE, Software Versioning and Change Control.	5
7	Software Analysis and Design Modeling: The Elements of the Analysis Model, Data Modeling, Functional Modeling and Information Flow, Behavioral Modeling, Software Design and Software Engineering, The Golden Rules, Design Principles and Design Concepts (Abstraction, Refinement, Modularity, Software Architecture, Control Hierarchy, Structural Partitioning, Data Structure, Software Procedure, Information Hiding), Effective Modular Design (Functional Independence, Cohesion, Coupling), Design Documentation.	8
8	Software Coding & Testing: Coding standards & Coding Guidelines, Code Review, Abstraction, Refinement, Modularity, Software Architecture, Control Hierarchy, Software Testing Techniques, Software Testing Fundamentals, White Box Testing Techniques in detail, Black Box Testing Techniques in detail.	5
9	Advance Topics: Clean Room Software Engineering, Web Engineering, Re-Engineering, Computer Aided Software Engineering, Software as a Service, SaaS Architecture, Emergency Trends in Software Engineering, Client/Server Software Engineering.	4
Total Hours		42

Reference Books:

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1. Roger S.Pressman, Software engineering- A practitioner's Approach, McGraw-Hill International Editions
2. Ian Sommerville, Software engineering, Pearson education Asia
3. Pankaj Jalote, Software Engineering – A Precise Approach Wiley
4. Software Engineering Fundamentals by Ali Behhforoz & Frederick Hudson OXFORD
5. Rajib Mall, Fundamentals of software Engineering, Prentice Hall of India.
6. Engineering Software as a Service and Agile Software Approach, Armando Fox and David Patterson
7. John M Nicolas, Project Management for Business, Engineering and Technology, Elsevier.
8. Nageswara Rao Pusuluri, Software Testing Concepts and Tools, DreamTech
9. Sanjay Mohapatra, Software Project Management, Cengage Learning

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process.

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
10%	20%	10%	30%	20%	10%

Suggested List of Experiments:

1. Introduction to GIT and account creation on GIT.
2. Introduction to Team Foundation server tool.
3. Study of Various Testing Tool:
 - o **Win Runner 8.0:** Checkpoints in Winrunner, Data Driven and Batch Testing.
 - o **Load Runner 8.0:** VuserScript Creation, Execution and Result using Load Runner.
 - o **Test Director 8.0:** Site Administrator, Understanding Test Director.
4. Prepare SRS document for considering any specific Social Project in detail

Instructional Method:

1. The course delivery method will depend upon the requirement of content and need of students. The teacher in may be using following teaching approaches: black board, or use of any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
2. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
3. Practical examination/Viva will be conducted at the end of semester for evaluation of performance of students in laboratory.

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4. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. <http://nptel.ac.in/courses/106101061/>
2. <https://www.joelonsoftware.com/>
3. <http://www.codesimplicity.com/>
4. <http://www.sparxsystems.com/products/ea/index.html>
5. URL:<http://www.smartdraw.com>
6. URL:<http://viu.eng.rpi.edu>
7. www.en.wikipedia.org/wiki/Software_engineering
8. www.win.tue.nl
9. www.rspa.com/spi
10. www.onesmartclick.com/engineering/software-engineering.html
11. www.sei.cmu.edu
12. <https://www.edx.org/school/uc-berkeleyx>

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01IT0602	Web Technology	B. Tech. Year - III
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Objective: The increasing use of Internet and WWW encourages everyone to use web-based solutions for their requirements. Web technology refers to the methods by which End-user devices like computers/mobiles communicate with each other. This communication involves the use of web publishing languages like HTML, CSS, JavaScript and PHP. This subject will attempt to give you a basic understanding of various aspects of web technologies.

Credits Earned: 4 Credits

Course Outcomes: End of this course will help to understand following aspects.

- To understand and compare the fundamentals of Web hosting and domain name services. (Analysis)
- To understand various non-browser specific web design principles. (Knowledge)
- To understand the need and be able to develop HTML/XHTML and CSS pages with valid structure as well as content. (Synthesis)
- To understand and be able to develop JavaScript / jQuery code to access the DOM structure of web document and object properties. (Synthesis)
- To develop dynamic web pages with usage of server-side scripting PHP and MySQL. (Synthesis)

Prerequisite of course: Programming Fundamentals

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
3	0	2	4	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Introduction and Web Design: Introduction to Internet, WWW and Web 2.0, Web protocols and Web servers, Web Design Principles and Web site structure	4

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2	HTML and CSS: Basics of HTML, HTML Tags and attributes, Meta tags, Character entities, hyperlink, lists, tables, images, forms, divs, XHTML Basics of CSS, CSS properties for manipulating texts, background, colors, Gradients, Shadow Effects, borders, margins, paddings, transformations, transitions and animations, etc., CSS box modal and CSS Flex, Positioning systems of CSS, CSS media queries.	10
3	JavaScript and jQuery: Basics of JavaScript and Client-side scripting language, JavaScript syntaxes for variables, functions, branches and repetitions. JavaScript alert, prompt and confirm. Objects in JavaScript, Access/Manipulate web browser elements using DOM Structure, forms and validations, JavaScript events, Basics of jQuery, jQuery syntaxes, jQuery selectors, events, effects, Access/Manipulate web browser elements using jQuery	13
4	PHP and MySQL: Introduction to PHP and its syntax, combining PHP and HTML, understanding PHP code blocks like Arrays, Strings, Functions, looping and branching, file handling, processing forms on server side, cookies and sessions. Introduction to PHP MyAdmin, connection to MySQL server from PHP, execution of MySQL queries from PHP, receiving data from database server and processing it on web server using PHP.	17
Total Hours		44

References:

1. Black Book, HTML 5, Dreamtech Press
2. Black Book, Web Technologies, Dreamtech Press
3. Ralph Moseley and M. T. Savaliya, Developing Web Applications, Wiley-India
4. Cody Lindley, jQuery Cookbook, O'Reilly Media
5. Ryan Benedetti, Ronan Cranley, Head First jQuery - A Brain-Friendly Guide, O'Reilly Media

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process.

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Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
10%	10%	30%	10%	10%	30%

List of Experiments:

Practical List should be designed in such a way that it covers entire syllabus and results in a semester mini project.

Suggested Practical List:

1. Design Wireframes for your semester project based on Web Design Principles (Tools like, www.cacoo.com www.glify.com)
2. Formatting web pages with CSS (Inline CSS, Document level CSS and External CSS) [Create semester project website's home page]
3. Formatting web pages with CSS [Create semester project website's inner pages]
4. Browser interaction and form validations (Web browser environments, forms and validations, image sliders) [Image slider plugins of jQuery, Client-side validation of Registration & Login page to be created in semester project website]
5. Introduction to PHP (Starting to script on server side, Arrays, function, validations) [Server-side validations for Registration and Login page of semester project website]
6. Advanced PHP (Management of sessions and cookies) [Implement Admin login/logout functionality and cookie wherever required]
7. PHP with MySQL connectivity (Forms, Advance PHP and database handling) [Semester Project]

Instructional Method:

1. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, also need to use ICT tools and facilities.
2. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
3. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.

Supplementary Resources:

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Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory.

1. <http://nptel.ac.in>
2. <http://www.w3schools.com/>
3. <http://getbootstrap.com/>

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Marwadi
University

Syllabus for Bachelor of Technology
Department of Information Technology

Semester – VII

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01CE0701	Mobile Computing	B.Tech. Year – IV
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Objective: Students taking this course will develop an understanding of the ways that mobile technologies can be used for teaching and learning. They will also consider the impact of mobile computing on the field of education.

Credits Earned: 4 Credits

Course Outcomes: After completion of this course, student will be able

- To understand concepts of Mobile Communication. (Understand)
- To analyze next generation Mobile Communication System. (Analyze)
- To understand network and transport layers of Mobile Communication. (Understand)
- Analyze various protocols of all layers for mobile and ad hoc wireless communication networks. (Analyze)
- To understand IP and TCP layers of Mobile Communication. (Understand)

Prerequisite of course: Fundamental of Networking.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
3	0	2	4	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Detailed Introduction of Mobile Computing: History, Types, Benefits, Application, Evolution, Security Concern regarding Mobile Computing, Different Propagation Modes, Wireless Architecture and its types, needs of mobile user,	04
2	The cellular concept: Cellular system, Hexagonal geometry cell and concept of frequency reuse, Channel Assignment Strategies Distance to frequency reuse ratio	04
3	Telecommunication System:	10

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	GSM: Channel allocation ,call routing Architecture, PLMN interface, addresses and identifiers, network aspects, frequency allocation, authentication and security, Handoffs Technique. GPRS: Network operation, data services, Applications, Billing and charging	
4	Mobile IP: Need of mobile IP, IP packet delivery, Agent Discovery, Registration, Tunneling and encapsulation, Route optimization, IP Handoff	06
5	Mobile Transport Layer: Overview of Traditional TCP and implications of mobility control. Improvement of TCP: Indirect TCP, Snoop TCP, Mobile TCP, Fast Retransmit/fast recovery, Time-out freezing, Selective retransmission, Transaction-oriented TCP.	06
6.	Wireless Application Protocol: Introduction of WAP, WAP applications, WAP Architecture, WAP Protocol Stack, Challenges in WAP	04
7	Mobile Ad Hoc wireless networks: Introduction, Benefits, Difference, Routing protocols for ad hoc wireless networks: DSDV and AODV	04
8	Introduction to 4G: Introduction, features and challenges, Applications of 4G, 4G network architecture	04
Total Hours		42

References:

1. Mobile Computing Technology, Applications and service creation ,Asoke K Telukder, Roopa R Yavagal by TMH.
2. Mobile Computing, Raj Kamal by Oxford
3. Wireless Communications & Networks, Second Edition, William Stallings by Pearson
4. Mobile Computing Theory and Practice-Kumkum Garg-Pearson
5. TCP/IP Protocol Suite by Behrouz A Forouzan, Third Edition, TMH

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

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Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
20%	20%	20%	15%	10%	15%

Suggested List of Experiments:

1. Cisco Certification on Mobility Fundamentals.
2. Cisco Certification on Intro to Packet Tracer Mobile.
3. Cisco Certification on Get Connected.
4. Cisco Certification on NDG Linux Unhatched

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. <http://www.wirelessdevnet.com/>
2. <http://www.protocols.com/>
3. <https://developer.apple.com/>
4. <https://www.udemy.com>
5. <http://nptel.ac.in>

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01IT0702	Software Testing	B. Tech. Year – IV
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Objective: Study fundamental concepts of software testing and its application in various scenarios with the help different testing strategies, methods and tools.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, students will be able to

- Understand importance of testing techniques in software quality management and assurance (Understand)
- Identify various types of software risks and its impact on different software application. (Analyze)
- Create test case scenarios for different application softwares using various testing techniques. (Create)
- Apply different testing methodologies used in industries for software testing. (Apply)

Prerequisite of course:

Software Engineering and UML

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents

Unit	Topics	Contact Hours
1	Introduction: Software Testing, Importance of testing, Roles and Responsibilities, Testing Principles, Attributes of Good Test, V-Model, Test Case Generation, SDLC Vs STLC, Software Testing Life Cycle-in detail.	6

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2	Types of Testing: Testing Strategies: Unit Testing, Integration Testing, System Testing, Smoke, Regression Testing, Acceptance Testing. Clean Room Software Engineering. Functional / Non-Functional Testing. Testing Tools, Categorization of testing methods: Manual Testing, Automation Testing and Automated Testing Vs. Manual Testing.	6
3	Non Functional Testing : Performance Test, Memory Test, Scalability Test, Compatibility Test, Security Test, Cookies Test, Session Test, Recovery Test, Installation Test, Ad-hoc Test, Risk Based Test, Compliance Test. Mc Call's Quality Factors, FURPS.	6
4	Software Testing Methodologies: Validation & Verification, White/Glass Box Testing, Black Box Testing, Grey Box Testing, Statement Coverage Testing, Branch Coverage Testing, Path Coverage Testing, Conditional Coverage Testing, Loop Coverage Testing, Boundary Value Analysis, Equivalence Class Partition, State Based Testing, Cause Effective Graph, Decision Table, Use Case Testing, Exploratory testing and Testing Metrics, Testing GUI	10
5	Software Testing Life Cycle: Requirements Analysis/ Design, Trace ability Matrix, Test Planning, Objective, Scope of Testing, Schedule, Approach, Roles & Responsibilities, Assumptions, Risks & Mitigations, Entry & Exit Criteria, Test Automation, Deliverables.	8
6	Test Cases Design: Write Test cases, Review Test cases, Test Cases Template, Types of Test Cases, Difference between Test Scenarios and Test Cases. Test Environment set up, Understand the SRS, Hardware and software requirements, Test Data.	6
7	Test Execution: Execute test cases, Error/Defect Detecting and Reporting, DRE (Defect Removal Efficiency), Object, Types of Bugs, Art of Debugging, Debugging Approaches, Reporting the Bugs, Severity and priority, Test Closure, Criteria for test closure, Test summary report.	8
8	TestMetrics: TestMeasurements, TestMetrics, MetricLifeCycle, Types of Manual TestMetrics	3
9	QA & QC & Testing: Quality Assurance, What is Quality Control, Differences of QA, QC & Testing	3
	Total Hours	56

References:

1. Roger S. Pressman, Software engineering-A practitioner's Approach, Mc Graw-Hill International Editions
2. Ian Sommer ville, Software engineering, Pearson education Asia

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3. Software Testing Techniques, 2nd edition, Boris Beizer, 1990
4. Software Testing : Principles and Practices by Srinivasan Desikan
5. Software Testing and Quality Assurance: Theory and Practice by Kshirasagar Naik and Priyadarshi Tripathy
6. Software Quality Approaches: Testing, Verification, and Validation: Software Best Practice by Michael Haug and Eric WOI sen

Suggested Theory distribution:

The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	10%	35%	30%	10%	10%

Suggested List of Experiments:

1. Implement all techniques of Black Box-Testing, White Box Testing taking your Mini Project as the Context System.
2. Write a program to find the roots of a quadratic equation and perform boundary value analysis.
3. Write a program to find area of circle, square, triangle and rectangle and perform equivalence class testing.
4. Write a program to perform a raise to power b and perform decision table testing.
5. Write a program to compute previous date, given present date as input and perform decision table testing.
6. Write a program to read three sides of a triangle and determine whether they form scalene, isosceles or equivalent triangle and test it using cause – effect testing techniques.
7. Write a program to calculate total salary of an employee, given his salary. The slab is as follows HRA=30% of basic salary, DA=80% of basic salary, MA=100, TA=800, Income tax=700, Pf=780. Draw its path graph and find its V(G) by all three methods.
8. Draw a DD path graph for the program written for experiment 6.
9. Write a program to read the marks of 10 students in 5 subjects calculate the average and assign grades. Now draw its graph matrix and find its V(G).
10. Perform Data Flow Testing on the program for quadratic equation program.
11. Case study on Testing Tool-QTP.

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Instructional Method:

1. The course delivery method will depend upon the requirement of content and need of students. The teacher in may be using following teaching approaches: black board, or use of any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
2. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
3. Practical examination/Viva will be conducted at the end of semester for evaluation of performance of students in laboratory.
4. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory.

Supplementary Resources:

1. https://onlinecourses.nptel.ac.in/noc18_cs42/
2. <http://www.softwaretestinghelp.com>
3. <https://www.atlassian.com/software-testing>

V. Prash



01IT0701	Advance Web Technology	B.Tech. Year – IV
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Objective: The increasing practice of MVC architecture in Web based applications, this course focuses on Advanced PHP concepts and Laravel Framework along with Node.js. This subject will attempt to give basic understanding of cURL methods, MVC Framework, Unit Testing, Web Services, API, Node Servers and routing.

Credits Earned: 4 Credits

Course Outcomes: After completion of this course, students will be able to

- Apply Object Oriented concepts in developing PHP applications (Apply)
- Use various third party APIs and advance concepts of PHP to develop Applications (Apply)
- Create and deploy scalable web based system using Laravel (Create)
- Develop server side web applications using Node.js (Create)

Prerequisite of course: Programming Fundamentals, Web Technology

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
3	0	2	4	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Object Oriented PHP: Object Oriented Programming with PHP – Classes, Properties, Methods, Magic Methods: Constructor, Destructor, Getter and Setter, Encapsulation, Inheritance, Data Abstraction, Polymorphism.	6
2	Advance PHP: Web Scraping using cURL, Regular Expression, Mail function, Web Services & APIs	6
3	PHP MVC Framework - Laravel: Introduction to Laravel and MVC, Environment Setup, Routes, Namespaces,	20

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	Controllers, Views, Request Response, Redirections, Forms, Session, Cookie, Database Connectivity and CRUD operations	
4	Node.js Introduction to Node.js, Node Package Manager, REPL Terminal, Node.js Web server – Server and Clients, Creating a simple server, Rendering HTML, Rendering JSON Data, Routing	10
Total Hours		42

References:

1. PHP: The Complete Reference, By Steven Holzner. Publisher: Tata McGraw Hill
2. Laravel: Up and Running, By Matt Stauffer. Publisher: O'Reilly Media
3. Node.js in Action, By Mike Cantelon, Marc Harter, T.J. Holowaychuk, and Nathan Rajlich. Publisher: Manning publications

Suggested Theory distribution:

The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
10%	10%	30%	10%	10%	30%

List of Experiments:

1. Develop a web application in PHP using various concepts of object oriented programming like Class, Object, Inheritance, Function, Overloading, Constructor and Destructor.
2. Develop a web scraper to mine structured data from any website according to given application.
3. Develop a web application in PHP to demonstrate the use of third party APIs like weather, sports, stock market, etc.
4. Develop a small project using Laravel framework.
5. Develop a small project in Node.js.

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Instructional Method:



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Department of Information Technology

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, also need to use ICT tools and facilities.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.

Supplementary Resources:

Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory.

- a) <https://learninglaravel.net/>
- b) <https://www.tutorialspoint.com/laravel/>
- c) <https://laravel.com/>
- d) <https://nodejs.org/en/>
- e) <https://www.w3schools.com/nodejs/>

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01CE0703	iOS Programming	B.Tech. Year – IV
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Objective: Apple Inc. has developed an operating system to power its iPhone, iPad and iPod Touch which is called iPhone OS (iOS). It is one of the most popular mobile OS. iOS is being maintained by Apple Inc and versions of iOS are released annually and made available for all iOS devices. iOS Programming makes use of Swift programming language and XCode IDE. Swift is a programming language developed by Apple for mac OS, iOS, watch OS and tvOS. XCode is the IDE used to design and develop applications for the apple devices.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, student will be able to

1. To be able to design iOS application.(Apply)
2. To be able to develop an application using Swift Programming language(Create)
3. To be able to develop multi-screen application using XCode(Create)
4. To understand the need and be able to use Different UI Controllers.(Understand)
5. To be able to debug an application using XCode debugger.(Analyze)

Prerequisite of course: Basics of programming language, Concepts of OOP and Database

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Fundamentals: Overview of iOS and X-CODE: Installation, Create and manage project using XCode, Introduction to iPhone Architecture, Introduction to SWIFT, Developer Technology Overview: The Apple Developer Tool, Swift, Cocoa Touch, Model-View-Controller, Interface Builder, Overview of latest iOS	8

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	features.	
2	Swift Basics: Object oriented programming with swift, File structure in Swift, Swift Programming Basics: Data types, Constants, Variables, Operators, Decision making and Branching, Arrays, Functions, Enumerations. Introduction to iOS Playground.	10
3	iPhone Application Development: Exploring the iOS Framework with XCode, Cocoa Fundamentals, Tracking the iOS Application Life cycle, Understanding Interface Builder, Creating User Interface, Customizing the Interface Appearance using Layout, Views, Outlets and Actions, View Controllers and UI Controllers like Labels, Buttons, Sliders, Different Views, Gestures, etc. Connecting the code with Accelerometer, Location service, 3D touch, Push notifications Understand the MVC Design pattern, MVC in XCode, Using Application Templates, User Input and Output: Handling Keyboard Input, Implementing Alert, Sounds and Vibrations, Using XCode debugger.	20
4	Database Management and Web Services: Parsing JSON data, Parsing XML data, SQLite databases, Web Service APIs calls.	12
5	Submit App to Apple Store: Create Apple developer account, Submit App to Apple Store.	3
Total Hours		53

References:

6. iOS 10 Programming Fundamentals with Swift by Matt Neuburg - O'Reilly Media Pub
7. Building iPhone and iPad Electronic Projects - MikeWesterfield - O'Reilly Media Pub.
8. Head First iPhone and iPad Development, 2nd Edition - Dan Pilone, Tracey Pilone - O'Reilly Media
9. Beginning iPhone and iPad Web Apps - ChrisApers, Daniel Paterson - Apress Pub

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
15%	23%	15%	15%	13%	19%

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List of Experiments:

Practical List should be designed in such a way that it covers entire syllabus and results in a semester mini project.

Suggested Practical List:

1. Installation of x-code on MAC.
2. Write a swift program to check the palindrome string.
3. Write a swift program for basic calculator.
4. Create an application to demonstrate different UI controllers.
5. Create an application which can play audio and video files.
6. Develop an application in which user can insert, update and delete the record in database.
7. Develop an application for signing-up user with details like: Username, Password, Gender, Birth-date, Country, Image etc. fields.
8. Develop an application to fetch user data using API service and display on the screen.

Instructional Method:

- a) The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by blackboard also need to use ICT tools and facilities.
- b) The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c) Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory

Supplementary Resources:

Students can use supplementary resources such as online videos, e-courses, etc.

- a) <https://developer.apple.com>
- b) <https://developer.apple.com/xcode/>
- c) <http://www.tutorialspoint.com/swift/>

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01CE0704	Android Programming	B. Tech. Year – IV
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Objective: This course facilitates classroom and laboratory learning, letting students develop competence and confidence in android programming and understand the entire Android Apps Development Cycle, as well as it would also enable the students to independently create Android Applications

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, student will be able to

- Demonstrate the Understanding of fundamental of Android Programming. (Understand)
- Build their ability to develop software with reasonable complexity on mobile platform. (Apply)
- Discover the life cycles of Activities, Applications, intents and fragments. (Evaluate)
- Design the Android apps by using Java Concepts. (Create)

Prerequisite of course: Java or object-oriented programming experience.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Basic of Android Programming: Introduction to Android OS, Setting up the Android Application Development Environment, Creating, Testing and Debugging Applications, Android Stack, Android applications structure, Activity life cycle, Understanding implicit and explicit intents.	8
2	User Interface in Android: Adaptive and responsive user interfaces, User Input Controls, Menus,	12

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	Screen Navigation, RecyclerView, Drawables, Themes and Styles, Fragments, Fragment Life Cycle, Introduction to Material Design, Testing the user interface.	
3	Background tasks: AsyncTask, AsyncTaskLoader, Connecting App to Internet, Broadcast receivers, Services, Notifications, Alarm managers.	8
4	Sensor, Location and Maps: Sensor Basic, Motion and Position Sensors, Location services, Google maps API, Google Places API	8
5	Working with data in Android: Shared Preferences, App Setting, SQLite primer, Store data using SQLite database, Content Providers, Content Resolver, Loader	8
6	Performance Improvement of App: Performance Parameters, Profiling Tools, Rendering and Layout, Garbage Collection and Memory Leaks, Best Practices.	7
7	Publishing Your App: Preparing for publishing, Signing and preparing the graphics, Publishing to the Android Market	5
	Total Hours	56

References:

1. Android: A Programming Guide by J.F. DiMarzio
2. Hello, Android: Introducing Google's Mobile Development Platform by Ed Burnett
3. Programming android by Zigurd Mednieks
4. Android User Interface Design: Turning Ideas and Sketches into Beautifully Designed Apps by Ian G. Clifton
5. Android Developer Fundamental Course by Google.
6. Advance Android Developer Course by Google.

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
20%	20%	20%	15%	10%	15%

L. P. Singh



Suggested List of Experiments:

1. Install Android Studio with Specific Latest SDK in your System.
2. Develop an android app which displays “Hello World” message.
3. Develop an android app which displays a form to get following information from user.
1) Username 2) Password 3) Email Address 4) Phone Number 5) Country
Form should be followed by a Button with label “Submit”.
When user clicks the button, a message should be displayed to user describing the information entered.
Utilize suitable UI controls (i.e. widgets). [When user enters country in Auto Complete TextView, list of states should be displayed in Spinner automatically.]
4. Create sample application that demonstrates activity life cycle’s all methods.
5. Using Android, Create a login Activity. It asks “username” and “password” from user. If username and password are valid, it displays Welcome message using new activity
6. “Happy Birth Day” App using TextView and ImageView
7. Create “Hello Toast” App by implementing a click handler method for the button to display a message on the screen when the user clicks. Use Linear Layout for creating view.
8. Create the MP3 player like application with service
9. The Simple Calculator app has two edit texts and four buttons. When you enter two numbers and click a button, the app performs the calculation for that button and displays the result.
10. Develop one App. Which Contains Specific User Interface and design Interface.

Instructional Method:

- d) The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- e) The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- f) Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- g) Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. <https://developer.android.com/index.html>

K. P. Singh



2. <https://www.udemy.com>
3. <http://nptel.ac.in/>
4. <https://www.tutorialspoint.com/android/index.htm>
5. <https://www.raywenderlich.com/category/android>
6. <https://in.udacity.com/course/new-android-fundamentals--ud851>

K. P. Singh



01CE0705	Programming with Python	B.Tech. Year – IV
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Objective: Python is next generation multi-purpose programming language that allows different users to create applications of various domains. Students will be able to learn primary fundamentals of python programming and potential of python is to achieve modern computing requirements.

Credits Earned: 05

Course Outcomes: After completion of this course, student will be able to

- Apply various fundamentals for problem solving using python. (Application)
- Implement modular programming and differentiate mutability of various datatypes. (Analyze)
- Create object-oriented solution by applying various concept like polymorphism, inheritance and package with python programming. (Create)
- Implement multithreading and manage security in Linux operating system. (Create)

Prerequisite of course: Object oriented concepts, Programming fundamentals

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Basics of Python: Python Installation and Working of it, get familiar with python variables and data types, Operator understanding and its usage, detail study of python blocks,	8
2	Structure Types and mutability: Hands on with conditional blocks using if, else and elif, Hands on	10

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	examples and study of looping with range, list and dictionaries. Hands on to organize python code with function, modular approach in python.	
3	Exception, Testing and Debugging: Handling if exceptions to handle the code cracks, handling and helping file operations, coding with the exceptional handling and testing Anonymous method, Properties, Indexers, Exception Handling	10
4	Classes and OOP Concepts: Procedural and Object-Oriented Programming, Classes and working with instances, Method overloading, Polymorphism, importing internal module as well as external modules in the code Packages understanding and their usage, hands on with Lambda function in python coding with the use of functions, modules and external packages	14
5	Algorithm and Data Structure: Stack, Queue, Tree, ordered list, Introduction to Recursion, Divide and Conquer Strategy, Greedy Strategy, Graph Algorithms.	10
6	Advance Topics: Regular Expression, Multi thread Programming, Security	4
	Total Hours	56

References:

1. Starting Out with Python (2009) Pearson , Tonny Gaddis
2. Beginning Python Wrox Publication Peter Norton, Alex Samuel
3. Python Algorithms Apress, Magnus Liet Hetland
4. Python Object Oriented Programming PACKT Press, Dusty Phillips
5. Python for Unix and Linux System Administration O'Reilly, Noad Gift

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
10%	10%	40%	15%	15%	10%

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List of Experiments:

1. Implement a Python program to Calculate GCD of two numbers.
2. Implement a Python Program to Calculate the square root of a number by Newton's Method.
3. Implement a Python Program to find the largest number from a list of numbers.
4.
 - a. Implement a Python Program to perform Search
 - b. Implement a Python Program to perform Linear search
 - c. Implement a Python Program to perform Binary search
5. Implement a Python Program to perform insertion sort.
6. Implement a Python Program to perform selection sort.
7. Implement a Python program to multiply matrices.
8. Implement a Python program to Calculate the most frequent words in a text from a file.
9. Implement function overloading with different function signatures.
10. Implement concept of class, instances and inheritance.
11. Implement internal and external library.
12. Solve algorithmic problems by program using different problem-solving strategies.
13. Search content using regular expression library in python.
14. Implement Matrix multiplication using multi-threading in python.
15. Perform Linux administration task using python.

Instructional Method:

1. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
2. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
3. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
4. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. <http://www.w3schools.com>
2. <http://docs.python.org>
3. <http://www.tutorialspoint.com>
4. <http://www.learnpython.org>

V. Prashu



01CE0706	Advanced .NET Technologies	B.Tech. Year – IV
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Objective: The objective is to study web development technology and tools provided by Microsoft .NET platform. Students are expected to learn how to design and develop web applications along with database connectivity using Microsoft .NET Technology.

Credits Earned: 05

Course Outcomes: After completion of this course, student will be able to

6. Understand web concepts and features of ASP.NET (Understand)
7. Create applications with strong object oriented principles (Create)
8. Implement web applications using various ASP.NET controls (Apply)
9. Create enhanced backend/data layer quickly using LINQ (Create)
10. Implement web applications using ASP.NET MVC (Apply)
11. Develop cross platform mobile applications using Xamarin (Apply)

Prerequisite of **course:**
C#.NET, Object oriented concepts, .NET Technologies, Programming fundamentals

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	.NET Framework, Web and ASP.NET: CLR, .NET Framework Class Library, Web Server, HTTP/HTTPS Protocol, ASP.NET Benefits, ASP.NET Page Layout, Life Cycle	4
2	ASP.NET Controls HTML Server Controls, Web Server Controls, Validation	8

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	Controls	
3	HttpRequest and HttpResponse State Management Master Page and Theme	6
4	Introduction To LINQ: Understanding Extension Methods. What is LINQ and How it works? ADO v/s LINQ Understanding and Implementing IEnumerable<T> Writing basic query in C# Project. Using LINQPad for LINQ queries. Working with Data – Using Entity Framework, Using Code First approach	8
5	Advance Operations Using LINQ: Operations in Detail – Order By, Order by descending, Select One, Select Many, Group By, Distinct, Except, Intersect. Join Operations LINQ and Databases – IQueryable<T>. LINQ to Entities.	7
6	Getting Started with ASP.NET MVC What is MVC Architecture? What is ASP.NET MVC? Learning Model, View, Controller. Advantages of MVC Web Apps. Configurations	8
7	Web Apps With ASP.NET MVC Building Web Form using web form elements. Building Restful Services with ASP.NET Web API.	6
8	Mobile Apps With Xamrin.net Getting Started, Setting up Development Environment. Understanding Xamring.Android. Working with interactive layer (Activity, Intent, List View, Adapters, Toolbar, Android Navigation), Using Xamrin.Forms.	9
	Total Hours	56

References:

1. Professional ASP.NET 4.5 in C# and VB, Wrox Publication, Jason N. Gaylord, Christian Wenz, Pranav Rastogi, Todd Miranda, Scott Hanselman, Scott Hunter
2. Pro ASP.NET 4.5 in C#, Apress Publication, Freeman, Adam, MacDonald, Matthew, Szpuszta, M

K. Prashu



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3. ASP.NET: The Complete Reference, McGraw-Hil, Matthew MacDonald
4. Programming Microsoft® LINQ in Microsoft.NET Framework4-Marco Russo and Paolo Pialorsi
5. Xamarin Mobile Application Development: Cross-Platform C# and Xamarin. Forms-by Dan Hermes
6. Pro ASP.NET MVC5 Platform by Adam Freeman

Suggested Theory distribution:

The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
0%	10%	40%	10%	10%	30%

Instructional Method:

1. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
2. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
3. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
4. Students will use supplementary resources such as online videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. <https://www.asp.net/>
2. https://www.tutorialspoint.com/asp.net_mvc/
3. <http://www.codeproject.com>
4. <http://telerikacademy.com>
5. <https://msdn.microsoft.com>
6. <https://university.xamarin.com/>

Suggested Practical List:

1. Implement Login and Registration Form using various ASP.NET Server Controls

D. P. Singh



2. Implement validation in Registration Form using ASP.NET Validation controls.
3. Implement various State Management techniques in Login System
4. Implement an ASP.NET website using Master and Theme.
5. Create / Write LINQ Queries for following operations Using the sample db (e.g. Northwind db) LINQ: Operations – Order By, Order by descending, Select One, Select Many, Group By, Distinct, Except, Intersect.
6. Create / Write LINQ Queries for following operations Using the sample db (e.g. Northwind db) LINQ: Operations – all Join Operations
7. Create ASP.NET MVC App that does basic CRUD (create / read / update / delete operations)
8. Create XAMRIN App to use various XAMRIN controls to demonstrate Mobile app frontend interaction.

v. p. sh



01CE0702	Artificial Intelligence	B.Tech. Year – IV
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Objective: With the approach of the World Wide Web expanding, the field of AI and its strategies are being utilized in numerous territories which influence human life specifically. Different practices for encoding data in PC frameworks, for example, Predicate Logic, Production rules, Semantic systems discover use in true issues. The fields of AI, for example, Game Playing, Natural Language Processing, and Connectionist Models are likewise basic. Graduates should realize some programming language just as the nuts and bolts for AI and its procedures.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, students will be able to

- Assess critically the techniques presented and to apply them to real world problems(Analyze)
- Mindful of the significant difficulties confronting AI and the multifaceted nature of run of the mill issues inside the field(remember)
- Comprehend the significant zones and difficulties of AI(Understanding)
- Apply fundamental AI calculations to take care of issues(Apply)
- Get a learning of utilizations in various zones of registering including the web and human communication(Evaluate)

Prerequisite of course:

- Knowledge of Programming Techniques
- Data structures, such as balanced binary trees
- Mathematics

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

K. P. Singh



Contents

Unit	Topics	Contact Hours
1	Introduction What is Artificial Intelligence , Artificial Intelligence Problems, AI Techniques, The Level Of The Model, Criteria For Success	2
2	Heuristic search State spaces and search, Problem Decomposition-Goal trees and rule based system, Problem characteristics, Generate and Test, Heuristic Search Methods - Hill climbing ,Local Maxima , Beam search, peak to peak methods , variable neighborhood Methods.	8
3	Finding Optimal Path Brute Force, Branch and Bound, Best First Search- OR Graphs, Algorithm A*, Admissibility of A*, Iterative Deepening A*, Algorithm AO*, Pruning the CLOSED List, Pruning the OPEN List, Divide and conquer Beam stack search.	6
4	Structured Knowledge representation The Schema, Frames, Inheritance in taxonomies, Conceptual Graphs, Using Predicate logic- representing facts in logic, functions and predicates, Agents , Facets of knowledge, Resolution in propositional logic and predicate logic, Question Answering, forward and backward ,conceptual Graphs, chaining Unification.	5
5	Game Playing Board Games, Game playing Algorithm, Mini Max , Alpha-Beta Cut-off and pruning, Reinforcement learning (Markov Processes).	3
6	Machine Learning: Introduction to machine learning, learning as function approximation, Linear models and Nearest- Neighbors - learning algorithms and properties, Neural Networks .	3
7	Statistical Reasoning Probabilistic graphical models, Principles of learning processes: elements of statistical learning theory, Probability And Bays' Theorem, Certainty Factors And Rule-Base Systems, Fuzzy Logic. Weak Slot-and-Filler, Strong Slot-and-Filler Structures, Semantic Nets, Frames, Conceptual	8

L. P. Singh



	Dependency, Scripts, CYC	
8	Introduction to Prologs Introduction To Prolog: Syntax and Numeric Function, Basic List Manipulation Functions In Prolog, Functions, Predicates and Conditional, Input, Output and Local Variables, Iteration and Recursion, Property Lists and Arrays, Miscellaneous Topics, LISP and Other AI Programming Languages	10
	Total Hours	45

References:

1. "Artificial Intelligence" -By Elaine Rich And Kevin Knight (2nd Edition) Tata Mcgraw-Hill
2. Artificial Intelligence: A Modern Approach, Stuart Russel, Peter Norvig, PHI Introduction to Prolog Programming By Carl Townsend.
3. "PROLOG Programming For Artificial Intelligence" -By Ivan Bratko(Addison-Wesley)
4. "Programming with PROLOG" –By Klocks in and Mellish.
5. Allen B. Downey – (Think Python) Python for software design- How to think like a computer scientist, Cambridge University press, 2009 .

Suggested Theory distribution:

The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
30%	30%	10%	20%	10%	0%

Suggested List of Experiments:

1. Write a program to implement Tic-Tac-Toe game problem
2. Write a program to implement BFS (for 8 puzzle problem or Water Jug problem or any AI search problem)
3. Write a program to implement DFS (for 8 puzzle problem or Water Jug problem or any AI search problem)
4. Write a program to implement Single Player Game (Using Heuristic Function)
5. Write a program to Implement A* Algorithm
6. Write a program to Implement AO* Algorithm
7. Write a program to solve N-Queens problem using Prolog.
8. Write a program for the following task:

L. P. Singh



Create a suitable database and then find the following

- Students who are living in Rajkot
- Age Greater Than 15
- Students who has more than 60%

9. Write a program to solve 8 puzzle problem using Prolog.
10. Write a program to check whether given value is character or digit
11. Write a program to generate random number with respect to entered digit.
12. Write a program to implement login system.
13. Write a program to implement login system recursively
14. Write a program to solve travelling salesman problem using Prolog.
15. Write a program to display the element of give list.
16. Write a program for the family tree
17. Write a program to check given element is in the list or not.
18. Convert following Prolog predicates into Semantic Net

```
cat(tom).
cat(cat1).
mat(mat1).
sat_on (cat1,mat1).
bird (bird1).
caught (tom,bird1).
like (X,cream) :- cat(X).
mammal(X) :- cat (X).
has(X,fur) :- mammal(X).
animal (X) :- mammal(X).
animal(X) :- bird (X).
owns (john,tom).
is_coloured (tom,ginger).
```

19. Write a program to print the last element of the list
20. Write a program to print the sum of the elements of the given list
21. Write the Conceptual Dependency for following statements.
 - John gives Mary a book
 - John gave Mary the book yesterday
22. Write a programme for File.
23. Monkey Banana problem.

Instructional Method:

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5. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
6. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
7. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
8. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

4. <http://www.nptel.iitm.ac.in/video.php?subjectId=106105077>
5. Website for search strategy implementation in python <http://code.google.com/p/aima-python/>
6. <http://www.journals.elsevier.com/artificial-intelligence/>
7. <https://www.technologyreview.com/s/534871/our-fear-of-artificial-intelligence/>
8. <http://www.sanfoundry.com/artificial-intelligence-mcqs-inductive-logic-unification-lifting-1/>

K. P. Singh



01CE0707	Data Mining & Information Retrieval	B.Tech. Year - IV
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Objective: The course is designed for a section level investigation of data mining and information retrieval methods. It is about how to discover significant data and therefore separate important patterns from it. The fundamental speculations and scientific models of data mining and information retrieval are covered in the syllabus.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, student will be able to

- Understand different indexing techniques on real data set. (Understand)
- Demonstrate different classification methods on real and synthetic data set. (Apply)
- Discover knowledge using various Data Mining methods for given system/application. (Apply)
- Analyze various data warehousing techniques used in industry. (Analysis)

Prerequisite of course: Database management systems, data structures.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Introduction to Data Mining What is data mining, Why data mining ,Data Mining: On what kind of data, what kind of patterns can be mined, data mining functionalities- Classification, Clustering, Regression and Association, Classifications of data mining systems , Process of Knowledge Discovery from Databases and current trends.	08
2	Introduction to Information Retrieval and Indexing concepts	08

K. Prashant



	Introduction to information retrieval, conceptual model of IR, Basic concepts of Indexing, Principles theory of Indexing, Content Analysis: Meaning, Purpose, Applications in real life, Types of Indexing, and Criteria for evaluation of Information Retrieval Systems.	
3	Retrieval methods Types of Information retrieval, Search processes, Strategies of Search methods, Boolean Logic, Query Preparation.	06
4	Overview of Data warehousing Tools and Techniques What is data warehousing and its key features, Overview of the fields: Data Marts and types of Data Marts, Metadata in Data warehouse, what is OLAP (online analytical processing), introduction to data cubes (facts and dimensions) , OLAP operations- slicing, dicing, roll-up, pivot, difference between OLAP and OLTP, Differentiate OLAP models- ROLAP and MOLAP, defining star and snowflake schema, fact constellations.	08
5	Data Preprocessing and Data Mining tasks Need for data preprocessing: An overview, Introduction to major tasks of data preprocessing – data cleaning, data integration, data reduction, data transformation and data discretization. Data cleaning- how to handle missing values, Data smoothing using Binning method, Data Normalization: min-max, z-score, decimal scaling.	08
6	Concepts of Classification and Prediction Introduction to classification, Classification techniques- Decision Tree, Naïve bayes and Rule based classifier, Model evaluation and selection, Bagging, Boosting. What is Prediction?, Prediction techniques- Linear and non-linear regression, logistic regression.	08
7	Concepts of Association and Clustering Introduction to frequent pattern analysis and its applications- Basket data Analysis, measures of frequent patterns and association rule: support and confidence, how to find Frequent item sets and association rules by using Apriori, FP growth tree methods, Introduction to Cluster Analysis, clustering techniques - k-means, DBSCAN, CLIQUE.	08
	Total Hours	54

References:

1. J. Han ,Mkamber ,”Data mining concepts and techniques”, Morgan Kaufmann.
2. “Introduction to information retrieval”, Christopher D. Manning, PrabhakarRaghavan, and

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HinrichSchutze, Cambridge University Press. 2008

3. M . Dunham “Data Mining : Introductory and Advance Topics” Pearson Education.
4. “F. Wilfrid Lancaster. Information retrieval systems: Characteristics, testing and evaluation. 2nd ed. New York: Wiley, 1979.

Suggested Theory distribution:

The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
0%	20%	50%	30%	0%	0%

Suggested List of Experiments:

1. Explore and compare various data mining tools.
2. Weka Installation.
3. Preprocessing on real and synthetic datasets.
4. Apply classification technique to find association rules.
5. Demonstration of various classification algorithms.
6. Performance measurement of various classification algorithms.
7. Apply K-mean method of clustering to discover similar objects of real time datasets.
8. Demonstration of various IR techniques.
9. Performance evaluation of various IR techniques.
10. Mini Project based on learning of this subject.

Instructional Method:

- The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory.

K. P. Singh



01CE0709	Computational Intelligence	B.Tech. Year - IV
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Objective: The purpose of this course is to teach the students about the basic techniques, theory and computational models of Fuzzy and Soft computing. This subject focuses on how to apply several neural network algorithms over real-time problems to get optimized outcome.

Credits Earned: 5

Course Outcomes:

- Recognize and depict soft computing methods and their roles to build intelligent systems. (Knowledge)
- Apply fuzzy principles and thinking to deal with vulnerability and tackle realtime issues. (Apply)
- Apply genetic algorithms to generate optimized results for a particular problem. (Apply)
- Apply neural networks to design classification problems. (Apply)
- Evaluate and compare solutions by various soft computing approaches for a given problem. (Evaluate)

Prerequisite: Data Structure, Algorithms

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Unit	Topics	ContentHours
1	Introduction: Introduction to CI, History of CI, Basic techniques and applications of CI, Introduction to Neural Network, Fuzzy Logic, Genetic Algorithm, Hybrid System.	4
2	Elementary and Advance Search Techniques: State Space Search, Blind Search, Heuristic Search(Hill Climbing, A/A*	6

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	Algorithm, Min-Max Search, Constraint Satisfaction), Multi-Objective Genetic Algorithm.	
3	Fuzzy Set Theory: Fuzzy Sets, Basic Definition and Terminology, Set-theoretic Operations, Member Function Formulation and Parameterization, Fuzzy Rules and Fuzzy Reasoning using IF-THEN rules, Extension Principle and Fuzzy Relations, Fuzzy Inference Systems, Different Fuzzy Models: Mamdani Fuzzy Models, Sugeno Fuzzy Models, Tsukamoto Fuzzy Models, Input Space Partitioning and Fuzzy Modeling.	10
4	Optimization: Derivative-based Optimization, Descent Methods, The Method of Steepest Descent, Classical Newton's Method, Step Size Determination, Derivative-free Optimization, Concepts of Genetic Algorithms, GA techniques, Simulated Annealing, Random Search, Downhill Simplex Search, Evolutionary Computing, Swarm optimization, Green Computing, Big data mining.	10
5	Neural Networks & Deep Learning: Artificial Neural Network, Supervised Learning Neural Networks, Perceptrons and its limitations, Adaline, Back propagation learning algorithm Multilayer Perceptrons, Radial Basis Function Networks, Unsupervised Learning Neural Networks, Deep Neural Network, Convolutional Neural Network, Competitive Learning Networks, Kohonen Self- Organizing Networks, Learning Vector Quantization, Hebbian Learning, Hop-field networks.	10
6	Neuro Fuzzy Modelling: Adaptive Neuro-Fuzzy Inference Systems, Architecture, Hybrid Learning Algorithm, Learning Methods that Cross- fertilize ANFIS and RBFN, Coactive Neuro Fuzzy Modeling, Framework Neuron Functions for Adaptive Networks, Neuro Fuzzy Spectrum. Introduction to Neuro Fuzzy Control.	10
Total Hours		50

Reference Books:

1. Fuzzy Logic with Engineering Applications, Timothy J. Ross, McGraw-Hill, 1997.
2. Genetic Algorithms: Search, Optimization and Machine Learning, Davis E. Goldberg, Addison Wesley, N.Y., 1989.
3. Neural Networks: A Comprehensive Foundation, Simon Haykin. Prentice Hall
4. Neural Network Design, M. T. Hagan, H. B. Demuth, Mark Beale, Thomson Learning, Vikash Publishing House.

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5. Neural Networks, Fuzzy Logic and Genetic Algorithms, S. Rajasekaran and G.A.V.Pai, PHI, 2003.

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching- learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
30%	30%	10%	20%	10%	0%

Suggested List of Experiments:

1. Explain in brief about Neural Network, Fuzzy Logic, Genetic Algorithm and Hybrid System.
2. Study and Analysis of Fuzzy Vs Crisp Logic.
3. Study and Analysis of Genetic Algorithm Life Cycle.
4. Write a program to implement BFS
5. Write a program to implement DFS
6. Write a program to implement Single Player Game (Using Heuristic Function)
7. Write a program to Implement A* Algorithm
8. Implementation of Fuzzy Operations.
9. Design a Fuzzy Logic system using programming language (C++, Java etc.)
10. Write a program for Back Propagation Algorithm.
11. Implementation of Unsupervised Learning Algorithm.
12. Implementation of Neuro-Fuzzy System using programming language. (C++, Java etc.)
13. Study of research paper on Soft Computing.

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01IT0703	Major Project – I	B.Tech. Year - IV
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Objective: The objective is to enhance practical skills of students which will help them to analyze and solve real world problems by using latest software / hardware / tools and by applying theoretical knowledge

Credits Earned: 1 Credit

Course Outcomes: After completion of this course, student will be able to

- To analyze real world problems and design solutions for those problems (Analyze)
- To identify practical aspect of studied technologies (Evaluate)
- To use latest software / hardware as per requirement (Apply)
- To develop complete solutions for read world problems (Create)
- To use different testing methodologies for implemented work (Apply)
- To present and document implemented work effectively (Create)

Prerequisite of course: Hardware/Software Knowledge, Software Engineering, Mini Project

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
0	0	2	1	0	0	0	50	50	100

Contents:

Unit	Topics	Contact Hours
1	Project/Problem Identification	2
2	Project Analysis, Requirement Gathering	4
3	Project Design / Prototype Development	4
4	Implementation of Project/Solution	12
5	Testing and Verification	2
6	Presentation and Report Writing	4

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Total Hours	28
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Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
0%	0%	35%	15%	15%	35%

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Marwadi
University

Syllabus for Bachelor of Technology
Department of Information Technology

Semester – VIII

K. P. Singh



01CE0801	Natural Language Processing	B. Tech. Year – IV
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Objective: Natural language processing deals with written text. Students will learn how to process written text from basic of fundamental knowledge starts with Finite automata, Regular expression and probabilistic model with n-grams. Recognizing Speech and parsing with grammar. This course also covers basis of semantic analysis and discourse analysis and drives it to machine translation. This NLP course will boost student knowledge to research level where they can conduct new level of research. It really helpful for under graduate students

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, student will be able to

- Understand Natural Language Processing (Understanding).
- Probabilistic model of defining language and techniques.(Application)
- Applying Hidden Markov model and Speech Recognition.(Application)
- Application of context free grammar and language parsing.(Application)
- Implement probabilistic and language parsing.(Application)
- Differentiation of semantic and discourse in terms of NLP.(Analyse)

Prerequisite of course: Data Structure, Theory of Computation, Compiler Design.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Introduction of NLP: Knowledge in Speech and Language processing, ambiguity and models and algorithm, language and understanding, brief history.	1

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2	Regular Expressions, Automata, Similarity Computation: Regular Expressions, patterns, FA, Formal Language, NFSA, Regular Language and FSAs, Raw Text Extraction and Tokenization, Extracting Terms from Tokens, Vector Space Representation and Normalization, Similarity Computation in Text	3
3	Morphology and Finite-State Transducers: Inflection, Derivational Morphology, Finite-State Morphological Parsing, The Lexicon and Morph tactics, Morphological Parsing with Finite- State Transducers, Combining FST Lexicon and Rules, Lexicon-free FSTs: The Porter Stemmer, Human Morphological Processing	3
4	Matrix Factorization and Topic Modeling: Introduction, Singular Value Decomposition, Nonnegative Matrix Factorization, Probabilistic Latent Semantic Analysis, Latent Dirichlet Allocation	3
5	Computational Phonology and Text-to-Speech: Speech Sounds and Phonetic Transcription, The Phoneme and Phonological Rules, Phonological Rules and Transducers, Advanced Issues in Computational Phonology, Machine Learning of Phonological Rules, Mapping Text to Phones for TTS, Prosody in TTS	3
6	Probabilistic Models of Pronunciation and Spelling: Dealing with Spelling Errors, Spelling Error Patterns, Detecting Non- Word Errors, Probabilistic Models, Applying the Bayesian method to spelling, Minimum Edit Distance, English Pronunciation Variation, The Bayesian method for pronunciation and Weighted Automata, Pronunciation in Humans	5
7	N-grams: Counting Words in Corpora, Simple (Unsmoothed) N-grams, Smoothing, Back off, Deleted Interpolation, N-grams for Spelling and Pronunciation, Entropy	3
8	HMMs and Speech Recognition: Speech Recognition Architecture, Overview of Hidden Markov Models, The Viterbi Algorithm Revisited, Advanced Methods for Decoding, Acoustic Processing of Speech, Computing Acoustic Probabilities, Training a Speech Recognizer, Wave form Generation for Speech Synthesis, Human Speech Recognition	4
9	Word Classes and Part-of-Speech Tagging:	3

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	Tag sets for English, Part of Speech Tagging, Rule-based Part-of-speech Tagging, Stochastic Part-of-speech Tagging, Transformation-Based Tagging	
10	Context-Free Grammars for English: Context-Free Rules and Trees, Sentence-Level Constructions, The Noun Phrase, Coordination, Agreement and The Verb Phrase and Sub-categorization, Auxiliaries, Spoken Language Syntax, Grammar Equivalence & Normal Form, Finite State & Context-Free Grammars, Grammars & Human Processing	4
11	Parsing with Context-Free Grammars and Features and Unification: Parsing as Search, A Basic Top-down Parser, The Earley Algorithm, Finite-State Parsing Methods, Feature Structures, Unification of Feature Structures, Features Structures in the Grammar, Implementing Unification, Parsing with Unification Constraints, Types and Inheritance	3
12	Lexicalized and Probabilistic Parsing: Probabilistic Context-Free Grammars, Problems with PCFGs, Probabilistic Lexicalized CFGs, Dependency Grammars, Human Parsing, The Chomsky Hierarchy, How to tell if a language isn't regular, Natural Language Context-Free or not, Complexity and Human Processing	3
13	Representing Meaning and Semantic Analysis: Computational Desiderata for Representations, Meaning Structure of Language, First Order Predicate Calculus, Some Linguistically Relevant Concepts, Alternative Approaches to Meaning, Syntax-Driven Semantic Analysis, Attachments for a Fragment of English, Integrating Semantic Analysis into the Early Parser, Idioms and Compositionality, Robust Semantic Analysis	6
14	Lexical Semantics and Information Retrieval: Relations Among Lexemes and Their Senses, Word Net: A Database of Lexical Relations, The Internal Structure of Words, Creativity and the Lexicon, Selection Restriction-Based Disambiguation, Robust Word Sense Disambiguation, Information Retrieval, Other Information Retrieval Tasks, Named Entity Recognition	6
15	Discourse and Machine Translation: Reference Resolution, Text Coherence, Discourse Structure, Psycholinguistic Studies of Reference and Coherence, Language Similarities and Differences, Direct Translation, Using Statistical Techniques	3
16	Text Sequence Modeling and Deep Learning:	4

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Statistical Language Models, Kernel Methods, Word-Context Matrix Factorization Models, Neural Language Models, Recurrent Neural Networks	
Total Hours	57

References:

1. Daniel Jurafsky and James H.Martin Speech and Language Processing (2ndEdition), Prentice Hall: 2edition, 2008.
2. Machine Learning for Text by Charu C.Aggarwal, Springer,2018edition
3. Foundations of Statistical Natural Language Processing by Christopher D. Manning and Hinrich Schuetze,MITpress,1999
4. Steven Bird, Ewan Klein and Edward Loper Natural Language Processing withPython,O'ReillyMedia;1edition,2009
5. Roland R.Hausser, Foundations of Computational Linguistics:Human-ComputerCommunicationinNaturalLanguage,Paperback,MITpress,2011

Suggested Theory distribution:

The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process.

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
0%	15%	70%	15%	0%	20%

Instructional Method:

- a. The course delivery method will depend upon the requirement of contentandneedofstudents.Theteacherinadditiontoconventionalteachingmethod by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e- courses, Virtual Laboratory

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Supplementary Resources:

1. <https://blog.algorithmia.com/introduction-natural-language-processing-nlp/>
2. <https://www.udacity.com/course/natural-language-processing-nanodegree--nd892>
3. <https://www.coursera.org/learn/language-processing>
4. <https://towardsdatascience.com/a-practitioners-guide-to-natural-language-processing-part-i-processing-understanding-text-9f4abfd13e72>
5. <https://www.edx.org/course/natural-language-processing>

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01CE0802	Big Data and Analytics	B.Tech. Year – IV
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Objective: Big data is an extremely useful area in the era of computing techniques as it aids in finding useful pattern from large datasets. Large datasets are so huge that they cannot be processed with traditional technologies. We require special computing system which can handle large data and tandem it with other important aspects like parallel processing, data failure and data pre-processing.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, student will be able to

- Gain Understanding about Big Data Technology and its Tools. (Understand)
- Understand and apply extracting useful pattern from large datasets. (Apply)
- Implementation of Big data mining techniques using different software. (Create)
- Understand how data analytics and data science maps to current industry.(Analyze)
- Understanding and implementing Algorithms in an optimized way using various Big Data Tools. (Apply)

Prerequisite of course: Basic Programming Knowledge, Data Mining.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Introduction to Big Data Introduction-Distributed file System, What is Big Data? Difference between traditional Distributed file system and Big Data Software, Big Data Analytics, Big data Applications.	4
2	Introduction to Hadoop: How Hadoop works? Hadoop Architecture, Explanation of Hadoop EcoSystem, Hadoop Basic commands.	7
3	Hadoop Input and Output: Data Integrity in Hadoop, Data Compression and	7

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	Data Serialization in Hadoop, Avro, How Avro works?	
4	Hadoop MapReduce: Mapper, Reducer, MapReduce YARN, Job Scheduling, Sorting and Shuffling in Map Reduce, MapReduce Input Formats, MapReduce Output Formats, How to code in MapReduce program , analyze data using MapReduce.	10
5	Hadoop Ecosystem/Environment: Pig, Hive, Hbase, ZooKeeper Pig Latin Structures, Statements, Functions, User-Defined Function in Pig, Loading, Storing and Sorting Data in Pig, HiveQL, Tables in Hive, Querying Data, User-Defined Function in Hive, Introduction to HBase, HBASE vs RDBMS, What is ZooKeeper, Zookeeper Services, Build Application with ZooKeeper.	12
6	Apache Spark: Introduction to Apache Spark, pySpark, RDD, Working with Key-value pair, Loading and saving data in spark, Learning about Machine Learning Library in Spark.	7
7	NoSql: Introduction to NoSql, NoSql vs SQL, NewSql, Introduction to MongoDB, MongoDB Create-Drop Databases, Create-Drop Collection, CRUD operation in documents, MongoDB indexing, Aggregation, replication, sharding, Connect Java Application with MongoDB.	5
Total Hours		52

References:

1. Tom White, "HADOOP: The definitive Guide", O Reilly 2012.
2. BIG Data and Analytics , Sima Acharya, Subhashini Chhellappan, Willey
3. MongoDB in Action, Kyle Banker, Piter Bakkum , Shaun Verch, Dream tech Press
4. Learning Spark: Lightning-Fast Big Data Analysis Paperback by Holden Karau

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process.

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
0%	20%	40%	20%	0%	20%

Suggested List of Experiments:

1. Installation and use of Hadoop in ubuntu.
2. Run HDFS commands in hadoop environment.

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3. Implementation of a MapReduce Algorithm.
4. Hive Installation.
5. Run Hive related commands on given data.
6. UDF creation in Hive to truncate blank space.
7. Install HBASE and Apply various table queries.
8. Install MongoDB and execute basic commands in MongoDB Shell.
9. Connect MongoDB with java.
10. Install Scala and program in interactive mode and script mode.
11. Run a job on Apache spark.

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

- a. <http://www.bigdatauniversity.com/>
- b. <http://hadoop.apache.org/>
- c. <https://spark.apache.org/documentation.html>
- d. <http://www.prajval.in/edudetail/18>
- e. <https://www.tutorialspoint.com/mongodb/index.htm>

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01CE0803	Cloud Computing	B. Tech. Year: IV
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Objective: This course is intended to analyze the basics of cloud computing, and make aware students with diversified technologies working for cloud architecture. Course will be focusing on architecture, service models, privacy & security in cloud.

Credits Earned: 5 credits

Course Outcomes: After the completion of this course, student will be able to

- Understand and analyze the architecture of Cloud (Analyze).
- Identify and apply deployment and management options of AWS Cloud Architecture (Apply).
- Design architectures to decouple infrastructure and reduce interdependencies (Create).
- Formulate policy based scenarios in Cloud simulators (Create).

Prerequisite of course: Operating System , Computer Networks

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Units	Topics	Hours
1	Introduction of Cloud Computing: What is Cloud Computing?, How it works?, Types of Cloud, Goals & Challenges, Leveraging Cloud Computing, Cloud Economics and Total Cost of Ownership	06
2	Cloud Service Models Software as a Service(SaaS): Introduction, Challenges in SaaS Model, SaaS Integration Services, Advantages and Disadvantages. Infrastructure As a Services (IaaS): Introduction, Virtual Machines, VM	06

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	Migration Services, Advantages and Disadvantages. Platform As a service (PaaS): Introduction, Integration of Private and Public Cloud, Advantages and Disadvantages.	
3	Virtualization and Abstraction: What is Virtualization and how abstraction is provided in cloud? Advantages and Disadvantages, Types of Hypervisor, and Load balancing.	06
4	Amazon Web Services Getting started with AWS, AWS Compute, Storage, and Networking, AWS Security, Identity, and Access Management, AWS Database Options, AWS Elasticity and Management Tools	10
5	Architecting on AWS Introduction to System Design: AWS Essentials Review and System Design for High Availability, Automation and Serverless Architectures: Event-Driven Scaling, Well-Architected Best Practices: Security, Reliability, Performance Efficiency, Cost Optimization and Deployment and Implementation: Design Patterns and Sample Architectures	12
6	Cloud Security Tools and technologies to secure the data in Private and Public Cloud Architecture. Security Concerns, Legal issues and Aspects, Multi-tenancy issues.	06
7	Cloud Simulation CloudSim: Modeling and simulation of Cloud computing data centers with virtualized server hosts	08
Total Hours		54

References:

1. Judith Hurwitz, R Bloor, M.Kanfman, F.Halper "Cloud Computing for Dummies", Wiley India Edition, First Edition
2. Rajkumar Buyya, James Broberg, Andrzej M. Goscinski, "Cloud Computing: Principles and Paradigms", Wiley Publication,2011
3. Tim Mather, SubraKumara swamy, Shahed Latif, "Cloud Security and Privacy: An Enterprise

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Perspective on Risks and Compliance”, O’ReillyMedia Inc, 2009

4. Mickey Iqbal 2010, “ IT Virtualization Best Practices: A Lean, Green Virtualized Data Center Approach”, MC Press
5. Frank H. P. Fitzek, Marcos D. Katz, “Mobile Clouds: Exploiting Distributed Resources in Wireless, Mobile and Social Networks”, Wiley Publications, ISBN: 978-0-470-97389-9, Jan 2014.

Suggested Theory Distribution:

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	15%	20%	20%	0%	40%

Suggested List of Experiments:

1. Creating Amazon EC2 instances with Microsoft Windows
2. Build Your Virtual Private Cloud (VPC) and Launch a Web Server
3. Working with Amazon Elastic Block Store (EBS)
4. Introduction to AWS Identity and Access Management (IAM)
5. Deploy a Web Application on AWS
6. Using Auto Scaling with AWS Lambda and Lifecycle Hooks
7. Implementing a Serverless Architecture with AWS Managed Services
8. Launching EC2 Spot Instances with Auto Scaling and Amazon CloudWatch

Supplementary Resources:

- NPTEL online course : https://onlinecourses.nptel.ac.in/noc17_cs23/preview
- MOOC : <https://www.edx.org/micromasters/cloud-computing>
- Coursera: <https://www.coursera.org/specializations/cloud-computing>
- AWS Academy: AWS Cloud Computing Architecture at <https://aws.amazon.com/training/awsacademy/cloud-computing-architecture/>

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01CE0804	Machine Learning	B.Tech. Year – IV
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Objective: To learn machine learning, artificial neural networks and genetic algorithms for intelligent behavior. To learn various optimization techniques.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, student will be able to

- Understand machine-learning concepts.(Understand)
- Understand Optimization theory and concepts.(Understand)
- Understand and analyse different method of Gradient Descent. (Analyze)
- Apply concept of Supervised and Unsupervised learning.(Apply)
- Apply the concepts of machine learning and optimization in designing intelligent systems.(Apply)

Prerequisite of course: Computer Programming, Mathematics.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Linear Algebra for Machine Learning Introduction to Linear Algebra and to Mathematics for Machine Learning, Vectors, Matrices in Linear Algebra	2
2	Introduction to Machine Learning What is Machine Learning, Supervised Learning, Unsupervised Learning	1
3	Supervised Learning: Linear Regression Representation of Model, Cost Function, Gradient Descent, Gradient Descent For Linear Regression, Shrinkage Methods: Ridge Regression, Lasso, Selecting the tuning parameter, Feature selection: Subset Selection, Step	6

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	Selection	
4	Linear Regression with Multiple Variable: Multiple Features, Variables, Feature Scaling, Learning Rate, Features and Polynomial Regression, Normal Equation, Normal Equation Noninvertibility	8
5	Logistic Regression Logistic Regression, Naive Bayes Classifier, Performance Evaluation: Confusion Matrix, Accuracy, Precision, Recall, F1-score, ROC Curves, Maximal Margin Classifier, Support Vector Machines, Kernel SVMs, Multi-class SVMs, Applications Case studies	6
6	Resampling Methods Cross-Validation, Leave-one-out Cross-Validation, k-fold Cross-Validation, Bootstrap	2
7	Regularization The Problem of Overfitting, Cost Function, Regularized Linear Regression, Regularized Logistic Regression	6
8	Unsupervised Learning: Challenges of Unsupervised Learning, Dimension Reduction Methods, Principal Component Analysis (PCA), Non-negative Matrix Factorization (NNMF), Principal Component Regression: PCR, Partial Least Squares (PLS) Regression, K-Means Clustering, Hierarchical Clustering, Practical Issues in Clustering, Gaussian Mixture Modeling, Applications Case studies	14
9	Tree-Based Methods Basics of Decision Trees, Regression Trees, Classification Trees, Trees v/s Linear Models, Advantages and Disadvantages of Trees, Bagging, Random Forests, Boosting	6
10	Moving Beyond Linearity Polynomial Regression, Step Functions, Basis Functions, Regression Splines, Smoothing Splines, Local Regression, GAMs	4
Total Hours		55

Texts and References:

- 1) An Introduction to Statistical Learning, James, Witten, Hastie, Tibshirani, Springer, 6th Edition, 2015
- 2) The Elements of Statistical Learning: Data Mining, Inference, and Prediction, Second Edition (Springer Series in Statistics) 2nd Edition

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- 3) Introduction to Machine Learning, Second Edition, by Ethem Alpaydin, The MIT Press
- 4) Machine Learning an algorithmic perspective by Stephen Marsland, CRC Press
- 5) Machine Learning in Action by Peter Harrington, Manning Shelter Island

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
0%	40%	40%	20%	0%	0%

Suggested List of Experiments:

1. Develop a cost function of linear regression using sample data.
2. Develop a Gradient descent of linear regression using sample data.
3. Implement linear regression algorithm using sample data.
4. Implement logistic regression algorithm using sample data.
5. Develop regularization in already developed logistic regression algorithm.
6. Calculate bias and variance from already computed algorithm.
7. Calculate Error Matrix for already implemented algorithm.
8. Implement k-means algorithm using sample data.
9. Develop PCA based on sample data.
10. Develop and implement Neural-network based any algorithm using sample data.

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. Machine Learning by Andrew NG on Coursera

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01CE0805	Business Intelligence	B. Tech. Year – IV
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Objective: Exponential increase in size and availability of data makes Business Intelligence (BI) an extremely valuable subject. BI as a methodology and technique for gathering, storing, analyzing, sharing and providing access to data, to help University, Enterprise or any other organization to make a better decision. Now a days as internet users are increasing, so there is a requirement of techniques through which raw data can be converted into Information. This course will cover data science, data visualization dashboard design, performance dashboard and future of BI.

Credits Earned: 5 Credits

Course Outcomes: After completion of this course, student will be able to

- Graduates will learn concept, process, and practice of the data science and how methodologies are applied to visualize information from raw data. (Apply)
- Encourage and motivate students for learning BI involving predictive and statistical approach. (Understand)
- Understand and analyze BI concepts and techniques. (Analyze)
- Understand and apply BI Techniques for various situations. (Apply)
- Implement BI techniques by using various tools and Create data visualization. (Create)

Prerequisite of course: Data Mining

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Introduction to Business Intelligence BI concept, BI architecture, BI in today's perspective, BI Process, Applications of BI like Financial analysis, statistical analysis, sales analysis,	08

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	CRM, result pattern and ranking analysis, Balanced Scorecard, BI in Decision Modelling: Optimization, Decision making under uncertainty. Ethics and business intelligence.	
2	Data Science The concept, process and typical tools in data science. Example of different algorithms i.e segmentation, classification, validation, regressions, recommendations. Exercises using Excel and R to work on histograms, regression, clustering and text analysis. Co-relation between Algorithm and Code in data science	12
3	Data Visualization and Dashboard Design Responsibilities of BI analysts by focusing on creating data visualizations and dashboards. Importance of data visualization, types of basic and composite charts.	10
4	Performance Dashboard Measuring, Monitoring and management of Business, KPIs and dashboard, the types of dashboards, the common characteristics of Enterprise dashboard, design of enterprise dashboards, and the common pitfalls of dashboard design.	08
5	Modelling and Analysis Exploring Excel Modeling capabilities to solve business problems, summarize and present selected data, introduction to business metrics and KPIs, creating cubes using Microsoft Excel	10
6	Future of Business Intelligence Emerging Technologies, Machine Learning, Predicting the Future with the help of Data Analysis, BI Search & Text Analytics – Advanced Visualization – Rich Report, Future beyond Technology.	08
Total Hours		56

References:

1. Efraim Turban, Ramesh Sharda, Dursun Delen, "Decision Support and Business Intelligence Systems", 9th Edition, Pearson 201
2. "Business Intelligence – Grundlagen und praktische Anwendungen: Eine Einführung in die IT" by Hans-Georg Kemper and Henning Baars
3. David Loshin Morgan, Kaufman, "Business Intelligence: The Savvy Manager"s Guide", Second Edition, 2012.
4. Larissa T. Moss, S. Atre, "Business Intelligence Roadmap: The Complete Project Lifecycle of

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Decision Making”, Addison Wesley, 2003

5. Carlo Vercellis, “Business Intelligence: Data Mining and Optimization for Decision Making”, Wiley Publications, 2009.

Suggested Theory distribution:

The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
0%	20%	40%	20%	0%	20%

Suggested List of Experiments:

1. Introduction to BI tools, their pros and cons and limitations.
2. Demonstration of BI techniques ETL on Application Financial Analysis.
3. Demonstration of BI techniques ETL on Application Student result pattern and ranking analysis.
4. Demonstration of Classification process using J48 algorithm on arff data set.
5. Demonstration of Clustering techniques process using k-means algorithm on Mobile phone Static Data set.
6. Demonstration of decision tree
7. Demonstration of Exploring Excel Modelling capabilities to solve business problems.
8. Business Intelligence Mini Project:
Each group of 4 Students (max) assigned one case study for this; A BI report must be prepared outlining the following steps:
 - a. Problem definition, identifying which data mining task is needed.
 - b. Identify and use a standard data mining dataset available for the problem.
 - c. Implement the Knowledge discovery algorithm of choice.
 - d. Interpret and visualize the results.
 - e. Provide clearly the BI decision that is to be taken as a result of mining.
9. Demonstration of Performance Dashboard: Measuring, Monitoring and management of Business
10. Demonstration of KPIs and Enterprise dashboard, design of enterprise dashboards using Pentaho tool.

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Instructional Method:

1. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
2. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
3. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.

Supplementary Resources:

Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory.

- a. <http://www.pentaho.com/>
- b. <https://www.edx.org/course/introduction-data-analysis-using-excel-microsoft-dat205x-2>
- c. <https://www.ibm.com/developerworks/library/os-weka2/>
- d. <http://www.saedsayad.com/>
- e. http://www.cs.ccsu.edu/~markov/ccsu_courses/datamining-3.html
- f. <https://cognitiveclass.ai/>

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01CE0806	Internet of Things	B.Tech. Year – IV
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Objective: In this course, student will explore various components of Internet of things such as Sensors, internetworking and cyber space. In the end they will also be able to design and implement IoT circuits and solutions.

Credits Earned: 05

Course Outcomes: After successful completion of this course, student will be able to

- Understand general concepts of Internet of Things (IoT) (Understand)
- Recognize various devices, sensors and applications (Knowledge)
- Apply design concept to IoT solutions (Apply)
- Analyze various M2M and IoT architectures (Analyze)
- Evaluate design issues in IoT applications (Evaluate)
- Create IoT solutions using sensors, actuators and Devices (Create)

Prerequisite of course: Fundamentals of computer network, Network Security, internet technology.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
4	0	2	5	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Introduction to IoT: Sensing, Actuation, Networking basics, Communication Protocols, Sensor Networks, Machine-to-Machine Communications, IoT Definition, Characteristics. IoT Functional Blocks, Physical design of IoT, Logical design of IoT, Communication models & APIs.	10
2	M2M to IoT -The Vision-Introduction, From M2M to IoT, M2M towards IoT-the global context, A use case example, Differing Characteristics. Definitions, M2M Value Chains, IoT Value Chains, An emerging industrial	8

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	structure for IoT,	
3	M2M vs IoT An Architectural Overview –Building architecture, Main design principles and needed capabilities, An IoT architecture outline, standards considerations. Reference Architecture and Reference Model of IoT.	8
4	IoT Reference Architecture - Getting Familiar with IoT Architecture, Various architectural views of IoT such as Functional, Information, Operational and Deployment. Constraints affecting design in IoT world - Introduction, Technical design Constraints.	8
5	Domain specific applications of IoT: Home automation, Industry applications, Surveillance applications, Other IoT application.	8
6	Developing IoT solutions: Introduction to Python, Introduction to different IoT tools, Introduction to Arduino and Raspberry Pi Implementation of IoT with Arduino and Raspberry, Cloud Computing, Fog Computing, Connected Vehicles, Data Aggregation for the IoT in Smart Cities, Privacy and Security Issues in IoT.	10
Total Hours		52

References:

1. Jan Holler, Vlasios Tsiatsis, Catherine Mulligan, Stefan Avesand, Stamatias Karnouskos, David Boyle, “From Machine-to-Machine to the Internet of Things: Introduction to a New Age of Intelligence”, 1st Edition, Academic Press, 2014.
2. Vijay Madiseti and Arshdeep Bahga, “Internet of Things (A Hands-on-Approach)”, 1st Edition, VPT, 2014
3. Francis daCosta, “Rethinking the Internet of Things: A Scalable Approach to Connecting Everything”, 1st Edition, Apress Publications, 2013
4. Cuno Pfister, Getting Started with the Internet of Things, O’Reilly Media, 2011, ISBN: 978-1-4493-9357-1

Suggested Theory distribution:

The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
10%	10%	30%	25%	15%	10%

List of Experiments – Internet of Things

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1. Introduction to various sensors and various actuators & its Application (Students have to prepare Report for the same). Perform Experiment using Arduino Uno to measure the distance of any object using Ultrasonic Sensor.
 - a. PIR Motion Sensor.
 - b. Rain Drop Sensor.
 - c. Moisture Sensor.
 - d. Temperature Sensor.
 - e. Touch Sensor.
 - f. Infrared Sensor.
 - g. Servo Moto.
 - h. RFID Sensor.
 - i. Bluetooth Module.
 - j. Wi-Fi Module.
2. Demonstrate NodeMCU and its working
3. Getting Started with ESP8266 Wi-Fi SoC
4. Hands-on with on-board peripherals of ESP8266
5. Demonstrate Arduino and its pins.
6. Perform Experiment using Arduino Uno to measure the distance of any object using Ultrasonic Sensor.
7. Create a circuit using Arduino and sensors. Perform experiment using Arduino Uno to Learn Working of Servo Motor
8. Creating a webpage and display the values available through Arduino.
9. Demonstration of Setup & Working of Raspberry Pi. (Students have to prepare the Report for the same.)
10. OPEN Ended problem: Students are required to submit an IOT based project using the Microcontroller or a Raspberry Pi and connecting various sensors and actuators. The data for the same should be displayed via a webpage or a web app.

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.

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- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

References (Web)

- a. <https://www.udemy.com/internet-of-things-iot-for-beginners-getting-started/>
- b. <http://playground.arduino.cc/Projects/Ideas>
- c. <http://runtimeprojects.com>
- d. <http://www.megunolink.com/articles/arduino-garage-door-opener>
- e. <http://www.willward1.com/arduino-wifi-tutorial>
- f. <http://www.makeuseof.com/tag/pi-overdose-heres-5-raspberry-pi-alternatives>
- g. <http://www.electronicshub.org/arduino-project-ideas>
- h. <http://homeautomationserver.com>
- i. <http://www.toptechboy.com/arduino-lessons>
- j. <https://www.eprolabs.com>

YouTube

1. <https://www.youtube.com/watch?v=dC2GdEWHRxQ&list=PLy6JR9IR8VKOZBpDcETsH9Tb6B4bcaTXf>
2. https://www.youtube.com/watch?v=kLd_JyvKV4Y
3. <https://www.youtube.com/watch?v=TkA2LJctU1c>

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01IT0801	Major Project – II	B.Tech. Year – IV
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Objective: Students will find out about the need of industry, explore latest technologies, work on industry / social problems with team members.

Credits Earned: 9 Credits

Course Outcomes: After completion of this course, student will be able to

- Understand, analyze and solve Medium / Large scale industrial / social problems (Analyse)
- Demonstrate the application of various engineering subjects to solve industrial / social problems (Apply)
- Communicate in the way industry demands in oral and documented way. (Create)
- Demonstrate teamwork and leadership qualities. (Apply)
- Demonstrate professional and ethical conduct as per industrial expectations. (Evaluate)

Prerequisite of course: Mini Project, Major Project I, Software Engineering

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
0	0	18	9	0	0	0	200	200	400

Contents:

Unit	Topics	Contact Hours
1	Project/Problem Identification	18
2	Project Analysis, Requirement Gathering	36
3	Project Design / Prototype Development	36
4	Implementation of Project/Solution	108
5	Testing and Verification	18
6	Presentation and Report Writing	36
Total Hours		252

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
0%	0%	30%	25%	20%	25%

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01SL0102	Reading and Writing for Technology	B. Tech. Year - I
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Objective:

- To introduce students to fundamentals of reading and writing skills
- To enable them to comprehend texts of technical and analytical nature
- To enable them to carryout different writing tasks in the context of technology

Credits Earned: 2 Credits

Course Outcomes: After completion of this course, student will be able to

- comprehend diverse texts related to technology;
- organize ideas and arguments in the written form;
- write assignments, reports, letters etc. in the technical contexts.

Prerequisite of course: NA.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Mark s
Theory	Tutorial	Practical		ES E (E)	CSE	Interna l(IA)	Viva (V)	Ter m wor k (TW)	
2	0	0	2	00	20	30	25	25	100

Contents:

Unit	Topics	Contact Hours
1	1. History/ Story of Technical Writing 2. English in Technical Communication	04

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2	<ol style="list-style-type: none"> 1. Know your textbook: Exploring the textbook, its parts and purposes 2. Approaching reading: Reading Strategies 3. Reading for Various Purposes: reference books, stories, articles, technical surveys, reports, blog posts, & reviews 	09
3	<ol style="list-style-type: none"> 1. Understanding the writing process: Thinking about writing processes, key Attributes of academic and technical texts 2. Writing process - Visualizing your text 3. Approaching Writing: Writing Strategies 4. Understanding various forms of writing: essay, case study, research paper, term paper, maths/physics problems, lab report, book report/review, surveys, blog posts, & dissertation 5. Writing for various purposes: essays, writing answers in exam, lab reports, process and instructions, reviews, blog post, & assignments 	17
	Total Hours	30

References:

For Unit -1

- a. Tavia, Yasmin. "Story of Technical Writing." YouTube, 28 March 2016, <https://www.youtube.com/watch?v=QomPdtnZa4k>. Accessed 30 June 2017.
- b. AbodeTCS. "Future of TechComm." YouTube, 16 July 2012, <https://www.youtube.com/watch?v=dSdhnyDF0YY>. Accessed 30 June 2017.
- c. Lowe, Janet. Google Speaks: Secrets of World's Greatest Billionaire Entrepreneurs, Sergey Brin and Larry Page. John Wiley & Sons, 2009.
- d. Howard, Nicole. The Life Story of a Technology. Greenwood Press, 2005.

For Unit - 2

- a. "Engineering Stories." Engineering Stories, 2017, <https://engineerstories.com/>. Accessed 30 June 2017.
- b. "10 Breakthrough Technologies 2017." MIT Technology Review, 2017, <https://www.technologyreview.com/lists/technologies/2017/>. Accessed 30 June 2017.
- c. High, Peter. "Top 10 Technology Stories of 2016." Forbes, 4 Jan. 2017,

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<https://www.forbes.com/sites/peterhigh/2017/01/04/top-ten-technology-stories-of-2016/2/#2d72b2be9de7>. Accessed 30 June 2017.

For Unit – 3

- a. Teaching and Learning Resources for Me. “Understanding the Purpose of Different Types of Texts.” YouTube, 12 Sept. 2015, <https://www.youtube.com/watch?v=lZtxWTK7tpk>. Accessed 30 June 2017.
- b. Galloway, Bek. “Purposes and Text Types.” YouTube, 30 Sept. 2016, <https://www.youtube.com/watch?v=-LULx42tOA4&t=34s> . Accessed 4 July 2017.
- c. Kane, Thomas S. The Oxford Essential Guide to Writing. Berkeley, 2000

Suggested Theory distribution: NA

Suggested List of Experiments: NA

Instructional Method:

- Discussions
- Group Work
- Individual Presentations
- Brainstorming
- Role Play

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Marwadi University Syllabus for Bachelor of Technology
Department of Information Technology

Subject Code: 01CE1304

Subject Name: Creativity, Problem Solving and Innovation

B.Tech.2nd Year Semester: IV

Prerequisite: Zeal to learn the subject.

Course Objective: To develop creative thinking skill in the students using cone of learning components leading to understanding of various strategies for creativity, problem solving and innovation.

Course Outcome:

After learning the course, the students will be competent

1. Importance of creativity, problem solving and innovation while addressing science, engineering and social issues.
2. Demonstrate the ability to contextualize knowledge related to professional engineering practices.
3. Demonstrate the functioning effectively as an individual and team member.
4. Ability to engage in life-long learning in the context of technological change.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks					Total Marks
L	T	P		Theory Marks			Practical Marks		
			ESE(E)	IA	CSE	Viva (V)	Term Work (TW)		
0	0	2	1	0	30	0	20	0	50

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Content:

Sr. No.	Content	Total Hrs
1	Phase 1: To introduce the subject of the course: this course as a needed skill for your future. Psychology of problem solving; Vertical versus Lateral thinking	02
2	Phase 2: Strategy of Questioning; Method of questioning; Importance of asking the right question. Who, what, when, where, why, how?	02
3	Phase 3: Learning and its importance; Sources of learning; Methods of learning. Purpose and value of education in future creativity in real life.	02
4	Phase 4: Strategy of Knowing how to see; Making your thought visible; Visualizing thinking; Mapping of mind, Fishbone diagram.	02
5	Phase 5: Strategy of Thinking Fluency; Generating all possibilities; more the better; Quantity without screening is helpful; SCAMPER technique; Creative or divergent idea generating thinking versus Critical or convergent idea selection thinking.	02
6	Phase 6: Strategy of Fusing of ideas; Making novel combinations; Connecting the unconnected.	02
7	Phase 7: Strategy of Looking at the other side, looking in other world, finding what you are not looking for and following it up.	02
8	Phase 8: Strategy of Play, Importance of play; Diversion; Unstructured activities for sheer joy, Activities for joy, Let subconscious figure it out, Various puzzles as play or fun.	02
9	Phase 9: Strategy of Awakening the collaborative spirit, Collaborative thinking, brain storming, Innovation requires collaboration to make it happen.	02
10	Phase 10: Review Strategies for Creative problem solving methods, Five building blocks as per Fogler & LeBlanc, Stanford D school approach.	02
11	Phase 11: Strategy for critical thinking for Choosing, Creative or divergent thinking needs follow up by Critical thinking or Convergent thinking in order to choose the solution for implementation, Kepner-Tregoe (K.T.) method with an example, Edward De Bono CoRT thinking process including PMI (Plus, Minus and Interesting), Also	02

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	Edward de Bono method of decision making called Six thinking hats.	
12	Phase 12: Edward de Bono explaining and teaching his ideas having evolved many years ago consisting as CoRT thinking tool, Lateral thinking and the decision making by Six thinking hats method.	02
13	Phase 13: Strategy for Making; From idea to innovation.	02
14	Phase 14: Individual presentation for 75 minutes by 15 students (5 minutes per student).	04

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Reference books:

1. Zig Zag, The surprising path to greater creativity by R. Keith Sawyer. 2013.
2. Group Genius by Keith Sawyer, the creative power of Collaboration. 2007
3. Crackling Creativity, The secrets of creative genius by Michael Michalko. 2001
4. Thinker toys by Michael Michalko, second edition 2006
5. De Bono's Thinking Course by Edward De Bono, Revised Edition 1994
6. Six Thinking Hats by Edward De Bono Revised and updated edition 1999
7. Lateral thinking, Creativity Step by Step by Edward De Bono. 1973
8. How to Mind Map by Tony Buzan. 2002
9. Mapping Inner Space by Nancy Margulies with Nusa Maal. Second edition.2002
10. The Myths of Innovation by Scott Berkun. Expanded and revised edition 2010
11. The art of Innovation by Tom Kelly with Jonathan Littman. 2001
12. Creative Confidence: Unleashing the Creative Potential Within Us All by Tom Kelly and David Kelly. 2013
13. A Whack on the side of the head by Roger von Oech. Revised edition 1998
14. A Kick in the seat of the pants by Roger von Oech.1986
15. They all laughed by Ira Flatow. 1992
16. Imagine, How creativity works by Jonah Lehrer. 2012
17. 101 Creative problem solving techniques by James m Higgins.1994
18. Creative approach to problem solving by Scott G Isaksen, K Brian Dorval, Donald J Treffinger. 2000
19. Creative problem solving An Introduction by Donald J. Treffinger, Scott G Isaksen and K. Brian Stead=Dorval. 4th edition, 2006
20. Strategies for creative problem solving by H. Scott Fogler& Steven E. LeBlanc. Second edition 2008
21. Game storming by Dave Gray, Sunni Brown and James Macanuf.2010
22. Creating minds by Howard Gardner. 1993
23. Creativity –Flow and Psychology of Discovery and Invention by Mihaly Csikzentmihalyi.1996
24. Aha! Insight by Martin Gardner. 1978
25. The Ultimate Lateral & Critical Thinking Puzzle book by Paul Sloane, Des MacHale& M. A. DiSpezio. 2002
26. Test your Lateral Thinking IQ by Paul Sloane. 1994
27. Intriguing Lateral Thinking Puzzles by Paul Sloane & Des MacHale.1996.

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01CR0302	Professional Ethics	B.Tech. Year – II
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Objective: This course will enable the budding engineers and managers to effectively resolve the ethical issues they will face in their professional lives.

Credits Earned: 1 Credit

Course Outcomes: After learning the course the students should be able:

1. Understand the basics of human values

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2. Inculcate human values to grow as responsible human beings with proper personality
3. Maintain ethical conduct and discharge their professional duties
4. Resolve ethical confusions and contradictions and bring harmony at thought, behavior and action level

Prerequisite of course: NA

Teaching and Examination Scheme

Teaching Scheme			Credits	Examination Marks					Total Marks
L	T	P		Theory Marks			Practical Marks		
			ESE(E)	IA	CSE	Viva (V)	Term Work (TW)		
1	0	0	1	50	30	20	0	0	100

Contents:

Sr. No.	Topics	Content Hours
1.	OVER VIEW AND BASIC CONCEPTS The concept of terminology of morals and morality, ethics, values, spirituality and stakeholder will enable students to have clarity about the concepts which are important for individuals and organizations.	2
2.	Profession and Professionalism Introduction to Profession and Professionalism will cultivate the ability to relate to ethical concepts and ethical problems in specific professions and professionalism	2
3.	Ethical Theories.	2
4.	Responsibilities and rights of professional. Professional Rights & Responsibilities will impart clarity on Loyalty, Confidentiality, Respect for Authority, Accountability and its importance. Issues related to Pride of Profession ,Pride of Employer, Gifts and Bribes, Whistle- blowing, Discrimination, Vishakha Guidelines and Sexual Harassment of Women at Workplace (Prevention, Prohibition And Redressal) Act 2013	3

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5.	Ethics In Engineering Profession Ethics In Engineering Profession will bring clarity about the Roles of Engineers such as Engineers as Managers and Other Roles Played by Engineers.	1
6.	Ethical Codes Need for Ethical Codes will enable students to understand the prominence of ethical codes and become benchmarks against which individual and organizational performance can be measured. Codes From Other Profession-Advertising Standards Council of India, Corporate Codes- Tata Group of Companies will give them the profound knowledge of ethical codes.	1
7.	GLOBAL ISSUES Intellectual Property Rights will bring out the broader ethical issues surrounding intellectual property rights. Roles of Media, Positive Aspects of Media, Negative Aspects of Media, Accountability of Media, Regulation of Media Factors in Media Ethics, Advertising Ethics, Corporate Social Responsibility- Concept ISO and CSR, Scenario CSR Rules in India Manufacturing and Marketing of Computers Software, Cybercrimes, Data Stealing, Embezzlement, Hacking.	3
	Total Hours	14

References:

- Text book: Professional Ethics by- R. Subramanian
- Reference Book/other reading material: Engineering Ethics & Human Values by: M.Govindarajan , S. Natarajan & V.S.Senthilkumar PHI Learning Pvt. Ltd.

Suggested Theory distribution:

The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
20%	20%	35%	10%	10%	5%

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01CE0405	Human Centric Design Approach	B.Tech. Year - II
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Objective: This course focuses to build the empathy for the people for designing to solve the societal problem as Human-centered design. It is a creative repeatable approach for problem solving by understanding the real need of the users..

Credits Earned: 1 Credit

Course Outcomes: After completion of this course, student will be able to

- Understand the Human Centric approach for design. (Understand)
- Understand significance of the empathy and solution based on empathy. (Understand)
- Understand importance of design thinking when addressing social change. (Understand)
- Generate the innovative ideas and will convert in new solutions. (Create)
- Build a possible prototype solutions. (Create)

Prerequisite of course: Basic Knowledge of Hardware / Software Programming.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
0	0	2	1	0	0	0	25	25	50

Contents:

Unit	Topics	Contact Hours
1	<p>Phase :1 Introduction to Human Centred Design</p> <p>Introduction to Human-Centered Design, Design Principles, the Diamond Model, The Human-Centered Design Process, Systems Thinking, Psychology behind Design, History of Design/History of Innovation.</p> <p>Activity: Mini Design Challenge.</p>	4

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2	<p>Phase:2 Inspiration Phase Defining and Visualizing Challenges, Team formation, Key Assumptions. Activity:Choose Your Design Problem, Plan Your Research build Interview Guide Activity: Conduct activity with canvas for this phase</p>	4
3	<p>Phase:3 Ideation Phase</p> <ul style="list-style-type: none"> • A business case developed; • High-level requirements are elicited; and, • A Project Overview Statement (POS) • Share Stories and Learning from User Research • Ideation Methods to Select Ideas <p>Activity: Conduct activity with canvas for this phase</p>	4
4	<p>Phase:4 Prototype Phase What is Prototype, Types of Prototyping- Low-Fidelity Prototyping, High-Fidelity Prototyping, Guidelines for Prototyping Discussion: Determine What to Prototype Activity: Brainstorm, Selecting Best Ideas, checking viability, Creating a Storyboard, Start Prototyping, Test Prototype and Get Feedback.</p>	8
5	<p>Phase-5- Implementation Phase</p> <ul style="list-style-type: none"> • Activity: Create an Action Plan • Activity: Create a Pitch • Activity: Share Your Solution • Reflection • Discussion: Moving Forward 	8
Total Hours		28

Note: Faculty are advised to take suitable project/activity to explore the above topics and make students understand the various concepts

References:

1. Gray, Dave, Sunni Brown and James Macanufo (2010). Game Storming: A Playbook for Innovators, Rulebreakers, and Changemakers, O'Reilly Media, Inc.
2. Maul, June (2011). Developing A Business Case: Expert Solutions to Everyday Challenges, Harvard Business Review Press. Project Management Institute, (2013).
3. Norman, D.A. (1988). The Design of Everyday Things. New York: Basic Books.
4. Stickdorn, M & Schneider, J (2011). This is Service Design Thinking. John Wiley &

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5. Stickdorn, Marc and Jakob Schneider. (2012). This is Service Design Thinking: Basics, Tools and Cases. Wiley Publishing.
6. Dubberly, Hugh and Shelley Evenson. (2010). Designing for Service: Creating an Experience Advantage. Wiley Online Library.

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and classroom.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory.

Supplementary Resources:

1. IDEO Workshop: Part 1 Observations (video) https://www.youtube.com/watch?v=UULGI_gBLA
2. Dubberly, Hugh and Shelley Evenson. (2009). Designing for Service: Creating an Experience Advantage Design at Stanford University
3. Greenberg, S., Carpendale, S., Marquardt, N., & Buxton, W. (2012). Sketching User Experiences: The Workbook. Amsterdam: Elsevier/Morgan Kaufmann.
4. Moggridge, B. (2007). Designing Interactions. Cambridge, MA: The M.I.T. Press.
5. Stickdorn, Marc and Jakob Schneider. (2012). This is Service Design Thinking Creativity.
6. http://www.ted.com/themes/the_creative_spark.html
7. http://www.usaid.gov/sites/default/files/documents/1868/USAID_eBook.pdf
8. Kelley, David (2013). "How to Build Your Creative Confidence." Ted Talk. Retrieved from
9. http://www.ted.com/talks/david_kelley_how_to_build_your_creative_confidence?language=en
10. Osborn, Alex F. (1979). Applied Imagination: Principles and Procedures of Creative Problem Solving
11. <https://www.interaction-design.org/literature/article/stage-3-in-the-design->

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12.[https://www.qaiglobalinstitute.com/product/design-thinking-](https://www.qaiglobalinstitute.com/product/design-thinking-ideation-phase/)

[ideation- phase/13.http://www.designkit.org/human-centered-design](http://www.designkit.org/human-centered-design)

01CR0103	Value Education	B.Tech. Year - I
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Objective: This course shall enrich students' value system, creativity, competence and confidence. It will enhance the softer aspects of life skills of students through the games, activities, group interactions and videos.

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Credits Earned: 2 Credits

Course Outcomes: After successful completion of this course, student will be able to

- Understand importance of role of Values in developing self
- Inculcate right values, ethics, attitudes, manners and behaviors for life
- Respond and relate with expectations, competitions and power of networking.

Prerequisite of course: NA.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
2	0	0	2	0	0	0	50	50	100

Contents:

Unit	Topics	Contact Hours
1	Experiencing worth of important personality attributes i.e Taking Initiatives, Thinking on the feet etc through Games	2
2	Values of Honesty and Integrity as corner stone in one's career and Life. Experiencing incidence and case studies related to Honesty, Integrity and Human Values in work set up.	2
3	Value of Creativity in one's career and Life Building an attitude of creativity, thinking out of the box and inculcate virtue of exploration and innovation in various aspects of life.	2

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4	Values to self-sustenance in difficult times and failures To Understand failure as stepping stone towards success, its inevitability and earning life lessons which makes an individual well equipped to deal with uncertainties of life.	2
5	Role of emotions in one's professional life Importance of building sound EQ with IQ, Understanding the causes and effects of emotions in life.	2
6	Workplace values 1 – Manners Understanding workplace as a second home and source of livelihood, inculcate spirit of belongingness towards work and exhibit sound manners that projects work place with dignity	2
7	Workplace values 2 – People, Policy and organization Understanding the importance of policies and people, ideal code of conduct at Workplace, building rapport with colleagues, sound behaviours with various stakeholders within the organization	2
8	Value for students' life 1 - Power of Positivity Importance of optimism in life, developing right kind of attitude towards self career and others. Power of generating right kind of thoughts that translates in right actions and behaviours.	2
9	Value for students' life 2 - Healthy Lifestyle Importance of fitness in life and career. Importance of regular exercising and taking up a sport. Focusing upon eating and sleeping habits that result in physical performance as body is considered to be the temple of soul.	2
10	Value for students' life 3 – Create First Impression Understanding the importance of making right impressions while in public, how to speak/introduce self, basic understanding of dress code, voice tone and body language	2
11	Understanding hazards of Social Networking sites Developing sound habits, breaking bad habits, understanding hazards of bad habits and excess of social media in life.	2

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12	Creating Value through Social Networking sites (Linked-In and Quora) To ensure that technology is used to build bridges and not the barriers, focusing upon the career and importance of associating with right content in the virtual world. (Linkedin, Quora, GD communities, India Bix, Bodhi Booster)	2
13	Performance Values 1- How to avoid Procrastination Value and Importance of Time, Cause and effect of procrastination, How to maximize the day, Importance of setting up to -do lists and task lists	2
14	Performance Values 2- How to manage Pressure Situations (Exams and Evaluations) Handling anxiety, Value of planning and smart work, ensuring right state of mind and tips for a successful show.	2
Total Hours		28

References:

1. Creating Values in Life: Personal, Moral, Spiritual, Family and Social Values – By Ashok Gulla
2. Teaching Your Children Values – By Linda and Richard Eyre
3. The Book of Virtues for Young People – William J. Bennett
4. The Monk who sold His Ferrari – By Robin Sharma
5. Seven habits of Highly Effective People – By Dr. Stephen R Covey
6. Stop Worrying & Start Living – By Dale Carnegie
7. Eat that Frog – By Brian Tracy

Suggested Theory distribution:

The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
20%	20%	30%	15%	10%	5%

K. P. Sharma

Instructional Method:

- A. The course delivery method will depend upon the requirement of content and need of students. The trainer shall train students through interactions, demonstration, role play, games, brainstorming, group tasks etc.
- B. Practical examination (VIVA) will be conducted at the end of semester for evaluation of performance of students.
- C. Students will use supplementary resources such as online videos and books.

K. P. Singh

01IT1703	Major Project – I	B.Tech. Year - IV
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Objective: The objective is to enhance practical skills of students which will help them to analyze and solve real world problems by using latest software / hardware / tools and by applying theoretical knowledge

Credits Earned: 4 Credit

Course Outcomes: After completion of this course, student will be able to

- To analyze real world problems and design solutions for those problems (Analyze)
- To identify practical aspect of studied technologies (Evaluate)
- To use latest software / hardware as per requirement (Apply)
- To develop complete solutions for read world problems (Create)
- To use different testing methodologies for implemented work (Apply)
- To present and document implemented work effectively (Create)

Prerequisite of course: Hardware/Software Knowledge, Software Engineering, Mini Project

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA	(CSE)	Viva (V)	Term work (TW)	
0	0	8	4	0	0	0	50	50	100

Contents:

Unit	Topics	Contact Hours
1	Project/Problem Identification	2
2	Project Analysis, Requirement Gathering	4
3	Project Design / Prototype Development	4
4	Implementation of Project/Solution	12
5	Testing and Verification	2
6	Presentation and Report Writing	4

K. P. Singh

Indian Constitution
01GS0103
Objective of the Course:

- To Enhance human values, create awareness about law enactment and importance of Constitution
- To create awareness of their Surroundings, Society, Social problems and their suitable solutions while keeping rights and duties of the citizen keeping in mind.

Students learning outcomes:

After successful completion of the course it is expected that student will be able to,

1. Understand the Fundamental Rights and Fundamental Duties of the Indian Citizen to instill morality, social values, honesty, dignity of life and their social Responsibilities.
2. Understand the National Emergency, Financial Emergency and their impact on Economy of the country.
3. Understand the distribution of powers and functions of judiciary system.
4. Understand the distribution of powers and functions of major functionaries systems of constitution in India.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA (M)	CSE (I)	Viva (V)	Term Work (TW)	
01	00	00	00	-	-	-	-	-	-

Detailed Syllabus

Sr No.	Title of the unit	Number of hours
1	Framing of the Constitution and Major Features	04
	Meaning and Importance of Constitution, Making of Indian Constitution, Constituent Assembly at Work, Preamble and Salient Features, Citizenship, Fundamental Rights, Directive Principles of State Policy, Fundamental Duties, Right to Equality under Article – 14, Right to certain Freedom under Article 19, Scope of the Right to Life and Personal Liberty under Article 21	
2	Union and State Legislatures	04
	Functions and Responsibilities of Union and states, Composition, Powers and Functions; Presiding Officers, Law Making Process, Committees of	

L. P. Singh

	Parliament, Decline of Legislatures, Reforms, Issues and challenges pertaining to the federal structure.	
3	Judiciary	04
	Supreme Court and High Courts – Composition, Jurisdiction and Functions; Judicial Activism, Powers and Procedure for Amendments in Indian Constitution, Emergency Provisions - National Emergency, President Rule, Financial Emergency	
4	Major Functionaries	03
	Union Public Service Commission, Election Commission, Planning Commission (NITI), Lok Sabha and Rajya Sabha (Composition, Power and Function), President and Prime Minister (Power, Functions and Positions), Governor, Chief Minister and Council of Ministers (Powers and Functions)	
	Total	15

Reference Books:

1. Constitutional Law of India, Dr. J.N. Pandey, Central Law Agency
2. Introduction to the Constitution of India, Durga Das Basu, LexisNexis.
3. Indian Constitutional Law, M.P. Jain, LexisNexis
4. V.N.Shukla's Constitution of India, Mahendra Pal Singh, Eastern Book Company
5. Constitutional Law – I Structure, Udai Raj Rai, Eastern Book Company





Subject Code: 01MA0104
Subject Name: Linear Algebra
B. Tech. Year: I, Semester: II

Objective: This subject aims to provide fundamentals of Linear Algebra using matrix operations and applications of Linear Algebra through Python . The topics delivered in this course are essential for the learners of Computer Engineering, Information Technology and Artificial Intelligence.

Credits Earned: 05 Credits

Course Outcome: After completion of this course, learner will be able to

- Understand concepts of Basis and Dimensions of Vector Space
- Identify the conversion of real life problems into system of linear equations and solve them through several matrix methods
- Apply the concepts of Eigen value and Eigen Vectors to Diagonalization and Quadratic form
- Apply Linear Algebra in Image Processing and Cryptography through Python

Pre-requisite of course: Basic Matrix Operations and Determinant.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ES E (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
3	2	-	5	50	30	20	25	25	150

K. P. Singh



Contents:

Units	Topics	Hours
1	Vector Space Vector space, Subspace, Linear Combination, Linear independence of vectors, Span, Basis and dimension of vector space, Row Space, Column Space, Null Space with the concept of Rank and Nullity	12
2	Matrix Algebra and System of Linear Equations Types of matrices, Row Echelon Form and Reduced Row Echelon Form of a matrix, Rank and Nullity of a matrix, Homogeneous and Non homogeneous system of Linear equations, Methodology of Gauss-elimination and Gauss-Jordan-elimination, Cramer's Rule, Solution of a system through L-U Decomposition, Consistency of a system of Linear equations, Computing inverse of a matrix by Row operations	12
3	Eigen Values and Eigen Vectors Eigen values and Eigen vectors of a matrix, Algebraic Multiplicity and Geometric Multiplicity, Similarity of two matrices and Diagonalization, Cayley - Hamilton theorem, Quadratic and Canonical forms	10
4	Applications of Linear Algebra through Python Basic Syntax of Python, Representation and operations on different types of Matrices through Python, Basics of Computer graphics and Image processing using matrix algebra, Basics of Cryptography (Coding-Decoding) through inverse of a matrix	08
Total		42 Hours

K. P. Singh

References:

1. Introduction to Linear Algebra with Application, Jim Defranza, Daniel Gagliardi, Tata McGraw-Hill
2. Elementary Linear Algebra, Applications version, Anton and Rorres, Wiley India Edition.
3. Linear Algebra, Ron Larson, Cengage Learning
4. Linear Algebra and its Applications, David C. Lay, Pearson Education
5. Numerical Python , Robert Johansson, Apress Publications

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
10%	20%	40%	10%	10%	10%


Head of the Department
Information Technology Engineering
Marwadi University

Course having focus on
Employability
Entrepreneurship
Skill development
during last five years in
M.Tech Electrical
Engineering
(2017-2022)

COURSE	FACULTY OF TECHNOLOGY
PROGRAM	MASTER OF TECHNOLOGY (ELECTRICAL ENGINEERING)
SEMESTER	1
COURSE TITLE	FUNDAMENTALS OF ELECTRIC AND HYBRID VEHICLES
COURSE CODE	01EV1102
COURSE CREDITS	4

Objective:

- 1 : The course is intended to impart skills related to development of embedded system for application specific to Electrical Engineering and related domains.

Course Outcomes: After completion of this course, student will be able to:

- 1 Differentiate among different types of Electric and Hybrid Vehicles and their configurations.
- 2 Decide suitable electric propulsion system for EV and HEV.
- 3 Determine the rating of energy source requirement of EV and HEV.
- 4 Analyse the role of auxiliaries in Electric and Hybrid Vehicles.

Pre-requisite of course:None

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
3	0	2	50	30	20	25	25

Contents : Unit	Topics	Contact Hours
1	Introduction to Electric Vehicles: Evolution of Electric Vehicles, EV configurations - Fixed and variable gearing, Single- and multiple-motor drives,, In-wheel drives, Parameters of EV systems - Weight and size parameters,, Force parameters, Energy parameters, Performance parameters	6
2	Hybrid EV systems: HEV configurations - Series hybrid system, , Parallel hybrid system, Series-parallel hybrid system,, Complex hybrid system, , Power flow control in Series hybrid system, Parallel hybrid system, , Power flow control in Series-parallel hybrid system,, Complex hybrid system, Case Study	6



Contents : Unit	Topics	Contact Hours
3	Electric Propulsion Systems: DC motor drives, , Induction motor drives,, Permanent-magnet motor drives, , Switched reluctance motor drives and their role in EV and HEV systems, Performance study of electrical propulsion system with respect to application.	10
4	Energy Sources in EV and HEV systems: Electrochemical Batteries – Terminology, Specific Energy, Specific Power, Energy Efficiency in Lead-Acid Batteries, Nickel based batteries, Lithium based batteries, , Requirement of Ultracapacitors – Features, Principle of operation and Performance of UC, , High Speed Flywheels – Operating Principles, Power capacity, Flywheel technologies, , , Hybrid Energy Storage Systems,, Fuel Cell – Principle of Operation and Performance	12
5	EV Auxiliary Systems: Battery characteristics and chargers, Battery indication, Temperature control unit, Power Steering Unit, Auxiliary Power Supply, Navigation system	8
Total Hours		42

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
1	Experiment List modelling a lead-acid battery cell using the Simscape, Observe the charging and discharging process, and plot graph of charging/load current, SOC, temperature, DOC, and terminal voltage of Li-ion battery in MATLAB Simscape, Analysing the effect of temperature on the performance of a Lithium-Ion battery model.	6
2	Experiment No. 05 modelling of the acceleration and performance simulation of EV using MATLAB script file	2
3	Experiment No. 06 Importing and Creating Driving Cycles using MATLAB script file used for range modelling of vehicle.	2
4	Experiment No. 07 Parallel hybrid transmission	2
5	Experiment No. 08 Series hybrid transmission	2
6	Experiment No. 09 EV battery cooling system	2
7	Experiment No. 10 Supercapacitor Charging and Discharging Behavior	2
8	Experiment No. 11 6 kW 45 Vdc Fuel Cell Stack	2
Total Hours		20

References:

- 1 C.C Chan, K.T Chau: Modern Electric Vehicle Technology, Oxford University Press Inc., New York 2001
- 2 Iqbal Hussein, Electric and Hybrid Vehicles: Design Fundamentals, CRC Press, 2003.
- 3 Mehrdad Ehsani, Yimi Gao, Sebastian E. Gay, Ali Emadi, Modern Electric, Hybrid Electric and Fuel Cell Vehicles: Fundamentals, Theory and Design, CRC Press, 2nd edition, 2009.
- 4 James Larminie, John Lowry, Electric Vehicle Technology Explained, Wiley, 2003

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking
5.00	10.00	15.00	30.00	20.00	30.00

Instructional Method:

- 1 The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc
- 2 The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and classroom.
- 3 Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory
- 4 Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory.

Supplementary Resources:

- 1 <https://nptel.ac.in/courses/108/103/108103009/>
- 2 <https://www.edx.org/course/electric-cars-technology>
- 3 https://www.youtube.com/channel/UC5PK4aUISYMfnEjig_fdGsg



Head of the Department
 Electrical Engineering
 Marwadi University

COURSE	FACULTY OF TECHNOLOGY
PROGRAM	MASTER OF TECHNOLOGY (ELECTRICAL ENGINEERING)
SEMESTER	2
COURSE TITLE	ADVANCED ELECTRICAL DRIVES
COURSE CODE	01PE1202
COURSE CREDITS	4

Objective:

- 1 To introduce basic concepts of modelling of machine in reference frame, vector control of induction motor, DTC of induction motor and advance motor drives for electric vehicle application.

Course Outcomes: After completion of this course, student will be able to:

- 1 Model the induction motor in different reference frames
- 2 Develop the vector control of induction motor drive for high performance application
- 3 Select the method for estimating the speed for sensor less vector control
- 4 Compare the Performance of Vector Control and Direct Torque Controlled Drives
- 5 Identify the role of open end winding and multiphase machine in heavy electric vehicle.

Pre-requisite of course: Basic Electrical Engineering, Electrical Machine, Power Electronics, Circuit and Network, Control System

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
3	0	2	50	30	20	25	25

Contents : Unit	Topics	Contact Hours
1	Dynamic Modelling of Induction Machine Transformation of variables, three phase to two phase transformation,, Static and rotating reference frames,, transformation relationships, voltage equation in arbitrary reference frame,, flux-linkage equation in arbitrary reverence frame, torque equation in arbitrary reference frame,, dynamic dq equivalent circuit of induction machine,	8



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Contents : Unit	Topics	Contact Hours
2	Vector Control of Induction Motor: Introduction to Field Oriented Control (FOC), Advantages of Vector control over scalar control,, DC Drive analogy, Principle of Vector control, Dynamic model of Induction machine in various reference frame,, principle of flux orientation control: Rotor flux orientation control & stator flux orientation control,, Direct or Feedback Vector Control,, Flux vector estimation: Voltage model & Current Model, Indirect or Feedforward Vector Control,, Parameter Sensitivity of the Indirect Vector Control.	10
3	Sensor-less Vector Control Introduction to sensor less vector control, Speed Estimation Methods: Slip calculation,, Direct synthesis from state equation, Model Referencing Adaptive System (MARS),, Speed Adaptive Flux Observer (Lemberger Observer),, Extended Kalman Filter (EKF), Slot Harmonics,, Injection of Auxiliary Signal on Salient Rotor	8
4	Direct Torque and Flux Control (DTC) Introduction of DTC, Comparison between FOC and DTC,, to SVPWM, Synthesis of Stator Voltage Space Vector,, Torque Expression with Stator and Rotor Flux,, Inverter voltage vectors and calculation of stator voltage space vector, Principle of Encoder less DTC Operation.	8
5	Open End Winding and Multiphase Machines for EV application Role of Multi-phase motor in heavy electric vehicles, Open end winding Induction Motor,, Multi-phase Induction Motor,, Multiphase PMSM, Multiphase BLDC Motor,, Converter for Multiphase machines,, Advantages of Multi-phase machine for Fault- tolerant operation of EV.	8
Total Hours		42

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
1	Experiment No - 01 To implement a change of variables (3 – f to 2 – f) in MATLAB simulation and to implement a change of variables (2 – f to 3 – f) in MATLAB simulation to implement a change of variables between two reference frames in MATLAB	2
2	Experiment No - 02 To implement the model of IM in arbitrary reference frame and evaluate the dynamic performance of IM during the sudden change in the load torque.	2
3	Experiment No - 03 To Simulate the Scalar Control of the Induction Machine and observe the dynamic performance of the system under the sudden change of load and command speed.	2

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
4	Experiment No - 04 To implement the voltage model for the estimation of flux vector for FOC of IM.	2
5	Experiment No - 05 To implement the current model for the estimation of flux vector for FOC of IM.	2
6	Experiment No - 06 To estimate the rotor speed of IM using the slip calculation method	2
7	Experiment No - 07 To estimate the rotor speed of IM using the direct synthesis from state equation method.	2
8	Experiment No - 08 To Simulate Field-Oriented Variable-Frequency Induction Motor Drive	2
9	Experiment No - 09 To simulate the Direct Torque Control technique for Induction Motor Drive	2
10	Experiment No - 10 To simulate the speed control of BLDC motor drive	2
Total Hours		20

Textbook :

- 1 Advanced electric drives: analysis, control, and modeling using MATLAB/Simulink., Mohan, Ned., John wiley & sons,, 2014

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking
5.00	10.00	15.00	30.00	20.00	20.00



Head of the Department
Electrical Engineering
Marwadi University

COURSE	FACULTY OF TECHNOLOGY
PROGRAM	MASTER OF TECHNOLOGY (ELECTRICAL ENGINEERIN)
SEMESTER	1
COURSE TITLE	ADVANCED ELECTRICAL MACHINES
COURSE CODE	01PEED1105
COURSE CREDITS	4

Objective:

- 1 To provide thorough knowledge of emerging field of advanced electrical machines with their construction, principle of operation and performance.

Course Outcomes: After completion of this course, student will be able to:

- 1 Distinguish between construction, working and characteristics of various advanced electrical machines.
- 2 Able to understand the principle of operation of control strategy for advanced electrical machines.
- 3 Application of different advanced electrical machines.

Pre-requisite of course:To Provide thorough knowledge of emerging field of advanced electrical machines with their construction. principle of operation and performance.

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
3	0	2	50	30	20	25	25

Contents : Unit	Topics	Contact Hours
1	Permanent Magnet DC Motors and Brushless DC Motors PMDC : Construction,, working Principle, Torque equation and equivalent circuit, Performance characteristics, Moving coil motors, printed circuit motor, shell type PMDC motor., BLDC : Classification of BLDC motors, construction, electronics commutation ,principle of operation, BLDC square wave motor,, types of BLDC , control of BLDC motor, Microprocessor based control, Sensor less control, Application.	
2	Permanent Magnet Synchronous Motors Construction,, Principle of operation, EMF equation of PMSM,, torque equation, phasor diagram, Circle diagram of PMSM,, control of PMSM , Application.	



Contents : Unit	Topics	Contact Hours
3	Servo Motors DC SERVO MOTORS Constructions,, Principle of operation, Voltage equation of a DC Servo characteristics,, Transfer function of DC motor,, Control of DC motor, AC SERVO MOTOR Construction and working ,, analysis of two phase AC servo motors, Torque speed characteristics of servo motor, transfer function	
4	Stepper Motors Variable reluctance stepper motor, Permanent magnet stepper motor, Hybrid stepper motor,, winding in stepper motor, torque equation, Characteristics of stepper motor, open and close loop operation of stepper motor, Application	
Total Hours		

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember / Knowledge			Analyze	Evaluate	Higher order Thinking
10%	15%	20%	25%	20%	10%



Head of the Department
Electrical Engineering
Marwadi University

Subject Code: 01PE1105

Subject Name: Artificial Intelligence Application in Power Electronics

MTech. Year – 1 (Semester – 1)

Objective: Artificial intelligence is gaining popularity every passing year because of its diverse applications in almost every engineering and social fields. Classical problems of detection, identification and creation can be tackled with the tools and techniques of artificial intelligence. Therefore, the objective of the subject to introduce learner to different AI techniques applied in power electronics application and their implementation.

Credits Earned: 4 Credits**Course Outcomes:** After completion of this course, student will be able to

- Solve the problems of power electronics and motor drives with the help of AI techniques.
- Design of ANN based systems for function approximation in signal estimation for vector drives.
- Design of Fuzzy based systems for control of power electronic converter-based system.
- Develop and evaluate control systems required in operations of power electronics equipment.

Pre-requisite of course: None**Teaching and Examination Scheme**

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
3	0	2	4	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Introduction <ul style="list-style-type: none"> • The AI Problems, The Underlying Assumption, Introduction to AI Techniques. • Difference between soft computing techniques and conventional computing systems. • Expert systems, Brief history of ANN and Fuzzy Logic. 	4



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 Electrical Engineering
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2	Artificial Neural Network <ul style="list-style-type: none"> • Introduction, • History of neural network research, • Basic concepts of Neural Networks, Human brain, • Model of Artificial Neuron, • Neural Network architectures, Perceptron, • Single layer feed forward Network, • Multi-layer feed forward network, • Recurrent networks (RNN), Feedback networks and Radial Basis Function Networks • Characteristics of NN, Learning Methods, LMS and Back Propagation Algorithm, training Examples of models 	10
3	Deep Learning <ul style="list-style-type: none"> • Convolution Neural Network (CNN): Neuron in human vision, Shortcoming of feature selection, Filters and feature maps, Full Description of Convolution neural network (CNN), Max pooling. • Principal component analysis • Autoencoder: Architecture, Sparsity. 	8
4	Fuzzy Logic <ul style="list-style-type: none"> • Introduction, Comparison between Fuzzy and crisp logic, • Fuzzy sets, Membership function, Basic fuzzy set operations, • Properties of Fuzzy set, fuzzy relations, • Fuzzy inference system, Mamdani, Sugeno, Fuzzy rule-based system, Defuzzification methods, Fuzzy Neural Networks 	8
5	Applications <ul style="list-style-type: none"> • ANN in space vector PWM wave synthesis for 2-level and multi-level converters. • Fuzzy logic based controller for speed control applications • Neuro-fuzzy control of drives. 	10
	Total Hours	40

References:

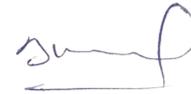
1. Neural Networks, Fuzzy logic and Genetic algorithms By S. Rajasekaran, G. A. Vijayalakshmi Pai PHI publication,
2. Principles of Soft computing, Wiley, 2nd Edition, S. N. Deepa and S. Sivanandam.
3. Introduction to Neural Networks using MATLAB 6.0, McGraw Hill Education, S. Sivanandam, S. Sumathi, S. N. Deepa.
4. Neural Network: A Comprehensive Foundation, second edition, Pearson Prentice Hall, Simon Haykin.
5. Deep learning with python: A Hands-on Introduction, Apress, Nikhil Ketkar
6. Fundamentals of Deep Learning, O' Reilly, Nikhil Baduma Nicholas Locasio.
7. Artificial intelligence techniques in power systems by Kevin Warwick, Arthur Ekwue Raj Agrawa



Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	10%	15%	30%	20%	30%



Head of the Department
Electrical Engineering
Marwadi University

COURSE	FACULTY OF TECHNOLOGY
PROGRAM	MASTER OF TECHNOLOGY (ELECTRICAL ENGINEERING)
SEMESTER	2
COURSE TITLE	CONTROL OF GRID CONNECTED CONVERTERS FOR PV AND WIND SYSTEMS
COURSE CODE	01PE1205
COURSE CREDITS	4

Objective:

- 1 Students will be able to design and implement control techniques for grid connected System matching with standards.

Course Outcomes: After completion of this course, student will be able to:

- 1 Design control technique for grid connected PV & WT converter.
- 2 Implement Grid synchronization technique for renewable energy system
- 3 Design filters for Grid connected converters.
- 4 Design Energy Harvesting system for renewable energy sources.
- 5 To Evaluate grid codes for grid connected system.

Pre-requisite of course:NA

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
3	0	2	50	30	20	25	25

Contents : Unit	Topics	Contact Hours
1	Grid requirement for PV and WT system Introduction, International Regulations, Response to Abnormal Grid Conditions,, Power Quality. Grid Code Evolution for WT system,, Frequency and Voltage Deviation under Normal Operation,, Active Power Control in Normal Operation,, Reactive Power Control in Normal Operation	6



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Contents : Unit	Topics	Contact Hours
2	Grid Synchronization for Single-Phase and Three-Phase Power Converters Grid Synchronization for Single-Phase Power Converters: Grid Synchronization Techniques for Single-Phase Systems,, Phase Detection Based on In-Quadrature Signals,, Some PLLs Based on In-Quadrature Signal Generation., Grid Synchronization for Three-Phase Power Converters: The Three-Phase Voltage Vector under Grid Faults,, The Synchronous Reference Frame PLL under Unbalanced and Distorted Grid Conditions,, The Decoupled Double Synchronous Reference Frame PLL (DDSRF-PLL),, The Double Second- Order Generalized Integrator FLL (DSOGI-FLL)	8
3	Introduction to control strategy of Converters with different filter configurations Filter Topologies, Design Considerations, Practical Examples of LCL Filters and Grid Interactions,, Resonance Problem and Damping Solutions, Nonlinear Behavior of the Filter., Converter configurations, Different current Control techniques– PI control, PR control, HCC,, Model Predictive control. Power flow control methods for grid connected inverters like Voltage Oriented Control (VOC) & Direct Power Control (DPC)	12
4	MPPT Control for PV and WT system The Dynamic Optimization Problem, Fractional Open-Circuit Voltage and Short- Circuit Current,, MPPT Control Methods, The Perturb and Observe Approach,, Improvements of the P&O Algorithm, The Incremental Conductance Method,, MPPT Efficiency, Limitation of standard MPPT. Charge controller for off grid PV system	6
5	Grid Converter Control for Renewable Energy interface Model of the Converter: Mathematical Model of the L-Filter Inverter,, AC Voltage and DC Voltage Control: Management of the DC Link Voltage,, Cascaded Control of the DC Voltage through the AC Current,, Tuning Procedure of the PI Controller, PI-Based Voltage Control,, Voltage Oriented Control and Direct Power Control: Synchronous Frame VOC: PQ Open-Loop Control,, Synchronous Frame VOC: PQ Closed-Loop Control, Direct Power Control, Stand-alone.	8
Total Hours		40

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
1	Experiment No - 01 To analyze the THD in six step three phase inverter.	2
2	Experiment No - 02 To simulate grid synchronization for single phase inverter.	2



Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
3	Experiment No - 03 To observe the performance of three phase SRF-PLL in balanced and unbalanced grid voltage condition	2
4	Experiment No - 04 To design LCL filter for grid connected converter.	2
5	Experiment No - 05 To simulate current control of inverter using PI controller.	2
6	Experiment No - 06 To simulate grid tied inverter control using hysteresis current control.	2
7	Experiment No - 07 To obtain PV and IV curve of solar panel.	2
8	Experiment No - 08 To Simulate the MPPT control of DC-DC converter.	2
9	Experiment No - 09 To develop a mathematical model of L-filter inverter	2
10	Experiment No - 10 To familiarize with grid requirements specified by IEEE 1547.	2
Total Hours		20

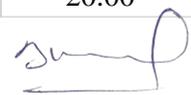
Textbook :

- 1 Grid Converters for Photovoltaic and Wind Power systems,, IEEE,, A John Wiley and Sons, Ltd, Publication, NA
- 2 Power Electronics and Control Techniques for Maximum Energy Harvesting in Photovoltaic systems,, Taylor and Francis Group,, CRC Group, NA
- 3 Photovoltaic Power System: Modeling, Design, and Control, Weidong Xiao,, Wiley Publication,, NA
- 4 Modern MPPT Techniques for Photovoltaic Energy Systems, Ali M. Eltamaly, Almoataz Y. Abdelaziz,, Springer International Publishing,, NA

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking
5.00	10.00	15.00	30.00	20.00	20.00



Head of the Department
Electrical Engineering
Marwadi University

COURSE	FACULTY OF TECHNOLOGY
PROGRAM	MASTER OF TECHNOLOGY (ELECTRICAL ENGINEERING)
SEMESTER	2
COURSE TITLE	DIGITAL CONTROL OF POWER ELECTRONIC SYSTEMS
COURSE CODE	01PE1201
COURSE CREDITS	4

Objective:

- 1 To give a basic knowledge of the digital control techniques applied to power converters, and to raise the interest for discrete time control, stimulating new developments in its application to switching power converters

Course Outcomes: After completion of this course, student will be able to:

- 1 Compare the discrete control and continuous control of converters.
- 2 Analyze and compare various digital control techniques.
- 3 Apply various design approach for digital controller design.
- 4 Implement the basic digital current control of Power electronic converter.

Pre-requisite of course:NA

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
3	0	2	50	30	20	25	25

Contents : Unit	Topics	Contact Hours
1	Introduction to Digital Control Why Digital control, Advantages of Digital Control, Disadvantages of Digital Control and New Trends,, Relationship of continuous Time Signals and discrete Samples,, Structure of continuous control and discrete control,, Review of continuous control, Continuous Vs. Discrete relationships.	4
2	Digital control Design Approach Digital via Emulation, Direct Digital Approach,, Root Locus Approach, Bode Plot or Frequency Response Approach,, Deadbeat Control, Raggazini's Controller Design Method,, State-Space Design: State Feedback Design, State Estimator Design.	12

Contents : Unit	Topics	Contact Hours
3	Digital Current Mode control Requirements of the Digital Controller, Basic Digital Current Control Implementations,, The Proportional Integral Controller: Discretization Strategies,, Effects of the Computation Delay, Derivation of a Discrete Time Domain Converter, Dynamic Model and Minimization of the Computation Delay,, The Predictive Controller, Space Vector Modulation Based Controllers,, Rotating Reference Frame Current Controller, Design of voltage controller.	12
4	Digital Control Techniques Digital Current Mode Control,, Predictive Control, Sliding Mode Control, Space Vector Control, Fuzzy Control,, Pulse Train Control Method	8
5	Applications of Digital Control PWM generation Techniques: Pulse Width Modulation,, Naturally Sampled PWM, Regularly Sampled PWM and Randomly Sampled PWM,, Motor Drives, Power Factor Correction,, Standby Power Supply with Active Power Filter Ability,, Distributed Power Systems, DC-DC Converters, Electronic Ballasts.	8
Total Hours		44

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
1	Experiment No .01 Compare and Analyse bode plots with different dynamic system.	2
2	Experiment No .02 Plot the root locus of the transfer function using MATLAB.	2
3	Experiment No .03 Simulate closed loop control of dc-to-dc converter using PI controller.	2
4	Experiment No .04 Simulate & observe the voltage control mode of buck converter using MATLAB.	2
5	Experiment No .05 Observe current control mode of buck converter with different duty cycle.	2
6	Experiment No .06 Simulate & observe the performance of voltage control mode of boost converter.	2
7	Experiment No .07 To Implement current control mode of boost Converter in simulation and observe its performance.	2
8	Experiment No .08 To Implement current control mode of buck-boost Converter in simulation and observe its performance.	2

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
9	Experiment No .09 Simulate & observe the performance of current control mode of buck-boost Converter	2
Total Hours		18

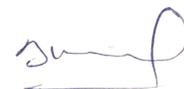
Textbook :

- 1 Digital Control in Power Electronics, Simone Buso and Paolo Mattavelli,, Morgan & Claypool Publishers., NA
- 2 Digital Signal Processing in Power Electronics Control Circuits, Krzysztof Sozanski,, Springer London Heidelberg New York., NA
- 3 Integrated Power Electronic Converters and Digital Control, Ali Emadi, Alireza Khaligh, Zhong Nie, Young Joo Lee, CRC Press, Taylor & Francis Group., NA
- 4 Digital control applications, Hemchandra Madhusudan Shertukde,, University of Hartford, CT, USA., NA

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking
5.00	10.00	25.00	30.00	20.00	10.00



Head of the Department
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COURSE	FACULTY OF TECHNOLOGY
PROGRAM	MASTER OF TECHNOLOGY (ELECTRICAL ENGINEERING)
SEMESTER	2
COURSE TITLE	DIGITAL CONTROL SYSTEM
COURSE CODE	01PEED0202
COURSE CREDITS	4

Objective:

- 1 • This course explores the fundamentals of digital control systems. Student are able to:
 - (1) Understanding and predicting system behaviour.
 - (2) Design and analysis of optimal control systems.

Course Outcomes: After completion of this course, student will be able to:

- 1 Develop mathematical models for controlling system behavior of a discrete-time control system.
- 2 Evaluate discrete-time control systems on the account of stability.
- 3 Analyze discrete time system/control systems using Z-transform.
- 4 Apply digital control systems using stat-space concept to linear systems as well as nonlinear systems.
- 5 Learn fundamentals and applications of digital control for multidisciplinary engineering problems.
- 6 Understand the fundamentals of intelligent/smart control systems used for industrial automation.

Pre-requisite of course: This course explores the fundamentals of digital control systems. Student are able to: (1) Understanding and predicting system behaviour. (2) Design and analysis of optimal control systems.

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
3	0	2	50	30	20	25	25

Contents : Unit	Topics	Contact Hours
1	Introduction to digital control Introduction, Discrete time system representation, , Mathematical modeling of sampling process, Data reconstruction	



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Contents : Unit	Topics	Contact Hours
2	Modelling discrete-time systems by pulse transfer function Revisiting Z-transform, Mapping of s-plane to z-plane, Pulse transfer function, Pulse transfer function of closed loop system, , Sampled signal flow graph	
3	Stability analysis of discrete time systems Jury stability test, Stability analysis using bi-linear transformation	
4	Time response of discrete systems Transient and steady state responses, Time response parameters of a prototype second order system	
5	Design of sampled data control systems Root locus method, Controller design using root locus, Root locus-based controller design using MATLAB, Nyquist stability criteria, Bode plot, Lead compensator design using Bode plot, Lag compensator design using Bode plot, Lag-lead compensator design in frequency domain	
6	Deadbeat response design Design of digital control systems with deadbeat response, Practical issues with deadbeat response design, Sampled data control systems with deadbeat response	
7	Discrete state space model Introduction to state variable model, Various canonical forms, Characteristic equation, state transition matrix, Solution to discrete state equation	
8	Controllability, observability and stability of discrete state space models Controllability and observability, Stability, Lyapunov stability theorem	
9	State feedback design Pole placement by state feedback, Set point tracking controller, Full order observer, Reduced order observer	
10	Output feedback design Output feedback design: Theory, Output feedback design: Examples	
11	Introduction to optimal control Basics of optimal control, Performance indices, Linear Quadratic Regulator (LQR) design	
Total Hours		

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
1	Ex 01 Modelling of Continuous and Discrete time system using MATLAB	
2	Ex 02 Analysis of effect of sampling time in z-transform plotting Pole-Zeros using MATLAB	

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
3	Ex 03 Time response analysis of control system in Continuous and Discrete domain using MATLAB	
4	Ex 04 Root Locus analysis of Discrete Control System in Z-Domain using MATLAB	
5	Ex 05 State space representation of Discrete System using MATLAB	
6	Ex 06 Find stability of discrete time state space model using Eigen value analysis and plot its state response using MATLAB/Simulink	
7	Ex 07 Design state observer for the discrete time state space model using MATLAB/Simulink .	
8	Ex 08 Implement discrete PID controller for the discrete time state space model using MATLAB/Simulink.	
9	Ex 09 Obtain phase trajectory of any feedback control system using MATLAB /simulink	
10	Ex 10 Analyze the effect of nonlinear element on sinusoidal input using MATLAB /simulink	
Total Hours		

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking
5.00	10.00	25.00	30.00		10.00



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COURSE	FACULTY OF TECHNOLOGY
PROGRAM	MASTER OF TECHNOLOGY (ELECTRICAL ENGINEERING)
SEMESTER	2
COURSE TITLE	DSP BASED CONTROL OF EV CONVERTERS
COURSE CODE	01EV1208
COURSE CREDITS	2

Objective:

- 1 Student will be able to develop algorithms in the DSP controller for control of Power Electronics based systems

Course Outcomes: After completion of this course, student will be able to:

- 1 Develop Program to control different General Purpose I/O peripherals (Apply)
- 2 Differentiate among the applications of peripherals of DSP controller(Analyze).
- 3 Develop a program to Acquire signal through ADC (Apply).
- 4 Design an algorithm for Power Electronics based system and control of Motor(Create).

Pre-requisite of course:NA

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
0	0	4	0	0	0	50	50

Contents : Unit	Topics	Contact Hours
1	Introduction Interfacing of I/O devices, Timer/Counter operation and their role in power electronic control,, Interrupts operation and their role in control, Introduction to TMS320F28335 DSP controller, architecture,, peripherals, IQ math and use of DSP controller for IQmath, Boot ROM configuration	8



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Contents : Unit	Topics	Contact Hours
2	DSP controller and peripherals General Purpose Input Output pins, Introduction, Multiplexing of I/O pins, Input qualification, Use of GPIO for control for converter, Analog to Digital Conversion, Introduction, Internal structure of ADC in TMS320F28335 Auto conversion Sequencer Principle of Operation, Sequential Sampling Mode,, Simultaneous Sampling Mode, Uninterrupted Autosequenced Mode, ADC Clock Prescaler, ADC Calibration, Offset Error Correction, Event Manager:, Operation of Timer in various modes, ePWM Units and HRPWM and their operation, eCAP Capture unit, eQEP circuit and their operation and other feature of Event Manager, Communications Peripherals:, Serial Communications Interface, Serial Peripheral Interface, Inter-Integrated Circuit (I2C) Module	20
3	PWM Control of Power Electronic Converter Implementation of DSP algorithm in buck, boost and buck-boost converters, interfacing circuits, Control of VSI in six-step mode,, implementation of various ePWM schemes with DSP controller, Implementation of SVPWM algorithm using ePWM unit	12
4	Digital Motor Control Algorithms Development of Clarke and Park Transformations, Three Phase Voltage calculation module,, Ramp control module, Volt per Hertz Profile, Speed Calculator based on Frequency and Period Measurement, SVPWM generation	16
Total Hours		56

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
1	Experiment No. 01 Write a program to toggle I/O pins of DSP controller	4
2	Experiment No. 02 Write a program to read ADC in sequential sampling mode and analyze the effect of ADC Prescaler on ADC reading	4
3	Experiment No. 03 Write a program to read ADC in simultaneous sampling mode with ADC calibration	4
4	Experiment No. 04 Write a program to operate timer in Up, Down and Up-Down mode and generate PWM of fixed duty cycle.	8
5	Experiment No. 05 Develop a program for sine PWM scheme using sine table of Boot ROM space	4
6	Experiment No. 06 Write a program to calculate the duty cycle and/or frequency of the signal using eCAP unit	4



Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
7	Experiment No. 07 Write a program to perform exchange a byte using serial communication	4
8	Experiment No. 08 Write a program to operate Serial Peripheral Interface (SPI) in loopback mode	4
9	Experiment No. 09 Write a program to generate Pulses for DC-DC converter in High Resolution PWM mode	4
10	Experiment No. 10 Write a program to calculate the speed of the motor using eCAP/eQEP module.	8
11	Experiment No. 11 Write a program to transform three phase quantities to two phase quantities using Clarke and Park Transformation	4
Total Hours		52

Textbook :

- 1 'TMS320F28335 DSP Controller,, Texas , Texas Instruments,, 2018

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking
5.00	10.00	15.00	30.00	20.00	20.00



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COURSE	FACULTY OF TECHNOLOGY
PROGRAM	MASTER OF TECHNOLOGY (ELECTRICAL ENGINEERING)
SEMESTER	2
COURSE TITLE	EV BATTERIES & CHARGING SYSTEM
COURSE CODE	01EV1203
COURSE CREDITS	4

Course Outcomes: After completion of this course, student will be able to:

- 1 Elaborate various grid connected converter for EV battery charging.
- 2 Analyze impact of battery charging converter on power system
- 3 Analyse the operation of various resonant converters for EV charging system
- 4 Develop battery charger for an EV

Pre-requisite of course:Basics of Electrical Engineering (or equivalent subject)

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
3	0	2	50	30	20	25	25

Contents : Unit	Topics	Contact Hours
1	Unit - I - LLC Resonant Converters Overview of series, parallel and series-parallel resonance converter, Half bridge LLC resonant converter: topology, operation and control,, Full bridge LLC resonant converter: topology, operation and control,, design of LLC resonant converter	
2	Unit - II - Dual Active Bridge (DAB) Converter Basic Principle of DAB Converters, Control of Voltage-Fed DAB Converters, Control of Current-Fed DAB Converters, Key Issues, Unified Boundary Trapezoidal Modulation Control,, A Current-Fed Dual Active Bridge DC–DC Converter Using Dual PWM Plus Double Phase Shifted Control.	
3	Unit - III - Wireless Power Transfer (WPT) for Electric Vehicles (EVs): Basics of WPT Technology, Modelling the WPT System, WPT for EV Charging, Design Challenges and Optimization Candidates, Optimization of Resonator Design, Future Directions and Trends	



Contents : Unit	Topics	Contact Hours
4	Unit - IV - Battery Charger Impact on Grid 1-phase fully controlled converter, 3-phase fully controlled converter, 1 phase PWM AC-DC converter,, strategy used for power factor correction, Harmonics Impact, Harmonics Compensation, Current Demand Impact and current demand minimization.	
5	Unit - V - Charging Infrastructures Introduction, Understanding charging economics, Commercial charging and pricing models, Load managements for large scale EV integration	
Total Hours		

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
1	Experiment No. - 01 Simulation of Battery Charging by using non isolated DC – DC converter	
2	Experiment No. - 02 Simulation of Battery Charging by using AC – DC converter	
3	Experiment No. - 03 Simulation of LLC resonant converter	2
4	Experiment No. - 04 Simulation of DAB Converter	2
5	Experiment No. - 05 Bidirection DC-DC converter with grid integration	2
6	Experiment No. - 06 To simulate and analyse single phase half-wave and full-wave uncontrolled and controlled rectifier with and without the filter for battery charging application.	2
7	Experiment No. - 07 To simulate and analyse a full bridge LLC resonant converter for battery charging application.	2
8	Experiment No. - 08 To analyze the Effect of input voltage variation of LLC resonant converter.	2
Total Hours		12

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation

Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking
5.00	10.00	15.00	30.00	20.00	20.00

Supplementary Resources:

- 1 https://www.iitg.ac.in/e_mobility/WPT
- 2 <https://www.powerelectronics.com/markets/automotive/article/21864097/wireless-charging-of-electric-vehicles>
- 3 <https://www.plexim.com/support/application-examples/1506>
- 4 <https://www.st.com/en/applications/power-supplies-and-converters/llc-resonant-converter.html>
- 5 <https://www.koreascience.or.kr/article/JAKO201635551192295.page>



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COURSE	FACULTY OF TECHNOLOGY
PROGRAM	MASTER OF TECHNOLOGY (ELECTRICAL ENGINEERING)
SEMESTER	2
COURSE TITLE	EV STANDARDS & TESTING
COURSE CODE	01EV0202
COURSE CREDITS	3

Objective:

- 1 Main objective of subject is to introduce electric vehicle standards & testing procedure

Course Outcomes: After completion of this course, student will be able to:

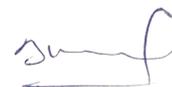
- 1 Understand different standards related to electric vehicles
- 2 Understand type testing of electric vehicle
- 3 Understand charging standard, retro-fitment standards etc.

Pre-requisite of course: introduce electric vehicle standards & testing procedure

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
3	0	0	50	30	20	0	0

Contents : Unit	Topics	Contact Hours
1	EV Standards Electric Power Train Vehicles-Construction and Functional Safety Requirements , Measurement of Electrical Energy Consumption, Method of Measuring the Range, Measurement of Net Power and The Maximum 30 Minute Power, CMVR Type Approval for Electric Power Train Vehicles	
2	Charger Standard Electric Vehicle Conductive AC Charging System, Electric Vehicle Conductive DC Charging System	
3	HEV Standard CMVR Type Approval for Hybrid Electric Vehicles, CMVR Type Approval for Hybrid Electric Vehicles of M and N Category with GVW > 3500 kg	



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Contents : Unit	Topics	Contact Hours
4	Retrofit Standards CMVR Type Approval of Hybrid Electric System Intended for Retrofitment on Vehicles of M and N Category having GVW \leq 3500 kg and GVW $>$ 3500 kg., CMVR Type Approval of Electric Propulsion Kit Intended for Conversion of Vehicles for Pure Electric Operation	
5	Safety Requirement of Traction Battery Battery Operated Vehicles -Safety Requirements of Traction Batteries	
6	Government Policies National Electric Mobility Mission Plan 2020 (NEMMP2020), Faster Adoption and Manufacture of (Hybrid and) Electric Vehicles) – FAME Niti Aayog Report on Transforming Mobility	
Total Hours		

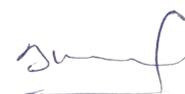
Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking
5.00	10.00	25.00	30.00	20.00	10.00

Supplementary Resources:

- 1 <https://araiindia.com>
- 2 <https://emobility.araiindia.com>
- 3 <https://dhi.nic.in/writereaddata/Content/NEMMP2020.pdf>
- 4 <https://niti.gov.in/content/national-mission-transformative-mobility-and-battery-storage>
- 5 https://niti.gov.in/writereaddata/files/document_publication/NITI-RMI_India_Report_web-v2.pdf



Head of the Department
 Electrical Engineering
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COURSE	FACULTY OF TECHNOLOGY
PROGRAM	MASTER OF TECHNOLOGY (ELECTRICAL ENGINEERING)
SEMESTER	2
COURSE TITLE	HIGH POWER CONVERTERS FOR AC DRIVES
COURSE CODE	01PE1207
COURSE CREDITS	4

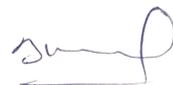
Course Outcomes: After completion of this course, student will be able to:

Pre-requisite of course: Advance Power Electronics

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
3	0	2	50	30	20	25	25

Contents : Unit	Topics	Contact Hours
1	Multi-pulse converter & Phase shifting transformer Concept & Need of multi pulse, Analysis of multi pulse diode rectifier, Types of multi pulse diode rectifier (12, 18, 24 pulse), Multi pulse SCR rectifiers (12, 18, 24 pulse), Need of phase shifting transformer,, Phase shifting transformer configurations (Y-Z & ?-Z configurations), & its analysis to determine phase shift & current waveforms, Harmonic current cancellation, Application of multi pulse converters.	8
2	Multilevel Inverters & Its Control schemes Review of two level inverters, review of modulation techniques for 2-level inverters concept & need of multilevel inverters,, Types of multilevel inverters, Cascaded multilevel inverter, Operation with equal and un equal DC source, Carrier based PWM schemes, Diode clamped MLI, Space vector modulation (for 3-level & higher levels), Neutral point voltage control, Carrier based PWM techniques for higher level., Other multilevel VSI, Concept of neutral point clamped inverters, NPC/H-bridge inverter, Multilevel flying capacitor inverters., Features and comparison of MLI configuration, Applications of MLI's.	12



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Contents : Unit	Topics	Contact Hours
3	PWM Current Source Inverters Review of current source inverter, PWM current source inverter configuration,, Modulation techniques (Trapezoidal modulation, Selective harmonic elimination, Space vector modulation), Parallel current source inverters (for high power ratings), Space vector modulation, Load commutated inverter (LCI)	6
4	Matrix Converter Fundamentals of matrix converter technology, Conventional matrix converter, Bi- directional switch topologies,, Modulation techniques for matrix converter, Performance and control of matrix converter,, commutation and protection issues, Concept of direct AC-AC frequency converter and Indirect AC-AC frequency conversion with DC link storage	8
5	Back to Back Converters & Its Control Schemes Single phase & three phase full bridge converter configurations, PWM strategy & control approach,, Power Analysis, DC link capacitor voltage & Capacitor bank design, Topology with component count reduction,, Series and parallel connection of converters, Control strategy, Other Back-To-Back converters.	8
Total Hours		42

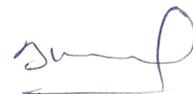
Textbook :

- 1 “High Power Converters and AC Drives”, Bin Wu, John Willey & sons, Inc., 2006
- 2 “Power Electronic Converter Harmonics – Multi pulse Methods for Clean Power”, Derek A. Paice, IEEE Press, 1996
- 3 “Advanced Power Electronics Converters - PWM Converters Processing AC Voltages”, Euzeli Cipriano dos Santos Jr. and Edison Roberto Cabral Da Silva, Willey – IEEE Press, 2014
- 4 “Power Electronics Handbook”, Muhammad H. Rashid, Elsevier, 3rd ed., 2011

Suggested Theory Distribution:

The suggested theory distribution as per Bloom’s taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking
5.00	10.00	15.00	30.00	20.00	20.00



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COURSE	FACULTY OF TECHNOLOGY
PROGRAM	MASTER OF TECHNOLOGY (ELECTRICAL ENGINEERING)
SEMESTER	1
COURSE TITLE	INDUSTRIAL DRIVES
COURSE CODE	01PE1102
COURSE CREDITS	4

Objective:

- 1 To introduce basic concepts of load and drive interaction, speed control concepts of ac and dc drives, speed reversal, regenerative braking aspects, design methodology

Course Outcomes: After completion of this course, student will be able to:

- 1 Appreciate significance of speed-torque characteristics of electrical drives and methods to modify the characteristics
- 2 Evaluate the performance of AC Voltage Controller fed induction motor drive.
- 3 Implement VSI fed v/f controlled AC motor drive
- 4 Explain concept of Field Oriented Control of an induction motor.
- 5 Determine the speed control methods of synchronous motor based on application.
- 6 Analyse the general – and special-Purpose diode circuits

Pre-requisite of course:Electrical Machines, Power Electronics

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
3	0	2	50	30	20	25	25

Contents : Unit	Topics	Contact Hours
1	Basics of Power Electronic Drive system and components. Basics of Power Electronic Drive system and components., Different types of loads, shaft-load coupling systems, Stability of power electronic drive.	6
2	Chapter - 2 Conventional methods of D.C. motor speed control, , single phase and three phase converter fed D.C motor drive., . Four quadrant operation using dual converter fed DC motor drives.	8
3	Chapter - 3 Chopper fed drives, input filter design, Braking and speed reversal of DC motor drives using choppers, Multiphase choppers.	6

Contents : Unit	Topics	Contact Hours
4	Chapter - 4 Conventional methods of induction motor speed control., Solid state controllers for Stator voltage control., soft starting of induction motors., Rotor side speed control of wound rotor induction motors., Voltage source and Current source inverter fed induction motor drives, Principle of Vector Control.	12
5	Chapter - 5 Speed control of synchronous motors, load commutated inverter drives., switched reluctance motors and permanent magnet motor drives, Field Oriented Control of PMSM.	10
Total Hours		42

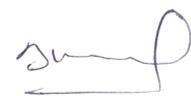
Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
1	Experiment List Operation of separately excited DC motor under varying load torque condition, Simulation of single phase fully controlled converter fed DC drive, Simulation of three phase fully controlled converter fed DC drive, Simulation of Chopper fed separately excited DC drive, Simulation of stator voltage control of induction motor using AC voltage controller, Simulation of rotor resistance control of wound rotor induction motor., Verification of V/f profile of induction motor using variable frequency drive., Verification of torque speed characteristics of variable frequency drive.	16
Total Hours		16

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking
5.00	10.00	15.00	30.00	20.00	30.00



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COURSE	FACULTY OF TECHNOLOGY
PROGRAM	MASTER OF TECHNOLOGY (ELECTRICAL ENGINEERING)
SEMESTER	1
COURSE TITLE	POWER ELECTRONIC CONVERTERS IN EV
COURSE CODE	01EV1108
COURSE CREDITS	4

Objective:

- 1 The objective of this course is to equip students with essential knowledge in the field of power electronics and advancements in the power electronic converters for electric and hybrid vehicles.

Course Outcomes: After completion of this course, student will be able to:

- 1 Differentiate between operational behaviour of IGBT and MOSFET and applications of devices. (Analyze)
- 2 Analyze performance parameters of rectifiers. (Analyze)
- 3 Evaluate different PWM schemes of Voltage Source Inverters. (Evaluate)
- 4 Design different switched mode power supplies. (Create)
- 5 Develop a typical driver for power electronic switch. (Apply)

Pre-requisite of course:Power Electronics

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
3	0	2	50	30	20	25	25

Contents : Unit	Topics	Contact Hours
1	Power Semiconductor Switches: Desired Characteristics in Controllable Switches, Comparison of Controllable Switches, , Power MOSFET – Structure, Characteristics, Operation, Switching characteristics, Operation Limitation and Safe Operating Area, , IGBT – Structure, Characteristics, Latchup in IGBT, Operation, Switching characteristics, Operation Limitation and Safe Operating Area, , Comparison of Power MOSFET and IGBT, SiC MOSFET	4
2	Gate Drive Circuit and Snubbers: Electrically Isolated Drive Circuits , Optocoupler Isolated Drive Circuits, Transformer-Isolated Drive Circuits, , Blanking Times for Bridge Circuits, Circuit Layout Considerations for Power Converter,, Reduction of Stray Inductance in Bus Bars	6

Contents : Unit	Topics	Contact Hours
3	AC/DC Rectifiers: Operation of Single-Phase Uncontrolled Rectifier, , Performance Parameters of controlled converters – Input Displacement Factor, Distortion Factor, Power Factor and Total Harmonic Distortion, Power Factor Improvement Techniques, , Multipulse Converters	8
4	Pulse Width Modulated Inverters: Concept of Switched Mode Inverters, Pulse-Width-Modulated Switching Scheme, , Square-Wave Switching Scheme, PWM Of Single-Phase Inverters, PWM of Three Phase Inverter,, Effect of Blanking Time on Voltage in PWM Inverters, , Concept of Zero Vector in PWM, Space Vector PWM, , Hysteresis Current Control, Rectifier Mode of Operation of PWM Inverter, Matrix Converter – Principle, Operation, Modulation Schemes of Matrix Converter	10
5	Switched Mode Power Supply Step-Down (Buck) Converter, , Step-up (Boost) Converter,, Buck-Boost Converter, , Cuk dc-dc Converter, , Full Bridge dc-dc Converter, Isolated Converters - Forward Converter, Flyback Converter	8
6	Modelling and Control of Power Electronic Converters Types of models – Switched model, average model, large signal and small signal model,, Switched model of power electronic converter, , Classical average model of converter,, generalized average model,, Control Principles of Power Electronic Converters, , Linear Control Approaches for Power Converters – A case study	6
Total Hours		42

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
1	Experiment List Obtain dynamic characteristics of IGBT under different loading conditions., Design an opto-coupler based driver circuit for IGBT/MOSFET, Analyze the effect of snubber in the operation of IGBT based converter, Evaluate performance parameters of three phase converter with RL load., Simulate a 12-pulse converter and compare the performance with 6-pulse converter., Compare the performance of unipolar PWM and bipolar PWM scheme in single phase VSI., Develop sine PWM scheme for Three Phase VSI., Analyze the operation of Buck Converter under CCM and DCM., Analyze the operation of Boost Converter under CCM and DCM., Design an inductor/transformer for switch mode power supply.	20
Total Hours		20



References:

- 1 Mohan, Ned, and Tore M. Undeland. Power electronics: converters, applications, and design. John Wiley & Sons, 2007.
- 2 Rashid, Muhammad H., ed. Power electronics handbook. Butterworth-Heinemann, 2017.
- 3 Bose, Bimal K. Modern power electronics and AC drives. Vol. 123. Upper Saddle River, NJ: Prentice hall, 2002.
- 4 Mohan, Ned. Power electronics: a First Course. Wiley, 2011.
- 5 Sen, Paresh Chandra. Thyristor DC drives. John Wiley & Sons, 1981.

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

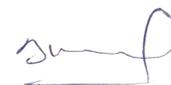
Distribution of Theory for course delivery and evaluation					
Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking
5.00	10.00	15.00	30.00	20.00	30.00

Instructional Method:

- 1 The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- 2 The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and classroom.
- 3 Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory
- 4 Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory.

Supplementary Resources:

- 1 [https://nptel.ac.in/content/storage2/courses/108105066/PDF/L-1\(SSG\)\(PE\)%20\(\(EE\)NPTEL\).pdf](https://nptel.ac.in/content/storage2/courses/108105066/PDF/L-1(SSG)(PE)%20((EE)NPTEL).pdf)
- 2 <https://nptel.ac.in/courses/108/105/108105066/>
- 3 <https://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-334-power-electronics-spring-2007/>
- 4 <https://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-334-power-electronics-spring-2007/lecture-notes/chp1.pdf>



Head of the Department
 Electrical Engineering
 Marwadi University

COURSE	FACULTY OF TECHNOLOGY
PROGRAM	MASTER OF TECHNOLOGY (ELECTRICAL ENGINEERING)
SEMESTER	2
COURSE TITLE	POWER ELECTRONIC ENERGY CONVERSION FOR SUSTAINABLE ENERGY SYSTEMS
COURSE CODE	01PE1204
COURSE CREDITS	4

Course Outcomes: After completion of this course, student will be able to:

Pre-requisite of course:Power Electronics, Electrical Machine, Alternative energy sources.

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
3	0	2	50	30	20	25	25

Contents : Unit	Topics	Contact Hours
1	Fundamentals of Power Electronics Power Semiconductor Devices, Electronic switches capable of handling high voltage,, Power Electronic Converter Topologies, Control of Power Converters	6
2	Photovoltaic Power Electronics PV Energy Basics, Power Curves, Determination of PV Panel Parameters,, Temperature Effects, Parameters of PV Cell Associations,, PV System Configurations, Power Electronic Topologies in PV Systems,, Recent Developments in Multilevel Inverter-Based PV Systems,, Grid- Connected PV System Configurations, Maximum Power Point Tracking	10
3	Wind Power Generation Wind Energy Basics, Power Electronics for Wind Power, Power Converters for Wind Turbines,, Controls for Power Electronics for Wind Power, AC Voltage Controllers, Interleaved Boost Converters,, Two-Level Voltage-Source Converters, Three-Level Neutral Point Clamped Converters,, Three- Level Neutral Point Clamped Converters, PWM Current Source Converters,, Control of Grid-Connected Inverter, Emerging Reliability Issues for Wind Power System	10

Contents : Unit	Topics	Contact Hours
4	Doubly Fed Induction Generator Based WECS Introduction, Super-and Sub synchronous Operation of DFIG,, Unity Power Factor Operation of DFIG, Leading and Lagging Power Factor Operation,, Stator Voltage Oriented Control of DFIG WECS, DFIG WECS Start-Up and Experiments	8
5	Fuel Cell System Fuel Cell Basics, Power Characteristics,, Fuel Cell Modeling for Integration with Power Electronics Controls,, Power Electronic Converter for Fuel Cell, Soft-Switching Topologies	8
Total Hours		42

Textbook :

- 1 "Power Electronics For Renewable Energy Systems, Transportation And Industrial Applications", Haitham Abu-Rub, Mariusz Malinowski, Kamal Al-Haddad, WILEY publication., NA
- 2 "Power Conversion and Control of Wind Energy Systems", Bin Wu, Yongqiang Lang, Navid Zargari, Wiley Publication, NA
- 3 "Power Electronics for Renewable and Distributed Energy Systems", Sudipta Chakraborty, Marcelo G. Simões William E. Kramer,, Springer, NA
- 4 "Power Conversion of Renewable Energy", Ewald F. Fuchs, Mohammad A.S.Masoum, Springer, NA

Suggested Theory Distribution:

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Distribution of Theory for course delivery and evaluation					
Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking
5.00	10.00	15.00	30.00	20.00	20.00



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COURSE	FACULTY OF TECHNOLOGY
PROGRAM	MASTER OF TECHNOLOGY (ELECTRICAL ENGINEERING)
SEMESTER	2
COURSE TITLE	POWER QUALITY ISSUES AND MITIGATION TECHNIQUES
COURSE CODE	01PE1206
COURSE CREDITS	4

Objective:

- 1 The objective of this course is to study various power quality issues encountered in power system and different active compensators to mitigate issues.

Course Outcomes: After completion of this course, student will be able to:

- 1 Identify, measure, detect various power quality issues in electrical system
- 2 Analyse the effect of harmonics and non-linearity on electrical equipment
- 3 Design and simulate shunt, series and hybrid active filters
- 4 Apply UPQC and DVR for mitigation of power quality issues

Pre-requisite of course:Power Electronics, Electrical Power System, Electrical Machine

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
3	0	2	50	30	20	25	25

Contents : Unit	Topics	Contact Hours
1	Introduction Definitions, standards, linear load, non-linear load,, harmonics, power factor, voltage sag, voltage swell,, voltage fluctuation, unbalanced load, transient, EMI, EMC,	5
2	Loads that Cause Power Quality Problems Introduction, Classification of Nonlinear Loads,, Power Quality Problems Caused by Nonlinear Load,, Analysis of Nonlinear Loads,, Modelling, Simulation, and Performance of Nonlinear Loads	5
3	Active Shunt Compensation and Active Series Compensation Classification of DSTATCOMs, Principle of Operation and Control of DSTATCOMs,, Analysis and design of DSTATCOM	8

Contents : Unit	Topics	Contact Hours
4	Shunt Active filter Three phase three wire shunt active filter,, three phase four wire shunt active filter	8
5	Hybrid and Series Active Filter Combined series active and shunt passive filter,, Comparison between hybrid and Pure active filter	8
6	Unified Power Quality Compensators an DVR Classification of Unified Power Quality Compensators,, Principle of Operation and Control of Unified Power Quality Compensators,, Introduction of DVR, Operating principle of DVR, Application of DVR.	8
Total Hours		42

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
1	Experiment No - 01 To study about IEEE 1159 and IEEE 519 standards for various guidelines and practices related to power quality	2
2	Experiment No - 02 To analyze the input current waveform of single phase and three-phase rectifier with different types of loads.	2
3	Experiment No - 03 To simulate converter topology and derive various components of power using instantaneous power theory.	2
4	Experiment No - 04 To design and simulate passive single tuned filter for harmonic compensation	2
5	Experiment No - 05 To simulate and observe the effect of firing angle on input current of AC voltage controller	2
6	Experiment No - 06 To study control strategies of Shunt Active Power Filter based on instantaneous power theory	2
7	Experiment No - 07 To study control strategies of Shunt Active Power Filter based Synchronous Reference Frame Theory	2
8	Experiment No - 08 To study the Dynamic Voltage Restorer for voltage sag and swell	2
9	Experiment No - 09 To simulate hybrid filter for harmonic mitigation	2
Total Hours		18



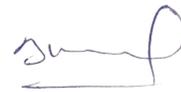
Textbook :

- 1 Power Quality: Problems and Mitigation Techniques, Bhim Singh, Ambrish Chandra, Kamal Al-Haddad, Wiley publication, NA
- 2 Instantaneous Power Theory and Applications to Power Conditioning, Hirofumi Akagi, NA, NA
- 3 Power Quality, C.Sankaran,, CRC publication, NA

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking
5.00	10.00	15.00	30.00	20.00	20.00



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COURSE	FACULTY OF TECHNOLOGY
PROGRAM	MASTER OF TECHNOLOGY (ELECTRICAL ENGINEERING)
SEMESTER	2
COURSE TITLE	RESEARCH METHODOLOGY AND IPR
COURSE CODE	01SL1210
COURSE CREDITS	2

Objective:

- 1 To understand the fundamental of research and its types
- 2 To impart the knowledge of various techniques of research.
- 3 To impart the knowledge for writing various statements and research paper .
- 4 To understand how to conduct literature review and organize references.
- 5 To impart the knowledge about copyright, IPR patent and plagiarism.

Course Outcomes: After completion of this course, student will be able to:

- 1 To understand the research and its types
- 2 To differentiate between journal/proceeding and books and its authenticity
- 3 To identify the quality indices for Journal & Authors
- 4 To differentiate the forms of IPR and its application to the mechanical engineering.

Pre-requisite of course:NA

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
2	0	0	0	0	0	25	25

Contents : Unit	Topics	Contact Hours
1	Research Methodology and skills Definition, types, various methods to identify research problem,, skills for research, Review of Research Literature: Purpose and use of literature review,, locating relevant information, use of library & electronic databases,, preparation & presentation of literature review, research article reviews,, theoretical models and frame work., Identification of gaps in research,, formulation of research problem, definition of research objectives.	14
2	Quality indices & Ethics in research Journal quality indices: Impact factor,, Immediacy index, Eigen factor,, Scimago journal rank indicator., Author quality indices: H index, G- Index, i10 index, HB index,	6

Contents : Unit	Topics	Contact Hours
3	Thesis writing Details and sequence of the chapters, Reference,, Bibliography their stylesin writing., Use of computer programs like MS word or Latex for thesis writing.	4
4	Intellectual Property Rights and plagiarism Fundamentals, Forms of IPR: copyright, patents, trademarks, copyright., Patent filing procedure in India. Plagiarism,, use of software to evaluate the plagiarism for the report written,, how to do citation for copyrighted material in the report.	6
Total Hours		30

Textbook :

- 1 Research Methodology: Methods and Techniques,, C.R. Kothari,, New age Publishers, 2004
- 2 Essentials of Research Design and methodology, Geoffrey R. Marczyk, David DeMatteo, David Festinge,, John Wiley & Sons, 2005

References:

- 1 Research methodology: an introduction for science & amp; engineering students, Research methodology: an introduction for science & amp; engineering students, Stuart Melville and Wayne Goddard, Juta & Company, 1996
- 2 Research Methodology: A Step-By-Step Guide for Beginners , Research Methodology: A Step-By-Step Guide for Beginners , Ranjit Kumar, Sage Publications Ltd , 2010
- 3 Intellectual Property in the New Technological Age 2019: Vol II Copyights, Trademarks and State IP Protections , Intellectual Property in the New Technological Age 2019: Vol II Copyights, Trademarks and State IP Protections , Peter Menell, Mark Lemley, Robert P. Merges, Clause 8 Publishing , 2019
- 4 Intellectual Property Rights Under Wto: Tasks Before India , Intellectual Property Rights Under Wto: Tasks Before India , T. Ramappa, S. Chand, 2008

Suggested Theory Distribution:

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Distribution of Theory for course delivery and evaluation					
Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking
5.00	10.00	20.00	35.00	20.00	10.00

Instructional Method:

- 1 Use of Learning Management system like canvas
- 2 Demonstration through power point presentation and videos and lectures

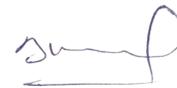


Instructional Method:

- 3 Brainstorming and group discussion sessions
- 4 Collaborative learning

Supplementary Resources:

- 1 <http://www.elsevier.com/online-tools/scopus>
- 2 <http://computationalengineering.mit.edu/research/methodology>
- 3 <http://www.ieee.org/index.html>
- 4 <http://www.asce.org/>
- 5 <http://www.asme.org/>



Head of the Department
Electrical Engineering
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COURSE	FACULTY OF TECHNOLOGY
PROGRAM	MASTER OF TECHNOLOGY (ELECTRICAL ENGINEERING)
SEMESTER	1
COURSE TITLE	SWITCHING POWER SUPPLIES
COURSE CODE	01EV1105
COURSE CREDITS	4

Objective:

- 1 The student is expected with both the design and control of dc-dc converters at the end of the course.

Course Outcomes: After completion of this course, student will be able to:

- 1 Analyse an equivalent circuit model of switched mode power supply for steady-state analysis.
- 2 Design of magnetic components (i.e., inductor and transformer) for converters used in power supply
- 3 Compare the operation of resonance switching power converters with traditional converters
- 4 Develop feedback controller to regulate DC output of power supply and obtain its frequency response
- 5 Analyse the performance of SMPS with various input filters

Pre-requisite of course: Basic Power electronics devices and its working. Different applications of power semiconductor devices. Power electronics circuit operations.

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
3	0	2	50	30	20	25	25

Contents : Unit	Topics	Contact Hours
1	Introduction to Non-isolated dc-dc converter: Buck Converter, Boost Converter, Buck-Boost Converter, Cuk Converter, SEPIC converters., Non-idealities in the SMPS	6
2	Isolated dc-dc converters: Flyback Converter,, Forward Converter, , Push-Pull Converter,, Half bridge Converter , Full bridge Converter topologies.	7



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Contents : Unit	Topics	Contact Hours
3	Resonant Converters: Classification of Resonant Converters, Basic Resonant Circuit Concepts, Load-Resonant Converters,, Resonant-Switch Converters, Zero-Voltage-Switching, Clamped-Voltage Topologies, , Resonant-dc-Link Inverters with Zero-Voltage Switchings,, High-Frequency-Link Integral-Half-Cycle Converters.	6
4	Reactive Elements in Power Electronic Systems: Introduction, Electromagnetics, , Design of Inductor, , Design of Transformer,, Capacitors for Power Electronic Application, Types of Capacitors	8
5	Modelling and control of SMPS: Introduction, Duty cycle and current model control, canonical model of the converter, , Averaged Model of the Converter, Generalized State Space Model of the Converter, Dynamic Model of Converters Operating in DCM.	8
6	Control of Switched Mode Converters (SMPS): Introduction, Closed Loop Control, , Closed Loop Performance Functions, , Effect of Input Filter on the Converter Performance, , Design Criteria for Selection of Input Filter.	8
Total Hours		43

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
1	Experiment No. 01 To verify the performance of Non-isolated DC-DC buck converter.	2
2	Experiment No. 02 To verify the performance of Non-isolated DC-DC boost converter.	2
3	Experiment No. 03 To design and verify the OpAmp based current sensor for DC-DC converter.	2
4	Experiment No. 04 To verify the performance of Isolated Flyback converter.	2
5	Experiment No. 05 To verify the performance of Isolated Forward converter.	2
6	Experiment No. 06 To verify the performance of Isolated Push-Pull converter.	2
7	Experiment No. 07 To predict efficiency of Boost converter using equivalent model of converter.	2
8	Experiment No. 08 To Simulate the performance of ZVS Resonant converter.	2
9	Experiment No. 09 To simulate the closed loop control of DC-DC converter.	2

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
10	Experiment No. 10 Demonstrate the use of dSPACE 1104 to generate PWM signal.	2
Total Hours		20

References:

- 1 L. Umanand, "Power Electronics Essentials and Applications", Wiley India Ltd., 2009.
- 2 V. Ramanarayanan, Switched Mode Power Conversion, 2007.
- 3 Abraham Pressman, Switching Power supply Design, McGraw Hill.
- 4 Ned Mohan, Tore M. Undeland and William P. Robbins, "Power Electronics – Converters, Applications and Design", John Willey & sons, Inc., 3rd ed., 2003.
- 5 Keith H Billings - Switch mode power supply handbook – 1st edition 1989 Mc-Graw hill Publishing Company.
- 6 Sanjaya Maniktala - Switching power supplies A to Z. – 1st edition 2006, Elsevier Inc.
- 7 Daniel M Mitchell : DC-DC Switching Regulator Analysis. McGraw Hill Publishing Company.
- 8 Otmar Kilgenstein : Switched Mode Power Supplies in Practice. John Wiley and Sons.

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Distribution of Theory for course delivery and evaluation					
Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking
5.00	10.00	15.00	35.00	25.00	20.00

Instructional Method:

- 1 The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- 2 The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and classroom.
- 3 Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- 4 Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory.

Supplementary Resources:

- 1 <https://nptel.ac.in/content/storage2/courses/108103009/download/M4.pdf>



Supplementary Resources:

- 2 [https://nptel.ac.in/content/storage2/courses/108105066/PDF/L-8\(SSG\)\(PE\)%20%20\(\(EE\)NPTEL\).pdf](https://nptel.ac.in/content/storage2/courses/108105066/PDF/L-8(SSG)(PE)%20%20((EE)NPTEL).pdf)
- 3 <https://nptel.ac.in/courses/108/108/108108036/>



Head of the Department
Electrical Engineering
Marwadi University

COURSE	FACULTY OF TECHNOLOGY
PROGRAM	MASTER OF TECHNOLOGY (ELECTRICAL ENGINEERING)
SEMESTER	2
COURSE TITLE	BATTERY MANAGEMENT SYSTEMS
COURSE CODE	01EV1201
COURSE CREDITS	4

Objective:

- 1 The objective of this course is to introduce learner to batteries, its parameters, modelling and charging requirements. The course will help learner to develop battery management algorithms for batteries

Course Outcomes: After completion of this course, student will be able to:

- 1 Interpret the role of battery management system
- 2 Identify the requirements of Battery Management System
- 3 Interpret the concept associated with battery charging / discharging process
- 4 Calculate the various parameters of battery and battery pack
- 5 Design the model of battery pack

Pre-requisite of course:Basics of Electrical Engineering (or equivalent subject), Circuit Network, Physics

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
3	0	2	50	30	20	25	25

Contents : Unit	Topics	Contact Hours
1	Unit - I - Introduction: Introduction - Naming Conventions, Li-Ion Cells,, Introduction - Li-Ion BMS's, Li-Ion Batteries, BMS options - Functionality. Technologies, BMS Options - Topology, BMS functions - Measurement, Managements, BMS Functions - Evaluation, External Communications, Logging and Telemetry	6
2	Unit - II - Battery Management System Requirement: Battery Pack topology, BMS design requirements, Battery-pack sensing - voltage, temperature and current, High voltage contactor control, Isolation sensing, Thermal control, Protection, Communication via CAN bus, Log Book function, State of charge estimation, Energy estimation, Power estimation, Diagnosis	10

Contents : Unit	Topics	Contact Hours
3	Unit - III - Battery State of Charge and State of Health Estimation, Cell Balancing Battery state of charge estimation (SOC),, voltage-based methods to estimate SOC, Model-based state estimation, Battery Health Estimation, Lithium-ion aging: Negative electrode, Lithium ion aging: Positive electrode, Cell Balancing, Causes of imbalance, Circuits for balancing	10
4	Unit - IV - Modelling and Simulation: Equivalent-circuit models (ECMs),, Physics-based models (PBMs), Empirical modelling approach,, Physics-based modelling approach, Simulating an electric vehicle, Vehicle range calculations, Simulating constant power and voltage, Simulating battery packs,	6
5	Unit - V - Design of battery BMS: Design principles of battery BMS,, Effect of distance, load, and force on battery life and BMS,, energy balancing with multi-battery system	10
Total Hours		42

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
1	Experiment No. - 01 To model a lead-acid battery cell using the Simscape™	
2	Experiment No. - 02 Observe the charging and discharging process, and plot graph of charging/load current, SOC, temperature, DOC, and terminal voltage.	
3	Exxperiment No. - 03 To analyse the effect of temperature on the performance of a Lithium-Ion battery model	
4	Experiment No. - 04 To simulate and plot the result of temperature, SOC, current, and terminal voltage for the HV Battery Charge/Discharge using realistic DC-link current profile, which originates from a dynamic driving cycle	
5	Experiment No. - 05 To study Lithium Battery Cell - One RC-Branch Equivalent Circuit and it's simulation	
6	Experiment No - 06 To simulate Ni-MH Battery Model with the DC machine and show the charging and discharging process using DC machine.	
7	Experiment No. - 07 To simulate Lithium-Ion (LiFePO ₄) Battery and analyse the effect of DOD and discharge rate on battery ageing considering 1000 h simulation time	
Total Hours		

Textbook :

- 1 Battery management systems, Volume I: Battery modeling., Plett, Gregory L., Artech House, 2015
- 2 Battery management systems, Volume II: Equivalent-circuit methods., Plett, Gregory L., Artech House., 2015
- 3 “Battery Management Systems -Design by Modelling”, Bergveld, H.J., Kruijt, W.S., Notten, P.H.L, Philips Research Book Series, 2002
- 4 Battery Management Systems for Large Lithium-ion Battery Packs, Davide Andrea, Artech House, 2010
- 5 Battery management systems: Accurate state-of-charge indication for battery-powered applications., Pop, Valer, et al., Springer Science & Business Media., 2008
- 6 Electrochemical Methods: Fundamentals and Applications. 2nd ed., Bard, Allen J., and Larry R. Faulkner., Wiley– VCH, Verlag, GmbH, 2000
- 7 Lithium ion Batteries Fundamental and Performance, Masataka Wakihara and Osamu Yamamoto, Wiley–VCH, Verlag GmbH, 1999
- 8 Advanced Batteries – Materials science aspects, Robert A.Huggins, Springer, 2009
- 9 ‘Understanding Batteries’, Dell, Ronald M Rand, David A J, Royal Society of Chemistry, 2001

Suggested Theory Distribution:

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Distribution of Theory for course delivery and evaluation					
Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking
5.00	10.00	15.00	30.00	20.00	20.00

Instructional Method:

- 1 The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc
- 2 The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and classroom.
- 3 Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- 4 Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

- 1 <https://www.coursera.org/learn/battery-management-systems>
- 2 <https://www.coursera.org/specializations/algorithms-for-battery-management-systems>



Supplementary Resources:

- 3 <https://www.sciencedirect.com/science/article/abs/pii/S135943111835614X>
- 4 <https://iopscience.iop.org/article/10.1088/1757-899X/912/4/042005/pdf>
- 5 https://www.researchgate.net/publication/329410156_Review_on_Battery_Thermal_Management_System_for_Electric_Vehicles
- 6 <https://www.ansys.com/en-in/applications/battery/battery-management-systems>
- 7 <https://www.integrasources.com/blog/battery-management-systems-software-development/>



Head of the Department
Electrical Engineering
Marwadi University

COURSE	FACULTY OF TECHNOLOGY
PROGRAM	MASTER OF TECHNOLOGY (ELECTRICAL ENGINEERIN)
SEMESTER	3
COURSE TITLE	COMMUNICATION SKILL AND TECHNICAL WRITING
COURSE CODE	01SL0302
COURSE CREDITS	0

Course Outcomes: After completion of this course, student will be able to:

Pre-requisite of course: The objective of the course is to enhance learners' ability to express their ideas in various technical communication situations addressing mainly two language skills, viz. Speaking Skills and Writing Skills.

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
0	0	2	0	0	0	25	25

Contents : Unit	Topics	Contact Hours
1	Fundamentals of Technical Communication Difference between technical communication and general communication, Role of technical communication in business and industry, Speaking on a technical topic, Talking about a technical product, Talking about projects, Making a technical presentation	
2	Technical Writing The Technical Writing Process: Prewriting, Writing and Rewriting, Writing a technical proposal,, Writing a technical report,, Writing an email, Common errors in writing	
Total Hours		

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation



Head of the Department
Electrical Engineering
Marwadi University

Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking
5.00	10.00	25.00	30.00	20.00	10.00



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Electrical Engineering
Marwadi University

Course Objectives

The main objective of this course is to prepare computer based design of motors to be used for electrical machines.

The main objective of this course is to prepare computer based design of motors to be used for electrical machines.

Prerequisites

After completion of this course, student will be able to

- To introduce the importance of computer aided design method.
- Implement equations in software program.
- Create software based design of Induction Motor, Synchronous Motor, Special Electric Motor
- Analysis of machine part with MATLAB
- Prepare software for design of electrical machines

Prerequisites Design of Electrical Machines or equivalent subject

Course Structure

Teaching Scheme Hours			Credits	Theory Marks			Tutorial/Practical Marks		Total Marks
Theory	Tutorial	Practical		Quiz	Mid Term Exam	Internal	Quiza	Term work	
3	0	2	4	50	30	20	25	25	150

Course Content

Sl. No.	Topic	Hours
1	Introduction to Computer Aided Design, explanation of details of flow chart, input data to be fed into the program, Applicable constraints, Maximum or Minimum permissible limits, output data to be printed after execution of program, various objective parameters for optimization in an electrical machine, selection of optimal design, explanation of lowest cost and significance of "genetic algorithm" flowcharts.	4
2	Introduction, specification, output coefficient, importance of specific loadings, Electrical Materials, Conducting Materials, Insulating Materials and Magnetic Materials, Magnetic circuit calculations, general procedure for calculation of Ampere turns, heating and cooling, Modes of heat dissipation, standard ratings of electrical machines, ventilation in rotating machines, quantity of cooling	4


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 Electrical Engineering
 Marwadi University

COURSE	FACULTY OF TECHNOLOGY
PROGRAM	MASTER OF TECHNOLOGY (ELECTRICAL ENGINEERING)
SEMESTER	3
COURSE TITLE	ENVIRONMENT ISSUES
COURSE CODE	01ES0305
COURSE CREDITS	0

Course Outcomes: After completion of this course, student will be able to:

- 1 Understand and realize the multi-disciplinary nature of the environment and global environmental issues.
- 2 To compare the human population growth and its trend to the environmental degradation.
- 3 Develop the awareness about his/her role towards environmental protection and prevention.
- 4 Identify different types of environmental pollution and control measures.
- 5 To correlate the exploitation and utilization of conventional and non-conventional resources.

Pre-requisite of course:To know about the environment Issues.

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
2	0	0	0	0	0	25	25

Contents : Unit	Topics	Contact Hours
1	Introduction to Environmental Issues Definition, Scope & Importance of Environmental Studie, Environment and its multidisciplinary nature,, impacts of technology on Environment, Environmental Degradation, Need of Public awareness.	
2	Environmental Pollution & Global Issues Types of Environmental Pollutions: Air Pollution, Water Pollution, Noise Pollution, soil pollution, radioactive pollution, , Case studies on pollution, Global Warming & Ozone layer depletion, Sustainable Development, Climate Change, Global Warming and Green House Effect, Acid Rain, Depletion of Ozone layer, types and effects of waste, waste disposal and management,, e-waste management, International Steps for Mitigating Global Change.	



Contents : Unit	Topics	Contact Hours
3	Energy Resources: Renewable and Non-Renewable energy resources, natural resources and associated problems,, Mineral resources: use and exploitation,, environmental effects of extracting and using mineral resources, Case studies, growing energy needs, use of alternate energy sources.	
4	Social Issues and the Environment Urban Problems related to Energy, Environmental ethics: Issues and Possible solutions, consumerism and waste products,, environment protection Act, Air (Prevention and Control of Pollution) Act, Water (Prevention and Control of Pollution) Act.	
Total Hours		

References:

- 1 Asthana, D. K. (2006). Text Book of Environmental Studies. S. Chand Publishing.
- 2 Masters, G. M., &Ela, W. P. (1991). Introduction to environmental engineering and science. Englewood Cliffs, NJ: Prentice Hall.
- 3 Basu, M., Xavier, S. (2016). Fundamentals of Environmental Studies, Cambridge University Press, India
- 4 Environmental Studies By Dr. K. Mukkanti, S. Chand Publishing.
- 5 Bharucha, E., Textbook of Environmental Studies, Universities Press.
- 6 Dhameja, S. Environmental Studies. S. Kataria and Sons.

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking
5.00	10.00	15.00	30.00	20.00	20.00



Head of the Department
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COURSE	FACULTY OF TECHNOLOGY
PROGRAM	MASTER OF TECHNOLOGY (ELECTRICAL ENGINEERING)
SEMESTER	3
COURSE TITLE	IOT IN EV APPLICATIONS
COURSE CODE	01EV0304
COURSE CREDITS	4

Course Outcomes: After completion of this course, student will be able to:

- 1 Understand the vision of IoT from a global context.
- 2 Implementation the different sensors used in EV by using IoT.
- 3 Determine the Market perspective of IoT.
- 4 Use of Devices, Gateways and Data Management in IoT.
- 5 Building state of the art architecture in IoT.
- 6 Application of IoT in Electric Vehicle.

Pre-requisite of course: Linear algebra, Calculus, and feel comfortable with computer language programming.

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
3	0	2	50	30	20	25	25

Contents : Unit	Topics	Contact Hours
1	IoT & Web Technology The Internet of Things Today, Time for Convergence, Towards the IoT Universe,, Internet of Things Vision, IoT Strategic Research and Innovation Directions, IoT Applications, Future Internet Technologies, Infrastructure, Networks and Communication, Processes, Data Management, Security, Privacy & Trust,, Device Level Energy Issues, IoT Related Standardization, Recommendations on Research Topics.	
2	M2M to IoT – A Basic Perspective Introduction, Some Definitions, M2M Value Chains, IoT Value Chains, An emerging industrial structure for IoT, The international driven global value chain and global information monopolies., M2M to IoT-An Architectural Overview – Building an architecture, Main design principles and needed capabilities,, An IoT architecture outline, standards considerations.	



Contents : Unit	Topics	Contact Hours
3	IoT Architecture -State of the Art – Introduction, State of the art,, Architecture Reference Model- Introduction,, Reference Model and architecture, IoT reference Model,, IoT Reference Architecture- Introduction,, Functional View, Information View, Deployment and Operational View,, Other Relevant architectural views,, Introduction of NodeMCU & its programming for IoT applications.	
4	IoT Sensors for Electric Vehicle – Introduction of Voltage sensor, Current sensor, Rotor position and Speed sensors, Temperature Sensors, Pressure Sensors, Introduction of Automobile Sensors (MEMS sensors), Implementation of different sensor using IoT.	
5	IoT Applications for Electric Vehicle IoT enabled Electric Vehicle’s Battery Monitoring System, IoT based EV charging management system,, IoT for Electric Vehicles, IoT for Electric Vehicles: Wide Area Charging-Swap Information Perception, Transmission and Application, IoT based smart charging station.	
Total Hours		

References:

- 1 Vijay Madiseti and Arshdeep Bahga, “Internet of Things (A Hands-on-Approach)”, 1st Edition, VPT, 2014
- 2 Francis daCosta, “Rethinking the Internet of Things: A Scalable Approach to Connecting Everything”, 1st Edition, Apress Publications, 2013
- 3 Cuno Pfister, Getting Started with the Internet of Things, O’Reilly Media, 2011, ISBN: 978-1-44939357-1
- 4 Dieter Uckelmann, Mark Harrison, Michahelles, Florian (Eds), “Architecting the Internet of Things”, Springer, 2011.

Suggested Theory Distribution:

The suggested theory distribution as per Bloom’s taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking
5.00	10.00	15.00	30.00	20.00	30.00

Supplementary Resources:

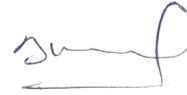
- 1 <https://github.com/connectIOT/iottoolkit>



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Supplementary Resources:

2 <https://www.arduino.cc/>



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Electrical Engineering
Marwadi University

Subject Code: 01EV1206

Subject Name: Smart Grid Interface of EV

M.Tech. Year – 1 (Semester – 2)

Objective: The objective of the course is to study the possible methods of integration of Electric Vehicle (EV) in smart grid networks and its effect on the system.

Credits Earned: 4 Credits

Course Outcomes: After completion of this course, student will be able to

- Determine the role of Plug-in Electrical Vehicle(PEV) as source in smart grid
- Analyze Impact of EV on smart grid
- Assess the performance of EV parking lot on smart distribution system
- Evaluate the role of EV as ancillary service

Pre-requisite of course: None

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
3	0	2	4	50	30	20	25	25	150

Contents:

Unit	Topics	Contact Hours
1	Introduction to smart grid and PEV: Introduction to smart grid and microgrid, Impact of PEVs on Distributed Energy Resources in the Smart Grid, V2G Technology and PEVs Charging Infrastructures	10
2	Impact of EV and V2G on the Smart Grid and Renewable Energy Systems Types of Electric Vehicles, Motor Vehicle Ownership and EV Migration, Impact of Estimated EVs on Electrical Network, Impact on Drivers and the Smart Grid, Standardization and Plug-and-Play	12
3	Power Control and Monitoring of the Smart Grid with EVs Impacts of EV Penetration on Grid Power Profile, Requirements of Its Control and Monitoring, Hybrid EV Power train Architectures, Control, Monitoring and Management Strategies of EV, V2G Communication System, System model of EV, Case study of three phase fault and its impact	6
4	Planning, Control, and Management Strategies for Parking Lots for PEVs Introduction to PEV Charging Facility, Long-Term Planning for PEV Parking Lots, Control and Management of PEV Parking Lots - stages of implementation	4

5	PEV as ancillary service in Smart grid Introduction to Ancillary Services, PEV Charger Optimization, PEV as ancillary source, Control Strategies for PEVs to Follow the Individual Operation Values, Systems and Control Algorithm for Smart PEV Chargers, Avoiding the Harmonic Propagation Within the Grid, Case study	4
Total Hours		36

References:

1. Junwei Lu and Jahangir Hossain, Vehicle-to-grid: linking electric vehicles to the smart grid. Institution of Engineering and Technology, 2015.
2. Rajakaruna, S., Shahnia, F. and Ghosh, A. eds., Plug In Electric Vehicles in Smart Grids: Integration Techniques. Springer, 2014.
3. Rajakaruna, S., Shahnia, F. and Ghosh, A. eds., Plug in electric vehicles in smart grids: charging strategies. Springer, 2014.
4. Salman, S.K., Introduction to the Smart Grid: Concepts, Technologies and Evolution (Vol. 94). IET, 2017.

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	10%	15%	30%	20%	30%



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COURSE	FACULTY OF TECHNOLOGY
PROGRAM	MASTER OF TECHNOLOGY (ELECTRICAL ENGINEERING)
SEMESTER	2
COURSE TITLE	SPECIAL MACHINES FOR ELECTRIC VEHICLES
COURSE CODE	01EV1207
COURSE CREDITS	4

Course Outcomes: After completion of this course, student will be able to:

- 1 Differentiate among different special machines for electric vehicle application
- 2 Evaluate the performance of special machines for EVs
- 3 Determine the special machine and their drive requirement for EV application
- 4 Analyze the performance of multiphase machine for EVs

Pre-requisite of course:Electrical Machines

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
3	0	2	50	30	20	25	25

Contents : Unit	Topics	Contact Hours
1	Permanent Magnet (PM) Brushless Motor Drives Structure of PM Brushless Machines, Principle of PM Brushless Machines, Modeling of PM Brushless Machines, Inverters for PM Brushless Motors Motor Control,, Design Criteria of PM Brushless Motor Drives for EVs,, Design Examples of PM Brushless Motor Drives for EVs,, Application, Advantages and Limitations for EVs.	6
2	Switched Reluctance Motor drive: Structure of SR Machines, Principle of SR Machines,, SR Converters Topologies, SR Motor Control,, Design Criteria of SR Motor Drives for EVs,, Examples of SR Motor Drives for EVs,, Application, Advantages and Limitations for EVs.	8
3	Stator-PM Motor Drives Doubly-Salient PM Motor Drives, Flux-Reversal PM Motor Drives,, Flux-Switching PM Motor Drives,, Hybrid-Excited PM Motor Drives, Flux-Mnemonic PM Motor Drives, Design Criteria of Stator-PM Motor Drives for EVs,, Application, Advantages and Limitations for EVs.	10

Contents : Unit	Topics	Contact Hours
4	Magnetic-Geared Motor Drives Principle of MG Machines, Modeling of MG Machines,, Inverters for MG Motors, MG Motor Control,, Design Criteria of MG Motor Drives for EVs,, Application, Advantages and Limitations for EVs	6
5	Advanced Magnetless Motor Drives Introduction of Advanced Magnetless technology, Synchronous Reluctance Motor Drives, Doubly-Salient, DC Motor Drives, Flux-Switching DC Motor Drives,, Design Criteria of Advanced Magnetless Motor Drives for EVs,, Application, Advantages and Limitations for EVs.	6
6	Multiphase Motor Drives Multiphase Induction Motor drives – principle, operation and control,, Multiphase PMSM machine – principle, operation and control,, Fault tolerant operation of multiphase drives	6
Total Hours		42

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
1	Experiment No. 01 Switched Reluctance Motor design simulation using COMSOL multiphysics.	4
2	Experiment No. 02 Switched Reluctance Motor design simulation using ANSYS Maxwell	4
3	Experiment No. 03 Switched Reluctance Motor Speed Control Simulation using MATLAB	4
4	Experiment No. 04 Calculation of Design parameters of PM Brushless Motor Drives for EVs	4
5	Experiment No. 05 Permanent Magnet Synchronous Motor Drive Simulink Simulation (PMSM control) FOC method	4
6	Experiment No. 06 Permanent Magnet DC (PMDC) Motor design and simulation using ANSYS Maxwell (RMXprt) Software	4
7	Experiment No. 07 Calculation of Design parameters of Stator-PM Motor Drives for EVs	4
Total Hours		28

Textbook :

- 1 “Modern Electric, Hybrid Electric and Fuel cell vehicles: Fundamentals, Theory and Design”, Mehrdad Ehsani, Yimin Gao, Sebatién Gay and Ali Emadi, CRC Press, 2004

Textbook :

- 2 “Electric Vehicle Technology – Explained”, James Larminie and John Lory,, John Wiley & Sons Ltd, 2003

Suggested Theory Distribution:

The suggested theory distribution as per Bloom’s taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking
5.00	10.00	15.00	30.00	20.00	20.00



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COURSE	FACULTY OF TECHNOLOGY
PROGRAM	MASTER OF TECHNOLOGY (ELECTRICAL ENGINEERING)
SEMESTER	1
COURSE TITLE	ELECTRIC MOTORS & DRIVES
COURSE CODE	01EV1103
COURSE CREDITS	4

Objective:

- 1 The objective is to introduce learner to design of printed circuit boards and their manufacturing using Computer Aided Tools.

Course Outcomes: After completion of this course, student will be able to:

- 1 Illustrate the construction features of different electrical machine (Apply)
- 2 Explain different method to control the speed of motor. (Analyze)
- 3 Analyze the torque speed characteristics of motor. (Create)
- 4 Selection of motor for specific application (Evaluate)
- 5 Method to develop the maximum torque in motor(Apply)

Pre-requisite of course:None

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
3	0	2	50	30	20	25	25

Contents : Unit	Topics	Contact Hours
1	DC Motor Motor principle, types of dc motor , significance of back emf, voltage equation and torque equation, , condition of maximum torque, speed of dc motor , torque and speed of dc motor, motor characteristics, , factors controlling the motor speed, Speed control methods for DC motor	8
2	Induction Motor Constructional Features of a Three-Phase Induction Motor, Production of Revolving Field, , Principle of Operation, Reversal of Direction of Rotation of Three-Phase Induction Motors, , Slip, Torque developed by induction motor, , condition for the maximum torque, speed control methods of induction motor	8



Contents : Unit	Topics	Contact Hours
3	Permanent Magnet D.C. Motors: Principle of operation, Magnetic circuit analysis, , Permanent magnet materials ,Magnetic characteristics, , Permeance coefficient ,EMF and torque equations , Commutation , Power controllers ,Motor characteristics and control	8
4	Permanent magnet brushless dc (bldc) motors: Introduction, Constructional features, Principle of operation, , Commutation in DC motors, Difference between mechanical and electronic commutators, , Hall sensors, Optical sensors, , Types of BLDC motors, EMF and torque equation, Torque-speed characteristics, Drives - concept and Control of BLDC motors.	8
Total Hours		32

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
1	Experiment-1 Operation of separately excited DC motor under varying load torque condition	2
2	Experiment-2 Simulation of single phase fully controlled converter fed DC drive	2
3	Experiment-3 Simulation of three phase fully controlled converter fed DC drive	2
4	Experiment-4 Simulation of Chopper fed separately excited DC drive	2
5	Experiment-5 Simulation of stator voltage control of induction motor using AC voltage controller	2
6	Experiment-6 Simulation of rotor resistance control of wound rotor induction motor.	2
7	Experiment-7 Verification of V/f profile of induction motor using variable frequency drive	2
8	Experiment-8 Verification of torque speed characteristics of variable frequency drive.	2
Total Hours		16

References:

- 1 R.Krishnan, 'Switched Reluctance Motor Drives – Modeling, Simulation, Analysis, Design and Application', CRC Press, New York, 2001.
- 2 P.P. Aearnley, 'Stepping Motors – A Guide to Motor Theory and Practice', Peter Perengrinus London, 1982.

References:

- 3 T. Kenjo and S. Nagamori, 'Permanent Magnet and Brushless DC Motors', Clarendon Press, London, 1988.

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

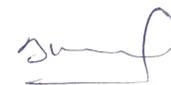
Distribution of Theory for course delivery and evaluation					
Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking
5.00	10.00	15.00	30.00	20.00	30.00

Instructional Method:

- 1 The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc
- 2 The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and classroom
- 3 Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory
- 4 Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory.

Supplementary Resources:

- 1 <https://nptel.ac.in/courses/108/105/108105131/>
- 2 <https://sohailansaari.wordpress.com/nptel-handwritten-notes/>
- 3 <http://www.facweb.iitkgp.ac.in/~tkbh/tkbh.php>



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COURSE	FACULTY OF TECHNOLOGY
PROGRAM	MASTER OF TECHNOLOGY (ELECTRICAL ENGINEERING)
SEMESTER	1
COURSE TITLE	NUMERICAL SOLUTION OF EV COMPONENTS
COURSE CODE	01EV1110
COURSE CREDITS	1

Objective:

- 1 The objective of the course is to explore the Numerical solution of different components for electric vehicle.

Course Outcomes: After completion of this course, student will be able to:

- 1 Differentiate application of Analytical Vs Numerical techniques
- 2 Apply the numerical methods for the performance analysis EV components.
- 3 Simulate the EV components using software which supports FEM
- 4 Analyse the performance of EV components by varying the design parameters

Pre-requisite of course:Basics of Electromagnetic Fields and Electrical Machines

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
0	0	0	0	0	0	25	25

Contents : Unit	Topics	Contact Hours
Total Hours		

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
1	Introduction: Analytical Vs Numerical techniques for solving Partial Differential Equations (PDEs),, Revisiting important concepts in electromagnetics, Magnetic vector potential.	6
2	Fundamentals : Finite element method: PDEs in low frequency electromagnetics , Theory of eddy currents , Variational calculus and energy minimization approach , Variational approach to solve PDEs , Whole domain approximation.	8



Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
3	1-D and 2-D Tutorials: Sub domain approximation , 1D FEM , Scilab code for 1D FEM – Tutorial , Error distribution,, 2D FEM – Formulation and shape functions , , 2D FEM – Formation of global coefficient matrix, , 2D FEM – Boundary conditions and solution, Scilab code – 2D FEM , Manual freeware meshing.	10
4	Axisymmetric problem solution: Permanent magnets – Theory , Permanent magnets – FE analysis , Current fed solid conductors: FE Theory , Skin and proximity effects in windings.	6
5	FEM for rotating machines. periodic boundary conditions, calculation of slot inductance of an induction motor , Force computations using maxwell stress sensor,, Torque Speed Characteristics of an Induction Motor and FE Analysis, and virtual work methods , FE analysis for force computations , Voltage fed circuit-field coupled transient analysis: inrush current computation	6
Total Hours		36

References:

- 1 Chapra, Steven C., and Raymond P. Canale. Numerical Methods for Engineers. Boston: McGraw-Hill Higher Education, 2006.
- 2 “Introductory Methods of Numerical Analysis” by Sastry S S, 2002.
- 3 “Partial Differential Equations for Scientists and Engineers” by Stanley J Farlow
- 4 Jose Robeto, “Electromagnetics through the Finite element method” CRC Press, 2017.

Suggested Theory Distribution:

The suggested theory distribution as per Bloom’s taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking
10.00	10.00	15.00	30.00	20.00	15.00

Instructional Method:

- 1 The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc
- 2 Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory



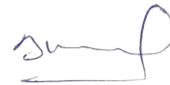
Head of the Department
Electrical Engineering
Marwadi University

Instructional Method:

- 3 Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

Supplementary Resources:

- 1 <https://nptel.ac.in/courses/108/101/108101167/>
- 2 <https://www.cdeep.iitb.ac.in/slides/S20/EE725/EE725-L33.pdf>
- 3 <https://dspace.mit.edu/handle/1721.1/122702>
- 4 https://web.mit.edu/kjb/www/Books/FEP_2nd_Edition_4th_Printing.pdf



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Electrical Engineering
Marwadi University

COURSE	FACULTY OF TECHNOLOGY
PROGRAM	MASTER OF TECHNOLOGY (ELECTRICAL ENGINEERING)
SEMESTER	2
COURSE TITLE	VALUE EDUCATION
COURSE CODE	01AU9002
COURSE CREDITS	0

Objective:

- 1 This course shall develop intelligence of students on role of value education and self-development in shaping a sound character. Students shall be able to imbibe good values to lead a successful personal and professional life.

Course Outcomes: After completion of this course, student will be able to:

- 1 Understand importance values in achieving self-development.
- 2 Inculcate right values, ethics, attitudes, manners and behaviors for life.
- 3 Overall develop a sound personality.
- 4 Imbibe values that translate in character building

Pre-requisite of course:NA.

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
2	0	0	0	0	0	50	50

Contents : Unit	Topics	Contact Hours
1	Values and self-development Social values and individual attitudes. Work ethics, Indian vision of humanism., Moral and non- moral valuation. Standards and principles. Value judgements.	4
2	Importance of cultivation of values. Sense of duty. Devotion, Self-reliance. Confidence, Concentration. Truthfulness, Cleanliness., Honesty, Humanity. Power of faith, National Unity. Patriotism. Love for nature, Discipline	6

Contents : Unit	Topics	Contact Hours
3	Personality and Behavior Development Soul and Scientific attitude. Positive Thinking. Integrity and discipline., Punctuality, Love and Kindness. Avoid fault Thinking., Free from anger, Dignity of labour. Universal brotherhood and religious tolerance. True friendship., Happiness Vs suffering, love for truth. Aware of self-destructive habits. Association and Cooperation. Doing best for saving nature	7
4	Character and Competence Holy books vs Blind faith. Self-management and Good health. Science of reincarnation., Equality, Non-violence, Humility, Role of Women. All religions and same message., Mind your Mind, Self-control. Honesty, Studying effectively	7
Total Hours		24

References:

- 1 Chakroborty, S.K. "Values and Ethics for organizations Theory and practice", Oxford University Press, New Delhi
- 2 Creating Values in Life: Personal, Moral, Spiritual, Family and Social Values – By Ashok Gulla
- 3 Teaching Your Children Values – By Linda and Richard Eyre
- 4 The Book of Virtues for Young People – William J. Bennett

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation

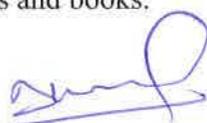
Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking
20.00	20.00	30.00	15.00	10.00	5.00

Instructional Method:

- 1 The course delivery method will depend upon the requirement of content and need of students. The trainer shall train students through interactions, demonstration, role play, games, brainstorming, group tasks etc.
- 2 Practical examination (VIVA) will be conducted at the end of semester for evaluation of performance of students.
- 3 Students will use supplementary resources such as online videos and books.

Supplementary Resources:

- 1 <https://swayam.gov.in/>



**Head of the Department
Electrical Engineering
Marwadi University**

Institute: Faculty Management Studies

Program Name: Master of Business Administration

Program code: 04 MB

List of Courses having Focus on Employability, Entrepreneurship and Skill Development

Course Relevance Presented in this Document by Highlighting with the Following Color Code:

Employability
Entrepreneurship
Skill Development



PROGRAM	Master of Business Administration
SEMESTER	1
COURSE TITLE	Accounting for Managers
COURSE CODE	04MB0101
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- ❖ Impart the basics of Financial Accounting and process for preparing Financial Statement of an entity.
- ❖ Equip students with theoretical and practical aspects of financial accounting statements
- ❖ Make students aware about various financial statement analysis methods.
- ❖ Appraise the students about recent developments in accounting from a managerial perspective.
- ❖ Understand and implement the fundamentals of Financial Accounting for Business.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Financial Accounting –I: Meaning, Definition; Accounting Principles: Concepts and Conventions, Classification of Accounts, Double Entry Book, Keeping rules; Accounting cycle. Overview of Accounting Standards, IFRS & Indian Standards: Meaning, Applicability, Difference between AS, IFRS & IND AS.	8
II	Introduction to Financial Accounting –II: Journal Entries, Ledger-posting Preparation of Trial Balance.	8
III	Understanding & Preparation Corporate Financial Statements: Corporate Profit & Loss Account, Corporate Balance Sheet (Only Vertical Balance Sheet), Basic Examples of Corporate Balance Sheet	8
IV	Preparation of Financial statements: Income Statement and Balance Sheet (with adjustments), Cash Flow statement, Cash from Operating, investing & financial statements, Preparation of Cash Flow Statement as per AS-3, Uses and Limitations, Depreciation Methods: Overview of Depreciation as per Straight Line Method and Written Down Value Method.	8

V	Financial Statement Analysis: Meaning, Definition and Purpose – Understanding of Financial Statements and their Components, Tools, Common Size, Comparative and Trend Analysis, Cross Section and Inter Firm Analysis, Ratio Analysis: Meaning, purpose and classification A Case study on Financial Statement Analysis of Select Company.	10
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EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Quizzes / Class Participation etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50%(External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	S K Bhattacharyya, John Dearden & S Venkatesh Vikas Publishing	Accounting for Management: Text and Cases	Vikas Publishing House	3 rd edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R- 01	Horngreen and Sundlem	Introduction to Management Accounting	Pearson	Latest
R – 02	Paresh Shah,	Financial Accounting for Management	Oxford University	Latest
R – 03	M.N. Arora	Cost and Management Accounting: Principle & Practices	Vikas Publishing House	Latest

R – 04	S.N. Maheshwari and S. K. Maheshwari	A Textbook of Accounting for Management	Vikas Publishing House,	Latest
R – 05	P.C. Tulsian	Financial Accounting	Pearson	Latest

Faculty of Management Studies: Master of Business Administration



PROGRAM	Master of Business Administration
SEMESTER	1
COURSE TITLE	Economics for Managers
COURSE CODE	04MB0102
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- ❖ To impart knowledge, with respect to principles and applications of Managerial economics in the market conditions.
- ❖ To address business problems in a globalized economic environment.
- ❖ To enhance the understanding capabilities of students about micro and macro-economic principles for decision making with the help of economic aspects
- ❖ To apply economic analysis for decision making process
- ❖ To use economic reasoning to solve the problems of business.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Demand and The Firm: Demand: Demand function and its Demand distinctions, Supply - Market equilibrium Consumers' Equilibrium using cardinal and ordinal utility (Indifference curves). Demand forecasting, Demand forecasting of new products. Firm and its Organization: Nature of the Firm and types of organizations. The Corporation: Ownership and Control.	08
II	Production, Cost Analysis and Market Structure: Theory of Production – Production function – Laws of Returns to a factor & returns to scale – Economies of scale and Economies of scope – Isoquants & Iso Cost Analysis: Cost Analysis – Cost concepts, Classification of costs; Short run and long run cost functions. Market structure and price - output decisions: pricing under perfect competition - competitive equilibrium and economic efficiency - market failures and role of government. Pricing under monopoly - Deadweight loss.	10
III	Pricing, Fiscal-Monetary Policy and Macroeconomic Market: Fiscal and Monetary Policy: Instruments of Fiscal Policy - Monetary Policy Instruments of Monetary Policy, Measuring the cost of living: Consumer Price Index - Inflation Rate using CPI Product market: Saving and Investment function, Consumption function, Aggregate supply and Aggregate demand, Investment multiplier, foreign trade and budget multiplier. Money market: Motive for holding money; Liquidity preference, Money demand, Money market equilibrium.	8
IV	Open Economy and Trade Cycles: Open economy: Determination of Exchange Rate. Effects of changes in trade on exchange rate. Purchasing Power Parity and Exchange Rates: Fixed and Flexible. Net Export and Output in an open economy. Impact of trade on GDP. Open economy multiplier. Trade Cycles: Theories of trade cycles and Aggregate demand	8



V	Price Discriminations and Market Imperfections: Price Discriminations -pricing under discriminating monopoly. Pricing under monopolistic competition, Shapes of AR, MR curve and their relationship in different market forms. Market Imperfections–Monopolistic, Collusive oligopoly, Monopsony and Oligopsony and price discrimination in different stages of market structure.	8
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EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (IA)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Textbooks:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	N Gregory Mankiw	Principles of Economics	Cengage Publication	6th Edition
T-02	Dominic Salvatore and Siddhartha K. Rastogi	Managerial Economics	Oxford	8 th Edition
T-03	Geetika Piyali Ghosh and Purba Roy Choudhury	Managerial Economics	McGraw Hill Education	3 rd Edition
T-04	Robert J. Gordon	Macroeconomics	Pearson	12 th Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	Fredrick S. Mishkin	Macroeconomics	Person	Second Edition
R-02	Rudiger Dornbusch, Stanley Fischer and Richard Startz	Macroeconomics	McGraw Hill Education	11 th Edition – Indian Edition
R-03	Lipsey & Chrystal	Economics	Oxford	13 th Edition – International Edition



PROGRAM	Master of Business Administration
SEMESTER	I
COURSE TITLE	Statistics for Management
COURSE CODE	04MB0103
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- ❖ Apply various Probability Distributions in analyzing Data and solving Decision Making Problems.
- ❖ Apply appropriate Sampling Technique in Choosing a Representative Sample from a Population and Examine the Population Parameters using Estimation Techniques.
- ❖ Interpret about the Population under study by applying various Hypothesis Testing Tools and arrive at conclusions about the Business Problem in hand.
- ❖ Analyze business data using correlation and regression analysis techniques.
- ❖ Apply forecasting techniques using time-series analysis.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Probability: Introduction to probability, different approaches to probability- Classical, Relative frequency and Subjective, Laws of probability – addition, multiplication; conditional probability, Bayes' theorem. Probability distributions: The concept of a random variable, Discrete Vs Continuous random variable, Probability Distribution of a Single Random Variable, Binomial, Poisson, Exponential and Normal probability distributions. Practical using MS-Excel: Application of BINOMDIST, POISSON, EXPONDIST, NORMDIST, NORMINV, NORMSDIST, NORMSINV in calculation of probability in MS-Excel.	12
II	Sampling Theory: Concepts of Population, Sample, Parameter, Statistic, Sampling distribution of Mean from Finite and Infinite Populations, Central Limit Theorem Hypothesis Testing: Introduction to Hypothesis Testing, Null and Alternative Hypotheses, One-Tailed Versus Two-Tailed Tests, Types of Errors, Significance Level and Rejection Region, Concept of P-value Single Sample Tests (Parametric): Z test for Population Proportion, Z-test for Population Mean, t-test for single mean Practical using MS-Excel: t-test for single sample	7

III	Two-sample Tests (Parametric): Z-test for means, t-test for means for independent samples, t-test for means for paired samples, Multiple Comparison: One-Way ANOVA Practical using MS-Excel: <ul style="list-style-type: none"> ➤ t-test for two means of independent samples ➤ paired t-test ➤ One-Way ANOVA 	7
IV	Correlation and Regression: The concept of correlation, Scatter plot, Pearson's correlation coefficient. Introduction to simple linear regression, Y on X line and X on Y line, prediction using regression line, Standard Error and Coefficient of Determination, Multiple Regression Analysis using MS Excel/spreadsheets only. Practical using MS-Excel: Illustration of simple linear regression and multiple linear regression in MS-Excel	8
V	Time Series Analysis: Introduction to time series, Components of time series, additive and multiplicative model of time-series (concepts). Trend Analysis: Introduction, Method of least square-Straight Line Trend, Second-Degree Polynomial Trend, Exponential Trend (numerical in software only). Seasonal Variations: Introduction, Calculation of seasonal index using Method Of Simple Averages, Ratio To Moving Average Method, depersonalization of additive and multiplicative time-series data. Practical using MS-Excel: fitting of linear trend, 2nd degree polynomial, exponential trend	8
NOTE: -	Instructors are advised to teach numerical using MS Excel in each module.	

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (10% using Software, 10% Assignments / Quizzes / Class Participation)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Richard I. Levin and David S. Rubin	Statistics for Management	Pearson	Latest Edition
T-02	Naval Bajpai	Business Statistics	Pearson	Latest Edition

Reference Books:

Sr. No	Author(s)	Title	Publisher	Edition & Year
R-01	J K Sharma	Business Statistics	Vikas Publishing House	Latest Edition
R-02	T N Srivastava and Shailaja Rego	Statistics for Management	TMH	Latest Edition
R-03	Joseph Francis	Business Statistics	CENGAGE	Latest Edition
R-04	D P Apte	M.S. Excel Tools for Managers	Excel	Latest Edition
R-05	K. B. Akhilesh & S. B. Balasubrahmanyam	Mathematics and Statistics for Management	Vikas	Latest Edition
R-06	Sanjiv Jaggia, Alison Kelly	Business Statistics	McGraw Hill	Latest Edition

PROGRAM	Master of Business Administration
SEMESTER	1
COURSE TITLE	Organisational Behaviour
COURSE CODE	04MB0104
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

Course Outcomes:

- ❖ To demonstrate the applicability of the concept of organizational behavior in order to understand the behavior of people in the organization.
- ❖ To describe how individual personality and behavior impact the typical contemporary work experience.
- ❖ To identify different motivational theories and evaluate motivational strategies used in the variety of organizational settings.
- ❖ To explain and explore the tension between individual versus groups and group dynamics in organizational life.
- ❖ To assess the impact of culture on organizational behavior.
- ❖ To evaluate the appropriateness of various leadership styles and conflict management strategies used in organizations.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Concept of Management Concept of Management, Management: Art and Science, Management Vs Administration, Levels of Management, Functions of management, Evolution of Management thought: Early contributions: Taylor and Scientific Management, Fayol's Administrative Management, Bureaucracy, Human Relations, and Modern Approach. Types of organisation structures. Case Study	8
II	Concept of OB and Understanding Dynamics of Individual Behaviour Models of OB, Disciplines contributing to the field of OB. Personality: Foundations of individual behaviour, Personality, Meaning and Importance, Development of personality, Determinants of personality, Theories of	9

	personality. Perception: Nature, Importance and Definition of Perception, Factors involved in perception, The Perceptual Process, Perceptual Selectivity and Organization, Applications in Organizations. Learning: Definition and Importance, Theories of learning, Principles of learning, Shaping as managerial tool. Case Study	
III	Attitude, Values and Motivation Attitudes: Sources and types of attitudes, Attitude formation and change, Cognitive Dissonance Theory. Effects of employee attitude, Job related attitudes Values: meaning, importance, source and types, and applications in organizations. Motivation: Meaning, process and significance of motivation, Early Theories of motivation: Hierarchy of Needs, Theory X Theory Y, Two Factor theory, McClelland Theory of Needs, Contemporary Theories of Motivation: Goal Setting theory, Self-Efficacy theory, Equity theory/Organizational justice, Expectancy theories. Case Study	9
IV	Understanding dynamics of Group behavior: Groups – Meaning, classification and nature of groups, Stages of group development, an alternative model for Temporary Groups with punctuated equilibrium model, Group properties: Roles, Norms, Status, Size and Cohesiveness, Group decision making. Teams -Meaning of teams, Types of teams, Creating Effective teams, what makes individuals into effective team players, Team development, Team decision making., Transactional Analysis and Communication. Case Study	8
V	Understanding Organizational dynamics of Behaviour: Conflict and Negotiation, Understanding Power and Organizational Politics, Organizational Culture, Basic Theories of Leadership, Behavioral theories, Fiedler model, LMX theory, Path-goal theory, Contemporary Issues in Leadership Practice. Case Study	8

EVALUATION:

The students will be evaluated on a continuous basis and broadly the scheme given below will be followed:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation etc.)	20% (C.E.C)
B	Internal Assessment	30% (I. A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Stephen Robbins	Organizational Behavior	Pearson Education	13th or Latest Edition



T-02	Fred Luthans, Brett C. Luthans, Kyle W. Luthans	Organizational Behavior: An Evidence Based Approach	McGraw-Hill	13 th Edition
T-03	Udai Pareek, Sushama Khanna	Understanding Organizational Behaviour	Oxford University Press	2016

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	P. Subba Rao	Organisational Behaviour Text, Cases and Games	Himalaya Publishing House	2015
R-02	Gregory Moorhead, Ricky W. Griffin	Managing Organizational Behavior	South-Western Cengage Learning	2012

PROGRAM	Master of Business Administration
SEMESTER	1
COURSE TITLE	Business Analytics
COURSE CODE	04MB0105
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- ❖ Judging business analytics and its role to support business decisions.
- ❖ Integrate ethical decision-making in structured or unstructured situations.
- ❖ Formulate appropriate analytical methods to find solutions to business problems.
- ❖ Evaluate basic framework for business intelligence systems and applications of business analytics.
- ❖ Integrate and Apply knowledge on Multidimensional Data Modeling and Data Warehousing to find solutions to business problems.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Business View of Information Technology Applications Business Enterprise Organization, Its Functions and Core Business Processes, Key Purpose of using IT in Business, Characteristics of Internet-Ready IT Applications, Enterprise Applications and Bespoke IT Applications, Information Users and their requirements. Case Study: Good Life HealthCare Group, Good Food Restaurants Inc, Ten to Ten Retail Stores	10
II	Digital Data Structured Data, Semi Structured Data, Unstructured Data, On-line Transaction Processing, On-line Analytical Processing, Different OLAP Architectures, Data Models for OLTP and OLAP, OLAP Operations in Multidimensional Data	8
III	Business Intelligence: BI Component Framework, BI Users, BI Applications, BI Roles and Responsibilities, Best Practices in BI, Evolution of BI, Need for BI at Virtually all Levels, BI for Past, Present and Future, BI Value Chain.	8
IV	Multidimensional Data Modeling Basics of Data Modeling, Types of Data Model, Data Modeling Techniques, Fact Table, Dimension Table, Typical Dimensional Models, Dimensional Modeling Life Cycle, Designing the Dimensional Model.	8
V	Data Warehousing: Objectives, Defining Features; Subject-Oriented, Integrated and, Time-variant and Nonvolatile Data; Data Granularity; Data Marts: How are They Different, 1 Top-Down Versus Bottom-Up Approach;- Overview of the Components Source Data, Data Staging, Data Storage, Information Delivery Component and Metadata component;, Management and Control Component ;Metadata in the Data Warehousing ,Types of Metadata.	8

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	U Dinesh Kumar	Business Analytics- The Science of Data-Driven Decision Making	Wiley	1 st Edition, 2017
T-02	R.N.Prasad & Seema Acharya	Fundamentals of Business Analytics	Wiley	2 nd Edition, 2016

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	Anil Maheshwari	Data Analytics	McGraw Hill Education	First edition, 2017)
R-02	Sahil Raj	Business Analytics	Cengage Learning	Latest Edition
R-03	James Evans	Business Analytics	Pearson	2 nd Edition, 2018

PROGRAM	Master of Business Administration
SEMESTER	1
COURSE TITLE	Business Communication
COURSE CODE	04MB0106
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- ❖ To explain the importance of business communication
- ❖ To develop formal communication instincts among students and help them implement the same
- ❖ To understand different dimensions of business communication
- ❖ To apply the concepts of communication in day-to-day life
- ❖ To understand the barriers to communication and the ways to overcome those in order to make communication effective

COURSE CONTENTS:

Unit No	Unit / Sub-Unit	Sessions
I	FUNDAMENTALS OF BUSINESS COMMUNICATION Meaning and importance of communication in business, Process of Communication, Principles of Verbal and Nonverbal Communication, Barriers to communication, Ways to overcome barriers, Approaches to effective communication, Communication in crisis	8
II	INTERPERSONAL COMMUNICATION Formal communication networks – (Downward, Upward, Horizontal, Informal communication networks, social media platforms as mode of communication and their etiquettes, 7 Cs of communication, English for Business (Building vocabulary through reading and Listening activities), How to convey an unpleasant communication, Organizational communication Prior-During-Post any emergency situation	8
III	INTRODUCTION TO READING AND LISTENING Types of reading; Skimming, Scanning, Intensive and Extensive, what is comprehension and how to comprehend, Effective listening skills, Barriers to effective listening, Ways to overcome barriers	8
IV	INTRODUCTION TO MANAGERIAL WRITING Principles of Effective Written Communication, Parts of business letters, Types of Business letters, Formal communication pertaining to employment, Memos, Curriculum Vitae, Writing Emails, 3X3 writing process for Business communication: Pre-writing, writing and revising. Preparing Reports and Proposals, Formal speeches, Presentation techniques	9
V	MANAGERIAL SPEAKING Arts of giving speech effectively, Handling Negotiations, Presentations on different topics, Mastering the art of interviews, Group discussion, Case study discussion, Role plays, Extempore	9

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Textbooks:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Meenakshi Raman, Prakash Singh	Business Communication	Oxford	Second Edition
T-02	Lesikar, Flatley, Rentz & Pande N	Business Communication: Making Connections in a Digital World	Tata McGraw	Eleventh Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Urmila Rai, S.M. Rai	Business Communication	Himalaya	Sixth Edition
R-02	Lehman	Business Communication	Cengage	Eleventh Edition
R-03	P.D.Chaturvedi, Mukesh Chaturvedi	Business Communication	Pearson	Second Edition

PROGRAM	Master of Business Administration
SEMESTER	1
COURSE TITLE	Entrepreneurship
COURSE CODE	04MB0107
COURSE CREDITS	3
COURSE DURATION	42 hours

COURSE OUTCOMES:

- ❖ Understand the concept of Entrepreneurship, family business and corporate entrepreneurship
- ❖ Apply the concepts and models of Entrepreneurship and analyze different entrepreneurial situations
- ❖ Explain the entrepreneurial Mindset and Personality
- ❖ Evaluate different opportunities of entrepreneurship and develop an entrepreneurial venture
- ❖ Demonstrate an understanding of different Government schemes for start ups

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Entrepreneurship: Importance of Entrepreneurship- Concepts of Entrepreneurship- Characteristics of successful Entrepreneurs-Classifications of Entrepreneurs- Myths of Entrepreneurship-Entrepreneurial Development Models- Problems faced by entrepreneurs and Capacity building for Entrepreneurship- Profiles of Successful Entrepreneurs- Women Entrepreneurs- Social Entrepreneurship	9
II	The individual entrepreneurial mind-set and Personality: The entrepreneurial journey- Stress and the entrepreneur - the entrepreneurial ego - Entrepreneurial motivations- Motivational cycle – Entrepreneurial motivational behavior – Entrepreneurial competencies. Corporate Entrepreneurial Mindset, the nature of corporate entrepreneur- conceptualization of corporate entrepreneurship Strategy- Sustaining corporate entrepreneurship.	9
III	Launching Entrepreneurial Ventures: Creativity and Business Idea, opportunities identification- Finding gaps in the marketplace – techniques for generating ideas-entrepreneurial Imagination and Creativity- the nature of the creativity process - Innovation and entrepreneurship. Methods to initiate Ventures- Creating new ventures-Acquiring an Established entrepreneurial venture- Franchising- advantage and disadvantages of Franchising.	9
IV	Government Support for Entrepreneurship Development: Initiatives for Start-up India-Stand up India and Skill India- Government of Gujarat schemes for Startup- Start up and ecosystem- Stand-up India: Women and Minority Entrepreneurship- Ease of Doing Business (EoDB): Overview, Ranking, Determinants of EoDB	8
V	Family Business: The distinction between family and non-family business - Importance of family business - Types - History - Responsibilities and rights of shareholders of a family business - Succession in family business - Pitfalls of the family business - strategies for improving the capability of family business - improving family business performance.	7

EVALUATION

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Quizzes / Class Participation etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	D F Kuratko and T V Rao	Entrepreneurship- A South-Asian Perspective	Cengage Learning	1 st , 2012
T-02	Poornima M Charatimath	Entrepreneurship Development and Small Business Enterprises	Pearson	Latest
T-03	Vasant Desai	The Dynamics of Entrepreneurial Development and Management	Himalaya Publishing House	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	Robert D. Hisrich, Michael P. Peters, Dean A. Shepherd	Entrepreneurship	McGraw Hill	Latest
R-02	Rajeev Roy	Entrepreneurship	Oxford	2 nd , 2012
R-03	Arun Sahay & V. Sharma	Entrepreneurship and New Venture Creation	Excel Books	Latest
R-04	Robert J Adams Jr. and Stephen Spinelli Jr.	New Venture Creation: Entrepreneurship for the 21st Century	McGraw Hill	Latest
R-05	Bruce R. Barringer, R. Duane Ireland,	Entrepreneurship Successfully launching new ventures	Pearson	4 th , 2015

PROGRAM	Master of Business Administration
SEMESTER	1
COURSE TITLE	IT Application in Management
COURSE CODE	04MB0108
COURSE CREDITS	2
COURSE DURATION	28 Hrs (28 sessions of 60 minutes each)

COURSE OUTCOMES:

- ❖ Understand the major components of Computer Architectures.
- ❖ Learn effective ways of Memory Management.
- ❖ Study of different types of Operating Systems.
- ❖ Realize the Networking Concepts

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction: Characteristics of Computers, Computer Generations, Types of Computers, Digital Block Diagram and different units, Input, Output, Storage and process Devices	08
II	Memory Managements: Primary Storages, Storage Capacity: Bit, Byte, MB, KB, GB, TB RAM, ROM, PROM, EPROM, Cache Memory, function of Cache Memory Secondary Storages: Punch Card, Magnetic Tape, Magnetic Disk, Floppy Disc, CD, DVD, Hard Disk, Pen Drive	08
III	Operating System: Definition and Functions, Evolution of Operating System Types of Operating System, Difference between Windows and Opensource Operating System, Batch Processing, Spooling, Multiprocessing, Multiprogramming, Time-Sharing, On-Line Processing, Real-Time Processing, High Level Language, Low Level Language, Language Converter: Compiler, Interpreter, Assembler. Networking: Introduction, LAN, WAN, MAN, Intranet, Internet, Internet Topologies OSI Model (Seven layers), Communication Media	12

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Quizzes / Class Participation etc.)	0% (C.E.C.)
B	Internal Assessment	50% (I.A.)
C	End-Semester Examination	50% (External assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T1	Rajaraman	Fundamentals of Computers	PHI	4th Edition
T2	Leonard Jessup, Joseph Valacich	Information Systems	PHI	2015

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	E. Turban	Information Technology for Management	Wiley N.Y.	1999
R-02	P.K. Sinha	Computer Fundamentals	BPH	2007
R-03	Oka Milind M	Computer Fundamental	Everest Publishing House	2010

PROGRAM	Master of Business Administration
SEMESTER	1
COURSE TITLE	Advanced Excel
COURSE CODE	04MB0109
COURSE CREDITS	2
COURSE DURATION	28 Hrs (28 sessions of 60 minutes each)

COURSE OUTCOMES:

- ❖ To apply advanced formatting tools, logical functions, and visualizations in excel to analyze the datasets.
- ❖ To summarize and interpret data by using pivot tables, Pivot charts by creating dynamic dashboards.
- ❖ To use data analysis tools in domain specific datasets

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Basic arithmetic operations; Cell formatting; Paste Special; Conditional Formatting; Insert Charts - advanced Charts; Conditional functions- If; If-And; If-Or; Nested If Function; Sorting-Filtering; Data Validation	09
II	Hyperlinking; Concatenate; Text to columns and Remove Duplicates; Sum if; Count if; Average if; Sum ifs; count ifs and average ifs; Vlookup & Hlookup; Index & Match Function; Working with PivotTables; Building PivotTable Formulas; Working with PivotCharts and Customizing PivotCharts.	09
III	Goal Seek; Scenario Manager & Data Table; Basic Statistics Functions; Macros (Basic); Solver & Get-Transform data; Basic Finance Functions; Building a simple Dashboard; Security Features & Printing Excel document	10

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Quizzes / Class Participation etc.)	0% (C.E.C.)
B	Internal Assessment	50% (I.A.)
C	End-Semester Examination (Practical/Viva)	50% (External assessment)

SUGGESTED READINGS:
Textbooks:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Michael Alexander	Excel 2019 Bible	Wiley	Latest-2019
T-02	Mike Smart	Learn Excel 2016 Essential Skills with the Smart Method: Courseware Tutorial for Self-Instruction to	Mike Smart	Latest-2016



		Beginner and Intermediate Level 2016		
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Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	Mike Smart	Learn Excel 2016 Expert Skills with the Smart Method: Courseware Tutorial Teaching Advanced Techniques	Mike Smart	Latest-2016
R-02	Wayne Winston	Microsoft Excel 2019 Data Analysis and Business Modeling (Business Skills)	Wayne Winston	6 th Edition- 2019

PROGRAM	Master of Business Administration
SEMESTER	1
COURSE TITLE	Cyber Security
COURSE CODE	04MB0110
COURSE CREDITS	2
COURSE DURATION	28 Hrs (28 sessions of 60 minutes each)

COURSE OUTCOMES:

- ❖ Understand the major concepts of Cyber Security.
- ❖ Evaluate impact of attacks.
- ❖ Implement different tools-based solutions for cyber-attacks.
- ❖ Analyze cyber law with aspect to cybercrime and security

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Cybercrime and Security Introduction, Cyber Security, Cybercrime, Classifications of Cyber Crimes: E-Mail Spoofing, Spamming, Cyber defamation, Internet Time Theft, Newsgroup Spam/Crimes from Usenet Newsgroup, Industrial Spying/Industrial Espionage, Hacking, Online Frauds, Pornographic Offenses, Software Piracy, Password Sniffing, Credit Card Frauds. Cyber offenses: How Criminals Plan that attack, Categories of Cybercrime, How Criminals Plan the Attacks: Passive Attack, Active Attacks, Scanning/Scrutinizing gathered Information, Attack (Gaining and Maintaining the System Access), Social Engineering, Cyberstalking.	08
II	Common attack and tools for Cyber Security Common attacks: Introduction, Phishing: Methods of Phishing, Phishing Techniques, Spear Phishing, Types of Phishing Scams, Phishing Toolkits and Spy Phishing, Phishing Countermeasures, Identity Theft (ID Theft): Personally, Identifiable Information (PII), Types of Identity Theft, Techniques of ID Theft, Identity Theft-Countermeasures, How to Protect your Online Identity, Proxy Servers and Anonymizers, Tools: Phishing implementation, Password Cracking, Keyloggers and Spywares, Steganography, DoS and DDoS Attacks, SQL Injection.	12
III	Cybercrimes and Cybersecurity: The Legal Perspectives Introduction, Why Do We Need Cyber Laws: The Indian Context, The Indian IT Act, Challenges to Indian Law and Cyber Crime Scenario in India, Consequences of Not Addressing the Weakness in Information Technology Act, Amendments to the Indian IT Act, Cybercrime and Punishment, Cyberlaw, Technology and Students: Indian Scenario.	08

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Quizzes / Class Participation etc.)	0% (C.E.C.)
B	Internal Assessment	50% (I.A.)
C	End-Semester Examination	50% (External assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	NINA GODBOLE, SUNIT BELAPURE, KAMLESH BAJAJ	Cyber Security	WILEY	1 st Edition, 2012

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	James Graham, Richar Howard,Ryan Olson	Cyber Security Essentials	CRC Press, Taylor and Francis Group	1 st Edition, 2010
R-02	Alfred Basta, Nadine Basta, Mary Brown, Ravinder Kumar	Cyber Security and Cyber Laws Paperback	CENGAGE INDIA	1 st Edition, 2018

PROGRAM	Master of Business Administration
SEMESTER	2
COURSE TITLE	Financial Management
COURSE CODE	04MB0201
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 Sessions of 60 minutes each)

COURSE OUTCOMES:

- ❖ Ability to understand fundamental concepts of finance, time value of money and Valuations of Bonds and Stock.
- ❖ Able to apply concept of cost of capital and capital budgeting in business decision making
- ❖ Analyze Financial decision and application of Leverage
- ❖ Analyze the significance of dividend decision on value of firm
- ❖ Application of various concept of working capital management and determination of working capital

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Overview of Financial Management Nature, Scope, Goals, Organization of Financial Functions. Conflict between shareholders interest and Managers and lenders, Agency costs and theory. Time value of Money - Concepts, Compounding, Discounting, Annuities. Valuation of Bonds, Preference shares and Equity	8
II	Cost of Capital & Capital Budgeting Decision Significance, Concept of the Cost of Capital, Component Costs of Capital - Cost of Debt, Preference Capital and Equity Capital, Weighted Average Cost of Capital (WACC). Capital Budgeting Decisions - Meaning, Discounting Capital Budgeting Techniques, NPV, IRR, PI, Discounted Payback, non-discounting Capital Budgeting Techniques, Payback & ARR	10
III	Financing Decision & Leverage Concept, Factors determining Capital Structure Decision, Sources of Long-Term Finance, Capital Structure Theories, NI Approach, NOI Approach, Traditional View, MM Theory with and without taxes. Leverage - Types of Leverage - Operating, Financial and Combined Leverage., Point of indifference	10
IV	Dividend Decision Dividend and dividend policy, Factors determining dividend decision, Dividend Theories, Relevance Theory, Gordon Model, Walter Model, Irrelevance Theory, MM Model	6
V	Working Capital Management Concepts of Working Capital, Sources of Short-term Finance, Operating Cycle, Determinants of Working Capital, Estimating Working Capital Needs Cash & Liquidity Management	8

	Cash Management Introduction, Motives of holding cash, Objectives of cash management, Cash budget, Cash Management Model, Baumol Model, Miller & Orr Model	
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EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Quizzes / Class Participation etc.)	20% (CEC)
B	Internal Assessment	30% (IA)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	I M Pandey	Financial Management	Vikash Publishing House	9 th Edition, 2005
T-02	Prasanna Chandara	Financial Management: Theory and Practices	Tata Mc Graw Hill	8 th Edition, 2011
T-03	M. Y. Khan and P. K. Jain	Financial Management	Tata Mc Graw Hill	5 th Edition, 2007

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	Rajiv Srivastava & Anil Misra	Financial Management	Oxford	2 nd Edition, 2011
R-02	P C Tulsian & Bharat Tulsian	Tulsian's Financial Management – A Self-Study	S. Chand	5 th Edition, 2017
R-03	R. P. Rastogi	Financial Management	Texmann	6 th Edition, 2018

Program	Master of Business Administration
SEMESTER	2
COURSE TITLE	Human Resources Management
COURSE CODE	04MB0202
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 Sessions of 60 minutes each)

COURSE OUTCOMES:

- ❖ To elaborate the role and importance of HRM
- ❖ To evaluate the job analysis process and its role in HR planning and further assess various recruitment and selection methods.
- ❖ To analyze the training and performance appraisal programs in the organizations.
- ❖ To understand the concept and methods of compensation management.
- ❖ To develop an understanding of the new industrial relations code.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Human Resource Management Introduction to HRM – Meaning, Evolution, Uniqueness of HR – Objectives - Functions - HR Manager’s Duties - New Approaches to Organizing HR, Case Study	9
II	Recruitment and Selection The basics of Job Analysis – Data Collection Techniques in Job Analysis – Job Description – Job Specification, HR Planning: Concept and Process, Recruitment & Selection Concepts and Methods, Induction and Placement, An introduction to HRIS, Case study	8
III	Training & Performance Management Significance of Training – Assessing Training Needs – Designing Formal Training Programs – Implementing Training Programs – Evaluation of Training Programs, Methods of training and their benefits Introduction to Performance Appraisal – Techniques –Organizational Demands and Performance Management- Linkage of Performance appraisal with Motivation at Work, Case study	9
IV	Compensation Objectives of Compensation Administration - Wage and Salary determination Job Evaluation and Methods- Innovations in Compensation Management – Incentive Plans, Bonus – Benefits & Services, Gratuity, PF, Pension. Case Study	8
V	Industrial Relations & Labor Legislation Introduction to Industrial Codes: An overview of the Codes on Social Security, Industrial Relations, Occupational Safety, Health and Working Conditions. Case Study	8



EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Quizzes / Class Participation etc.)	20%(C.E.C.)
B	Internal Assessment	30%(I.A.)
C	End-Semester Examination	50% (External Assessment)

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Gary Dessler and Biju Varkkery	Human Resource Management	Pearson	Latest
T-02	Pravin Durai	Human Resource Management	Pearson education Asia, New Delhi	Latest
T-03	Angelo Denisi, Ricky Griffin and Anita Sarkar	Human Resource Management -A South Asian Perspective	Cengage Learning	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	Sinha, Sinha and Shekhar	Industrial Relations, Trade unions and Labour Legislations	Pearson Education	Latest
R-02	P.K. Padhi	Labour and Industrial Relations	PHI Private Limited	4 th edition, 2019
R-03	S. C. Srivastava	Industrial Relations & Labor Laws	Vikas Publishing House Pvt Ltd	Latest
R-04	K. Aswathappa	Human Resource Management: Text and Cases	Tata Mc Graw Hill, 2013	Latest



PROGRAM	Master of Business Administration
SEMESTER	2
COURSE TITLE	Marketing Management
COURSE CODE	04MB0203
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- ❖ Understand fundamental marketing concepts, theories, and principles in areas of marketing.
- ❖ Analyze the market based on segmentation, targeting and positioning.
- ❖ Knowledge of consumer behavior and their decision-making process
- ❖ Apply the knowledge, concepts, tools necessary to overcome challenges, and issues of marketing in a changing technological landscape.
- ❖ Integrate product and service decisions with those on pricing, distribution and promotion.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
1	Introduction: Marketing- Definition, Scope, concepts; Company Orientation towards market place; Four P's and updated Four P's, Task of marketing Management; Marketing Environment, Marketing Value delivery process; Segmentation, Targeting and Positioning, case study	8
2	Buying behavior: Consumer Behavior -factors and process, Organizational Buying Behaviors; Participants in business buying; stages in buying process; Global market decision - entry strategies; marketing program for global markets. Case discussion on Consumer Behavior	8
3	Product and Branding: Classification of products, Differentiation, Product Life Cycle, and New Product Development process, Product line and mix, Product & brand relationship, Packaging; Service marketing introduction- categories of service mix; characteristics of services, managing service quality (SERVQUAL); Branding- scope and role of brand. Case discussion on Product strategies and branding, case study	9
4	Pricing and distribution: Pricing – process and strategies. Marketing channel- role of marketing channels; channel management decision; E commerce and M commerce concept; Online marketing. case study	9
5	Promotion: Integrated marketing communication-communication mix; process of communication; Retailing and wholesaling. Sales force management. Case discussion on promotion.	8

EVALUATION:

Faculty of Management Studies: Master of Business Administration



The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignment/ Quiz/ Class participation/ presentation/ etc.,	20% (C.E.C)
B	Internal assessment	30% (I.A)
C	End- Semester Examination	50% (External assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Philip Kotler, Kevin, Keller	Marketing Management	Pearson	15 th edition 2016
T-02	Philip Kotler	Marketing Management: A South Asian Perspective	Pearson Education India	15 th edition 2016
T-03	VS Ramasamy & S. Namakumari	Marketing Management: Planning, Implementation and Control: Global Perspective Indian Context	Macmilan India	4 th edition 2009

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
1.	Ramaswamy and Namakumari /	Marketing Management	Tata McGraw Hill	5 th edition 2017
2.	Rajan Saxena /	Marketing Management	Tata McGraw Hill	4 th edition 2009
3.	Arun Kumar and N Meenakshi /	Marketing Management	Vikas Publishing	3 rd edition 2016
4.	William D. Perreault, Edmund Jerome McCarthy	Basic Marketing-A Global Managerial Approach	Tata McGraw Hill	12 th edition 2000
5.	Situn Krushna Sahu, Sunil Kumar Pradhan	Marketing Management: An Indian Perspective	Educreation publishing	3 rd edition 2013

PROGRAM	Master of Business Administration
SEMESTER	2
COURSE TITLE	Production and Operations Management
COURSE CODE	04MB0204
COURSE CREDITS	3
COURSE DURATION	42 hours (42 Sessions of 60 Minutes each)

COURSE OUTCOMES:

- ❖ Identify a broad survey of the concepts and tools used in operations Management
- ❖ Understand the role of the operations management (OM) function in the performance of an organization
- ❖ Apply the latest concepts and techniques of materials, stores, and purchase management.
- ❖ Classify and analyze various inventory control methods and their applications in the industry.
- ❖ Construct appropriate strategies for sustainable development of organization by applying green practices and Waste management techniques.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction: Nature and Scope of Production and Operations Management. Importance of the OM. Differentiating between Goods and Services. Operations Strategy. Classifying the Process (Process Design). Facility Location and Facility Layout	08
II	Materials Management: Types of Inventory Systems, Costs of Inventory, Economic Order Quantity (EOQ) Models – Periodic Inventory Systems, Quantity Discount Model, Inventory Classification Systems. ABC, VED, FNS Analysis. Introduction to aggregate planning, capacity planning, MRP, ERP, BPR. Supply chain Management: Concept, significance in OM, Bullwhip effect (concept in brief)	10
III	Production Planning and Control: functions of PPC, Operations scheduling, project management: PERT Model, Determination of Critical Path, Distribution of Project Completion time, CPM Model, Time/Cost Relation, Crashing of a Project.	10
IV	Quality Control: Total Quality Management, Quality circle and quality control methods: Basics of Quality Control, Statistical Quality Control, ISO-9000. Introduction to JIT, Lean Manufacturing, Six Sigma, Kaizen	06
V	Impact of Global Competition, Technological Change, Ethical and Environmental Issues on Operations. Greening the Environment, Waste Management, SOFTWARE related to OM (Excel QM/QM for Windows)	06

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Quizzes / Class Participation etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED BOOKS
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Chase Richard B, et al	Production and Operations Management: Manufacturing and Services	Tata McGraw-Hill Pub. Co., New Delhi	12 th Edition
T-02	Buffa Elwood S & Sarin Rakesh K	Modern Production / Operations Management	John Wiley & Sons, Singapore	8 th Edition
T-03	Kanishka Bedi	Production and operations Management	Oxford Press	3 rd Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	Russel & Taylor	Operations Management	John Wiley & Sons	6 th edition
R-02	Chary S N	Production & Operations Management	Tata MacGraw-Hill, New Delhi	4 th edition
R-03	Kachru Upendra	Production and Operations Management	Excel Books	1 st edition
R-04	K. Aswathappa and K. Shridhara Bhat	Production and Operations Management	Himalaya Publications	2nd edition
R-05	S. A. Chunawala, Dr. Patel	Production and Operation Management	Himalaya Publications	7 th edition

PROGRAM	Master of Business Administration
SEMESTER	2
COURSE TITLE	Business Research Methods
COURSE CODE	04MB0205
COURSE CREDITS	3
COURSE DURATION	42 hours (42 Sessions of 60 Minutes each)

COURSE OUTCOMES:

- ❖ Appraise various sources of ethical dimensions of conducting research.
- ❖ Designing the basic framework of research process, research designs its techniques.
- ❖ Integrate and Apply knowledge on measurement & scaling techniques as well as sampling designs.
- ❖ Formulate different hypothesis and practice its testing methods in business decision making process.
- ❖ Appraise various sources of information for literature review.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Business Research Introduction , Difference Between Basic and Applied Research, Defining Business Research, Roadmap to Learn Business Research Methods, Business Research Methods: Structuring Research Proposal (Problem Statement, Research Objectives, Literature Review), A Decision Making Tool in the Hands of Management, Problem or Opportunity Identification, Diagnosing the Problem or Opportunity, Executing Business Research to Explore the Solution, Implement Presented Solution, Evaluate the Effectiveness of Decision Making.	08
II	Business Research Process Design Defining the Management Problem, Introducing the Dimensions to the Problem, Types of Research: Exploratory Research (Focus Group Interviews, Projective Techniques), Descriptive Research (Cross-Sectional Study, Longitudinal Study) , Causal Research. Measurement and Scaling Scales of Measurement, Criteria for Good Measurement (Validity, Reliability, Sensitivity), Measurement Scales (Single-Item Scales, Multi-Item Scales, Continuous Rating Scales)	11
III	Questionnaire Design Questionnaire Design Process (Phase I: Pre-Construction Phase, Phase II: Construction Phase, Phase III: Post-Construction Phase) Sampling and Sampling Distributions Random Sampling Methods [Simple Random Sampling, Stratified Random Sampling, Cluster (or Area) Sampling, Systematic (or Quasi-Random) Sampling, Multi-Stage Sampling], Non-random Sampling [Quota Sampling, Convenience Sampling, Judgement Sampling, Snowball Sampling] , Sampling and Non-Sampling Errors.	11
IV	Fieldwork and Data Preparation Fieldwork Process, Data Preparation Process, Data Analysis	8

	Non-Parametric Statistics Runs Test, Mann–Whitney U Test, Wilcoxon Matched-Pairs Signed Rank Test, Kruskal –Wallis Test.	
V	Preparing Reports Technical and Academic Report Writing, Significance of Report writing, Review of Literature, Layout of Research Report, Precaution for writing Research Report, Citations & Bibliography and Conclusion.	4

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Naval Bajpai	Business Research Methods	Pearson	2/E, 2017
T-02	Deepak Chawla & Neena Sodhi	Research Methodology: Concepts and Cases	Vikas Publication	2/E, 2016

Reference books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	Cooper And Schindler	Business Research Methods	Mcgraw-Hill Publication	12/E, 2014
R-02	C.R.Kothari And Gaurav Garg	Research Methodology: Methods and Techniques	New Age International	3/E, 2014
R-03	D.K. Bhattacharya	Research Methodology	Excel Books	2/E, 2006
R-04	Zikmund, W.G., Babin, B. J., Carr, J.C., Adhikari, A., & Griffin, M.	Business Research Methods: A South –Asian perspective.	Cengage Learning	4/E, 2016
R-05	Saunders, M., Lewis, P. & Thornhill, A.	Research Methods for Business Students.	Pearson Education Ltd.	5/E, 2011
R-06	Sekaran, U. & Bougie, R.	Research Methods for Business: A Skill-Building Approach.	John Wiley and Sons Inc.	4/E, 2016

PROGRAM	Master of Business Administration
SEMESTER	2
COURSE TITLE	Quantitative Techniques for Decision Making
COURSE CODE	04MB0206
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOME

- ❖ Develop the skill and ability to express a given real-life situation into a linear programming format and solve them.
- ❖ Formulate and Apply relationship between linear programming and its dual problem and distinguish between linear and integer programming problems.
- ❖ Understand special cases of Linear Programming Problem and Apply transportation methods in appropriate situations to numerous business problems.
- ❖ Apply assignment methods in appropriate situations to resource allocation problems.
- ❖ Analyze the problems of decision making under probabilistic situations and Evaluate decision trees to solve business problems.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	<p>Linear Programming Problem (LPP) 1 – Formulation: Introduction to Linear Programming, Requirements, Assumptions and Limitations and Application of LPP, LPP Model Formulation – Maximization Problems and Minimization Problems (Max 4-Variables and 4-Constraints), General Structure of Linear Programming Problems</p> <p>Linear Programming Problem (LPP) 2 – Graphical Method: Concept of Feasible Region, Solution of LP Problems using Graphical Method, Maximization and Minimization Problems (Max 4-Constraints),</p> <p>Special Cases in LPP – Multiple or Alternate Optimum Solutions, Redundant Constraint, Unbounded Solution, and Infeasible Solution</p> <p>Note: Constraints of all types (Less than type, Greater than type and combination of both the types) should be covered</p>	10
II	<p>Dual LP Problem and Sensitivity Analysis of LP Solution: Introduction to concept of Dual LPP, Relation between Primal Problem and Dual LPP, Economic Interpretation of Dual LPP, Conversion of Primal Problem to Dual LPP, Solution of LPP and Dual LPP using QM for Windows software, Introduction to Post-Optimal Sensitivity Analysis, Sensitivity Analysis on objective coefficients (c_j) and resources coefficients (b_i) using QM for Windows software</p> <p>Integer Linear Programming Problem: Introduction, Types of Integer programming problems (Pure-Integer, Mixed-Integer and Binary-Integer problems) and their applications, Model Formulation, Graphical solution of ALL-integer LPP, Solution of Integer LPP using MS Excel and QM for Windows software</p>	10

	Note: DUAL LPP with Max 3-Variables and 4-constraints, Mixed-constraints and Unrestricted Variables	
III	<p>Transportation Problem (TP) Introduction, Structure of TP, Solution of TP – Initial Feasible Solution (IFS) using Lowest Cost Method, Vogel’s Approximation Method (VAM) and Maximum Demand (MD) Method, Finding Optimal Solution using MODI Method, Types of Transportation Problem – Balanced and Unbalanced Problems, Minimization and Maximization Objectives, Case of Degeneracy and Prohibited or Restricted Route, Unique Optimum Solution and Multiple Optimum Solutions</p> <p>Note: Max 5X5 Transportation Matrix, MODI Method - Maximum One Iterations after IFS, Degeneracy to be covered at Conceptual Level, not to be Included in Numerical Problem Solution. Use of QM for Windows software to solve problems.</p>	8
IV	<p>Assignment Problem (AP) Introduction, Structure of AP, Solution of AP using Hungarian Method, Types of Assignment Problems - Balanced and Unbalanced Problems, Minimization and Maximization Objectives, Restricted Assignment, Unique Optimum Solution and Multiple Optimum Solutions, Travelling Salesman Problem (TSP)</p> <p>Note: Max 5X5 Assignment Matrix, Maximum Three Iterations after Row and Column Minimization. Use of QM for Windows software to solve problems.</p>	6
V	<p>Decision Theory: Introduction, Structure of Decision-Making Problem – The Decision-maker, Acts and Events, Payoff and Payoff Matrix, Regret or Opportunity Loss Table, Decision-Making under Risk – Expected Monetary Value (EMV), Expected Value of Perfect Information (EVPI), Expected Opportunity Loss (EOL), Decision-Making under uncertainty – Maximax and Maximin Payoff Criterion, Minimax Regret Criterion, Criterion of Equal Likelihood, Hurwitz α-Criterion</p> <ul style="list-style-type: none"> • Decision Tree Analysis: Single Stage Decision Problems. <p>Note: Use of QM for Windows software to solve problems.</p>	8

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (10% Assignments / Quizzes / Class Participation)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	J K Sharma	Operations Research	TRINITY Press	Latest Edition
T-02	Barry Render, Ralph M. Stair, Jr.	Quantitative Analysis for Management	Pearson	Latest Edition



Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	N D Vohra	Quantitative Techniques in Management	Tata McGrawHill	Latest Edition
R-02	Hamdy Taha	Operations Research	Pearson	Latest Edition
R-03	Anderson, Sweeny, Williams	An Introduction to Management Science	Cengage Learning	Latest Edition
R-04	V K Kapoor	Operations Research	Sultan Chand and Sons	Latest Edition
R-05	Hiller and Liebermann	Introduction to Operations Research	Tata McGraw Hill	Latest Edition

PROGRAM	Master of Business Administration
SEMESTER	2
COURSE TITLE	Costing for Managers
COURSE CODE	04MB0207
COURSE CREDITS	03
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- ❖ Learn the utilization of techniques of costing while imparting managerial functions.
- ❖ To enhance the managerial decision making by utilizing various techniques of costing.
- ❖ Ability to decide whether to continue or discontinue of particular product or product line.
- ❖ Apply Standard costing techniques in managerial decision making.
- ❖ Access the variance between actual and budgeted and make suitable adjustments in the future to have a control on operations of the firm.

COURSE CONTENTS:

Unit No	Unit / Subunit	Sessions
I	Introduction: Basic concepts; methods of costing, Techniques of costing, Cost ascertainment and cost estimation, Classifications of cost, Special costs for decision making, Cost centers, Cost Unit, Classification of cost	5
II	Marginal Costing: Cost Volume Profit Analysis; Break Even Analysis; Contribution Margin; P/V Ratio; Margin of Safety; BEP Graph – Limiting of Key Factor –A case study on BEP	8
III	Differential Cost Analysis: Determination of the most profitable levels of Production and price, introduction of new products or not; Changing product mix; Discontinuing a product to avoid the losses and increase profits-decision to drop product line; Acceptance Special orders or not, Make or Buy, Shutdown or Continue	10
IV	Standard Costing: Variance Analysis: Sales variance; Material variance; Labour variance and Overhead variances- Applications	9
V	Budgeting and budgetary control: Concept of budget, Concept of budgetary control, Objectives of budgetary control, Classification of budgets, Functional budgets, Cash budget, Master budget, Fixed and flexible budgets, budget reports, Zero base budgeting (ZBB), Performance budgeting.	10

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Quizzes / Class Participation etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Faculty of Management Studies: Master of Business Administration



Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	M. N. Arora	A Textbook on Cost and Management	Vikas Publication	Latest Edition
T-02	Ravi M kishore	Cost and Management Accounting	Taxmann	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	Khan and Jain	Management Accounting	TMH	Latest
R-02	Charles T, Horngren, S M	Cost Accounting	Pearson	Latest
R-03	P C Tulsyani	Cost Accounting	S Chand	Latest
R-04	V Rajshekharn & Lalitha	Cost Accounting	Pearson	Latest
R-05	Paresh Shah	Cost Accounting	Oxford	Latest

PROGRAM	Master of Business Administration
SEMESTER	2
COURSE TITLE	Basics of STATA
COURSE CODE	04MB0208
COURSE CREDITS	2
COURSE DURATION	28 hours (28 Sessions of 60 Minutes each)

COURSE OUTCOMES:

- ❖ Apply STATA for data management and analysis
- ❖ Analyze business data using visual representations
- ❖ Apply STATA for univariate and bivariate statistical analyses

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to STATA and Data Management Commands , Creating a New Dataset by Typing in Data , Creating a New Dataset by Copy and Paste , Specifying Subsets of the Data: in and if Qualifiers, Generating and Replacing Variables, Missing Value Codes , Using Functions, Converting Between Numeric and String Formats, Creating New Categorical and Ordinal Variables, Using Explicit Subscripts with Variables, Importing Data from Other Programs, Combining Two or More Stata Files, Collapsing Data, Reshaping Data, Using Weights, Creating Random Data and Random Samples	8
II	Graphs Commands, Histograms, Box Plots, Scatterplots and Overlays, Line Plots and Connected-Line Plots, Other Two-way Plot Types, Bar Charts and Pie Charts, Symmetry and Quantile Plots, Adding Text to Graphs, Graphing with Do-Files, Retrieving and Combining Graphs, Graph Editor, Creative Graphing.	10
III	Summary Statistics and Tables Commands, Summary Statistics for Measurement Variables, Exploratory Data Analysis, Normality Tests and Transformations, Frequency Tables and Two-Way Cross-Tabulations, Multiple Tables and Multi-Way Cross-Tabulations, Tables of Means, Medians and Other Summary Statistics, Using Frequency Weights	10

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	0% (C.E.C.)
B	Internal Assessment	50% (I.A.)
C	End-Semester Examination	50% (Practical/Viva) (External Assessment)

SUGGESTED READINGS:**Text Books:**

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Alan C. Acock	A Gentle Introduction to Stata	Stata Press	6 th Edition,2018
T-02	Michael N. Mitchell.	Data Management Using Stata: A Practical Handbook	Stata Press	2 nd Edition,2020

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	J. Scott Long	The Workflow of Data Analysis Using Stata	Stata Press	1 st Edition,2009

PROGRAM	Master of Business Administration
SEMESTER	2
COURSE TITLE	Digital & Social Media Marketing
COURSE CODE	04MB0209
COURSE CREDITS	02
COURSE DURATION	28 Hours (28 Sessions of 60 Minutes each)

COURSE OUTCOMES:

- ❖ Understand the Digital Marketing Environment for business
- ❖ Compare and analyze various social media platforms used for marketing
- ❖ Comprehend the idea SEO & Digital Display Ads and their analytics

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Digital Marketing: Evolution of Digital Marketing - Role of Internet in Modern Day Business – Traditional V/s Digital Marketing - Drivers of the new marketing environment – POEM Framework – Role of Websites for Business - Digital Marketing Plan	06
II	Social Media Marketing: Use of Social Media Platforms for Marketing – Facebook – Instagram – Linked In – Twitter – Mobile Marketing	12
III	Digital Advertising and Analytics: Introduction to SEO – Introduction to Search Engine Marketing (SEM) – Digital Display Marketing – Web Analytics	10

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	0% (C.E.C.)
B	Internal Assessment	50% (I.A.)
C	End-Semester Examination (Practical/Viva)	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Seema Gupta	Digital Marketing	TMH	2 nd Edition - 2020



T-02	Punit Bhatia	Fundamentals of Digital Marketing	Pearson	2 nd Edition - 2019
T-03	Jeremy Kagan, Siddharth Shekhar Singh	Digital Marketing - Strategy & Tactics	Wiley	2020

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	Ryan Deiss, Russ Henneberry	Digital Marketing for Dummies	Wiley	2020
R-02	Guy Kawasaki, Peg Fitzpatrick	The Art of social media	Portfolio	2015
R-03	Punit Bhatia	Social Media and Mobile Marketing	Wiley	2019

PROGRAM	Master of Business Administration
SEMESTER	2
COURSE TITLE	Programming And Coding
COURSE CODE	04MB0210
COURSE CREDITS	02
COURSE DURATION	28 Hrs (28 Sessions of 60 Minutes each)

COURSE OUTCOMES:

- ❖ Ability to devise a solution to a problem in various dimensions.
- ❖ Ability to express a solution in algorithmic and graphical forms.
- ❖ Ability to analyze and implement solutions using programming in C and Python language.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction of Programming & Logic development <ul style="list-style-type: none"> ● Concept of programming language and its futures ● Introduction of Algorithms with its looping features. ● Concept of flowchart with its standard symbols ● Overview about Programming C language with its features and applications ● Introduction of C program structures / sections. ● Concept of Tokens, Keywords, Identifiers, variable & Concepts, Data types ● Overview of various operators & I/O statements of Programming C. ● Control structure statements of C: If condition and looping structure 	10
II	Python Numpy library <ul style="list-style-type: none"> ● Introduction of Python Programming language and its features, ● Installation steps & overview of IDE of Python. ● Array attributes, array creation routines, array from existing data, Array from ranges, ● Concept of indexing, slicing, binary operators, ● Overview of histogram with matplotlib. 	09
III	Python Pandas library. <ul style="list-style-type: none"> ● Library Installation procedure ● Introduction to Series, data frame and pane, ● Concept of Reindexing and sorting ● Working with text data, ● Introduction of Statistical functions, aggregations, ● Categorical data and visualization. 	09

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	0% (C.E.C.)
B	Internal Assessment	50% (I.A.)
C	End-Semester Examination (Practical/Viva)	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	E Balagurusamy	Programming in ANSI C	Tata McGraw Hill	7 th Edition
T-02	Barry, Paul, Shroff	Head First Python: a brain friendly guide	Shroff Publishers & Distributors Pvt. Ltd.	2 nd Edition.

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	Herbert Schildt,	The complete Reference,	Tata McGraw Hill	11 th Edition
R-02	Hunt, John	A Beginners Guide to Python 3 Programming	Springer	2019

Online Web References:

- 1) www.tutorialspoint.com/cprogramming (Unit - 1)
- 2) www.tutorialspoint.com/numpy (Unit 2)
- 3) www.tutorialspoint.com/pandas (Unit 3)

PROGRAM	Master of Business Administration
SEMESTER	2
COURSE TITLE	Database Management Systems
COURSE CODE	04MB0213
COURSE CREDITS	03
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- * Understand the major DBMS concepts
- * Learn effective ways of building a model of the real world and optimizing it through normalization algorithms
- * Study of database concepts with emphasis on network, CODASYL, and relational models and their application to business systems.
- * Realize what database system is and list its characteristics
- * Write basic SQL statements for data creation

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Databases and Transaction: What is Database system, Purpose of Database System, view of data, Relational Databases, Database Architecture, Transaction Management Data Models: The importance of Data Models, Basic Building Blocks, Business Rules, The evolution of Data Models, Degrees of Data Abstraction. Object Oriented Data Model	08
II	Database Design, ER-Diagram and Unified Modelling Language: Database Design and ER Model: Overview, ER-Model, Constraints, ER-Diagrams, ERD Issues, Weak Entity Sets, Codd's rules, Relational Schemas, Introduction to UML	08
III	Relational Algebra and Calculus: Relational Algebra: Introduction, Selection and Projection, Set Operations, Renaming, Joins, Division, Syntax, Semantic. Operators, grouping and ungrouping, Relational Comparison. Calculus: Tuple Relational Calculus, Domain Relational Calculus, Calculus vs Algebra, Computational Capabilities.	10
IV	Constraints, Views and SQL: What is Constraints, types of Constrains, Integrity Constraints Views: Introduction to views, Data independence, security, updates on views, comparison between tables and views SQL: Data definition, Aggregate function, Null Values, Nested sub Queries, Joined relations, and Triggers	10
V	Relational database model: Logical view of data, keys, and Integrity rules: Relational Database design: Features of good Relational Database Design, Atomic Domain and Normalization (1NF, 2NF, 3NF, BCNF)	06

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

		Weight age
A	Assignment & Presentation	20%
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T1	A Silberschatz, H Korth, and S Sudarshan	“Database System and Concepts	McGraw-Hill	fifth Edition
T2	Rob, Coronel	Database Systems”	Cengage Learning	Seventh Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Rini Chakrabarti, Shilbhadra Dasgupta	Advanced Database Management System	Wiley	First Edition
R-02	Arun K. Majumdar, Pritimoy Bhattacharyya	Database Management Systems	McGraw Hill Education	2017
R-03	C.J. Date	An Introduction to Database Systems	Pearson	8 th Edition

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Strategic Management
COURSE CODE	04MB0301
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 Sessions of 60 Minutes Each)

COURSE OUTCOME

- ❖ To understand the strategic decisions that organizations make and have an ability to engage in strategic planning.
- ❖ To explain the basic concepts, principles and practices associated with strategy formulation and implementation.
- ❖ To evaluate challenges faced by managers in implementing and evaluating strategies based on the nature of business, industry, and cultural differences.
- ❖ To integrate and apply knowledge gained in basic courses to the formulation and implementation of strategy from holistic and multi-functional perspectives.
- ❖ To analyze the competitive situation and strategic dilemma in dealing with dynamic global business environments in terms of rapidly changing market trends and technological advancement.
- ❖ To analyze and evaluate critically real-life company situations and develop creative solutions, using a strategic management perspective.

COURSE CONTENTS:

Unit No	Unit / Subunit	Sessions
I	Strategic Management: Definition, Concept, Objective and Significance Understanding Strategy, Vision & Mission, Strategic Management Process, Growing Relevance of Strategic Management in India. Globalization addressing a VUCA environment with a bottom – up approach	7
II	Internal and External Environmental Analysis: Internal Environment: SWOT, TWOS, VRIO Framework, Resources, Core Competencies, Resource Base Model, I/O Model, Value Chain Analysis, Outsourcing in Value Chain. External Environment: Environmental Threat and Opportunity Profile (ETOP), Porter's Five Forces Model, Strategic Group Mapping, GAP Analysis, Portfolio Analysis, McKinsey's 7s Framework, GE 9 Cell Model, BCG Matrix. Balance Score Card, Case Studies.	12
III	Strategic Formulation: Strategic Formulation at Business, Strategic Formulation at Corporate & Strategic Formulation at Functional Levels, Strategic Formulation at Global Level, Strategic Alliance and Joint Ventures, Mergers & Acquisitions, Retrenchment Strategy, Turnaround Strategy, Divestment Strategy, Liquidation Strategy, Case Studies.	8
IV	Strategy Implementation: Total Quality Management, Various Structural Level (Entrepreneurial, Functional, Divisional, SBU, Matrix, Network Structure), Matching Organizational Structure with Different Strategies, Six Sigma, Strategic Leadership. Case Studies.	8
V	Strategic Control, Evaluation & Sustainability: Strategic Control, Corporate Governance and Business Ethics, Corporate Social Responsibilities, BoP Innovation, Value Innovation: Blue Ocean Strategy, Threat to Sustainability (Triple Bottom	07

Faculty of Management Studies: Master of Business Administration



Approach): People, Planet, Profit Concept, Strategic issues for SMEs & Non-Profit organisation, Case Studies.
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Evaluation:

The students will be evaluated on a continuous basis and broadly the scheme given below will be followed:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Textbooks:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Hitt, M., Ireland, R. and Hoskisson, R. [H.I.H]	“Strategic Management: Competitiveness and globalization – Concepts”	Southwestern College Publishing	11 th Edition
T-02	Arthur A. Thompson, A. J. Strickland, John E. Gamble and Arun K. Jain	Crafting and Executing Strategy: The Quest for Competitive Advantage – Concept and Cases”	Tata McGraw,Hill	16th Edition
T-03	A Nag	Strategic Management: Analysis, Implementation, Control	Vikas Publication	1 st Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	Michael E. Porter	Competitive Strategy: Techniques for Analyzing Industries and Competitors	Harvard Reviews	3 rd Edition
R-02	Subba Rao	Business Policy and Strategic Management: Text and Cases	Himalaya Publication	11th Edition
R-03	Michael Porter	Competitive Advantage: Creating and Sustaining Superior Performance	Harvard Free Press	1995
R-04	Azhar Kazmi	Strategic Management and Business Policy	Tata McGraw Hill	3 rd Edition

PROGRAM	Master of Business Administration (MBA)
SEMESTER	3
COURSE TITLE	Legal Aspects of Business
COURSE CODE	04MB0302
COURSE CREDIT	3
COURSE DURATION	42 hours (42 Sessions of 60 Minutes each)

COURSE

- ❖ Students would be able to analyze the importance of law and legal institutions in business
- ❖ Students would be able to exercise the laws relating to Indian Contract and Special Contract.
- ❖ Students would be able to design strategic norms of Consumer protection and Company Acts.
- ❖ Students would be able to analyze the Sales of Goods Act, 1930 and The Negotiable Instruments Act, 1881
- ❖ Students would be able to execute Knowledge of LLP and IPR.

OUTCOME
COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Indian Contract Act, 1872 Essential Element of valid contract: Offer and Acceptance, Consideration, Capacity to Contract, Free Consent, Legality of object, Void agreements and contracts, Performance of contract, Discharge of contract, Remedies for breach of contract Special Contract: Contract of Indemnity and Guarantee.	10
II	Sales of Goods Act, 1930: Basics, Conditions and warranties, Transfer of property, Performance of contract, right of an unpaid seller Negotiable Instrument Act, 1881: Negotiable instruments, Notes, Bills and Cheque, Parties, Negotiation, Presentment, Dishonour and Discharge of Negotiable instrument	06
III	Consumer Protection Act, 1986 Definitions, Consumer protection Council, Dispute redressal agencies, process to file complain, Appeal, Remedies Information Technology Act, 2000 Introduction, Objects and scope, Definitions of important terms, Digital signature, electronic governance, Cybercrime and remedies, power of central government to make rules	06
IV	Company Act, 2013 Nature of company, Kinds of company, formation of company, Memorandum of Association, Article of Association, Prospectus, Membership in a company, Share Capital, Meeting and proceeding, Company Management	08
V	Limited Liability Partnership, 2008 Salient Features of LLP, Differences between LLP and Partnership, LLP and Company, LLP Agreement, Partners and Designated Partners, Incorporation Document, Incorporation by Registration Intellectual Property Rights	12



	Introduction, their major types like Patents, Trademarks, Copyrights, Industrial designs, etc. Important provisions.	
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EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED BOOKS
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	N. D. Kapoor	Mercantile Law	Sultan Chand & Sons	Latest
T-02	Kuchhal MC	Mercantile Laws	PHI	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	Ravindra Kumar	Legal Aspects of Business	Cengage	Latest
R-02	Ramaswamy, B. S	Contracts and their Management	Lexis Nexis	Latest Edition
R-03	Singh, Avtar	Mercantile Law	Eastern Book Co	Latest Edition
R-04	S S. Gulshan	Business Law	Excel	Latest Edition
R-05	Sen and Mitra	Commercial Law including Company Law	World press	Latest Edition
R-06	Maheshwari	Principles of business law	Himalaya Publication	Latest

PROGRAM	Master of Business Administration
SEMESTER	3
TITLE OF THE SUBJECT	International Business
COURSE CODE	04MB0303
COURSE CREDITS	3
COURSE DURATION	42 hours (42 Sessions of 60 Minutes each)

COURSE OUTCOMES

- ❖ Apply knowledge theories in global marketing to learn insights of different cross-cultural markets to gain insights.
- ❖ Understand and examine historical transformations that led to the present moment of global conflicts.
- ❖ Understand the wide problems between the countries related to natural resources and its effects on development, peace and security of a country.
- ❖ Enhances different skill sets like planning, analysis, interpreting and evaluating information received across the globe through the internet to develop decision making capacity on an individual.
- ❖ To understand and interpret different geographical issues which are directly related to international markets.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Background of international Business: - Growth & expansion of International Business forces, & cost, Major challenges faced by environmental factors affecting business & Project. why international business is different from domestic business PESTEL analysis.	10
II	International Trade Theories Application: - Porter's Five Forces Analysis, The Boston Consulting group's product portfolio matrix (BCG matrix), instruments of trade control, cross national cooperation and agreements, & global foreign-exchange markets.	10
III	Different Entry Strategy: - Multinational strategy & its types, the firms as value chain, global integrations vs local responsiveness, country evaluation and import- export problems & its pitfalls, and direct Investments and collaborative strategies & its types, alliance types, licensing, franchising, management contracts turnkey operations joint ventures, equity alliances and others. selection business organization structure & its culture, control systems, and its types.	10

IV	Disruptions of supply chain: - International issues relating to global manufacturing factors influencing, suppliers' networks, foreign trade zones, international accounting and finance issues, differences in financial statements internationally, transaction & its issues, international human resources management, perspective of the expatriate & its management staffing frameworks.	08
V	International Application on World Business: Colonialism in India, Theories of International Relations and World History World war I & World War II, the shift of balance of power of Asia, Taiwan issue, Indian ocean & Indian maritime strategy. India & west Asia, transfer of wealth & politics of oil, energy security- oil gas and nuclear deals.	04

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

Sr. No	Particulars	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED BOOKS
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Radebaugh, Sullivan and Salwan.	International business: - elements and Operations	Pearson Education	15 th edition
T-02	Charles W. L. Hill & G. Tomas m Hult	International Business: Competing in the Global Marketplace	McGraw-Hill Education;	11 th edition 2016
T-03	Richard D. Lewis	When Cultures Collide, Leading Across Cultures	Nicholas Brealey Publishing	3 rd Editions.

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
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R-01	Charles W L Hill and Arun K Jain	International Business: Competing in the Global Marketplace.	Tata McGraw Hill	10 th Edition
R-02	Mike Peng and Deepak Srivastava	Global Business.	Cengage learning	4 th Edition
R-03	Haris Alibašić	Sustainability and Resilience Planning for Local Governments.	Springer International Publishing	1 st Edition
R-04	Aharon Klieman	Great Powers and Geopolitics.	Springer International Publishing	1 st Edition
R-05	Karen A. Mingst & Ivan M arreguintoft	International relations.	W. W. Norton & Company	7 th Edition
R-06	Marco Aliberti	India in Space: Between Utility and Geopolitics.	Springer International Publishing	1 st Edition

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Investment Analysis and Portfolio Management
COURSE CODE	04MB0304
COURSE CREDITS	3
COURSE DURATION	42 Hours (42 Sessions of 60 Minutes each)

COURSE OUTCOMES:

- ❖ Understand the different investment alternatives and their risk return pattern
- ❖ Assess the valuation of securities by applying fundamental and technical analysis
- ❖ Ability to judge the portfolio selection and find out optimum portfolio
- ❖ Awareness about various portfolio selections models and adopts their suitability in their professional life
- ❖ Ability to assess performance of portfolios by applying portfolio performance models

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Overview of Investment and Security Market: Concept of Savings and Investments, Investment V/S Speculation. Real and financial assets, Investment alternatives, Aim & Approaches of investment analysis, Investment process. Risk – Return of Security – Different types of Risks and Return, Systematic and Unsystematic Risk, Measures of Return and Risk, Historical and expected return, Covariance and Correlation of Securities.	10
II	Stock Market Analysis: Fundamental Analysis: E-I-C (Economic, Industry & Company Analysis). Technical Analysis: Dow Theory, Technical Indicators, Charts, Moving Averages, Oscillators, ROC, RSI, Technical Versus Fundamental analysis, EMH.	8
III	Construction of Portfolio: Constructing Optimal Portfolio Using Markowitz Portfolio Construction – Efficient Frontier and Minimum Variance Portfolio, Sharpe’s Single Index Model, Capital Market Theory – CAPM, SML, CML,	8
IV	Portfolio Performance Measures: Portfolio Execution and Portfolio Revision, Portfolio Performance Evaluation (Sharpe, Treynor’s, Jensen’s Ratio, VaR, M2 Calculations)Post Modern Portfolio Theory (Overview)	8
V	Bonds Valuation: Types of bonds, Duration of Bonds, Bond Management Strategies, Analysis of Bond (Rating). Bond pricing & Yield to Maturity (Yield to Call), Default Risk and Bond Pricing, Credit Default Swaps (Overview).	8

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)



C	End-Semester Examination	50% (External Assessment)
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SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Prasanna Chandra	Investment Analysis and Portfolio Management	Tata McGraw Hill	5th Edition, 2017
T-02	P. Pandian	Security Analysis and Portfolio Management	Vikas Publishing House	2nd Edition, 2012

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	Reilly/Brown	Investment Analysis and Behaviour	TMH	10th Edition, 2011
R-02	Zvi Bodie, Alex Kane, Alan J Marcus and Pitabas Mohanty	Investments	Tata McGraw Hill	11th Edition, 2019
R-03	Edwin Elton & Martin Gruber	Modern Portfolio Theory and Investment Analysis	Wiely	8th Edition, 2010

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Financial Statement Analysis
COURSE CODE	04MB0305
COURSE CREDITS	3
COURSE DURATION	42 Hrs. (42 Sessions of 60 minutes each)

COURSE OUTCOMES:

- ❖ To apply several basic financial statement analysis techniques
- ❖ To explain cash flow statement and return on invested capital and variations in its computation
- ❖ To analyze earnings persistence, its determinants, and its relevance for earnings forecasting
- ❖ To describe the process for equity valuation through using financial statement and provide an understanding of Risk and Sensitivity Analysis
- ❖ To prepare forecasted Balance Sheet, Income Statement, Cash flow Statement

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction & Overview: Business Analysis: Introduction, Types, Components, and Financial Statements-Basis of Analysis, And Understanding of Financial Statements: Balance Sheet, Income Statement, And Cash flow Statement & Auditors Report. A glance on methods of FSA: Comparative analysis, common size statement & trend analysis.	06
II	Cash flow & Profitability Analysis: Specialized Cash Flow Ratios: Cash Flow Adequacy Ratio & Cash Reinvestment Ratio, Interpreting Cash Flows. Components of Return on Invested Capital: Defining Invested Capital, Adjustments to Invested Capital and Income & Computing Return on Invested Capital Du Pont disaggregating 5 components model. Analysing Return on Common Equity: Disaggregating the Return on Common Equity, Computing Return on Invested Capital & Assessing growth on common equity.	10
III	Equity Analysis: Earnings Persistence: Recasting and Adjusting Earnings, Determinants of Earnings Persistence, Persistent and Transitory Items in Earnings, Earnings-Based Equity Valuation: Fundamental Valuation Multiples, Earning Power and Forecasting for Valuation: Earning Power Earnings Forecasting	06
IV	Valuation: Method of Comparable, Multiple Screening, Asset-based Valuation, Dividend Discounting, Discounted Cash Flow Analysis, Residual Earnings Analysis, Economic Value Added (EVA), Earnings Growth Analysis, Risk and Sensitivity Analysis	12
V	Prospective Analysis: The Projection Process: Projecting Financial Statements, Application of Prospective Analysis in the Residual Income Valuation Model, Trends in Value Drivers.	08

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	K. R. Subramanyam & John J. Wild	Financial Statement Analysis	McGraw Hill	10th Edition, Year 2009
T-02	Stephen Penman	Financial Statement Analysis and Security Valuation	McGraw Hill	5th Edition, Year 2012

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	Rao Peddina Mohana	Financial Statement Analysis and Reporting	PHI	2nd Edition, Year 2011
R-02	David Young, Jacob Cohen	Corporate Financial Reporting and Analysis	Wiley	3rd Edition, Year 2013

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Financial Markets and Institutions
COURSE CODE	04MB0306
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 Sessions of 60 minutes each)

COURSE OUTCOMES:

- ❖ Appreciate the need for and importance of Financial Markets and Institutions in India.
- ❖ Understand procedures of raising capital from the primary market and various legal aspects of Public Issue Management.
- ❖ Know Trading Mechanism and Settlement system of Secondary market.
- ❖ Apprehend various Financial and Non – Financial Institutions and regulatory aspects of such Institutions in Indian Financial System.
- ❖ Understanding the importance of various Non-Banking Financial institutions.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Financial Markets and Institutions: Indian Financial System, Components of IFS, Introduction to Financial Markets, Classification of Financial Markets, LPG and its Impact on Financial Markets, Challenges in Financial Markets. Introduction to Financial Institutions: Role of RBI as a regulator of Banking and Non-banking Financial Institutions, Structure of Financial Institutions in India.	8
II	Money Market: Meaning, Functions of Money Market, Participants and Instruments, Mechanism of Money Market, Role of RBI in Money Market, A Glance on Debt and Foreign Exchange Market.	8
III	Capital Market: Primary Market: Meaning, Functions, Different Participants, Public Issue, IPO, FPO, Rights Issue, Private Placement, Offer for sale, IPO Mechanism, Pricing of IPO - Fixed pricing, Book Building and Auctions. Secondary Market: Stock Exchange, Functions, Listing Norms, Stock Indices and its Computational Mechanism (Sensex, NIFTY), Trading settlement systems, key Role of SEBI.	10
IV	Banking Institutions: Evolution of Banking in India, Functions, Classifications of Banks (PSBs, Private Sector Banks, Foreign Banks, New Generation Banks, Small Banks, Payment Banks, Urban and State Cooperative Banks) Recent Developments, Problems and Challenges of Banking Industry.	8
V	Non – Banking Financial Institutions: History, Objectives, Administrative and Regulatory Framework of NBFIs, Role of NBFIs in Economic Development, Objectives, functions, Different Schemes, and Recent Developments in (1) SIDBI, (2) NHB, (3) EXIM Bank, and (4) NABARD. NBFCs and their Scope, Functions and Classifications, PDs and their Scope, Functions and Classifications.	8

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Bharti Pathak	Indian Financial System	Pearson	5th Edition, 2018
T-02	Vasant Desai	The Indian financial system and Development	Himalaya Publishing House	5th edition, 2013
T-03	Federic s. Miskin and Stanley G. Eakins	Financial Markets and Institutions	Pearson Publishing House	6th Edition, 2017

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	Anthony Saunders	Financial Markets and Institutions	McGraw Hill Publication	3rd Edition, 2017
R-02	Modigliani and Jones	Foundation of Financial Markets and Institutions	Pearson Education	4th Edition, 2009
R-03	Jeff Madura	Financial Markets and Institutions	Cengage Learning	10th Edition, 2014

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Corporate Taxation
COURSE CODE	04MB0307
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 Sessions of 60 minutes each)

COURSE OUTCOMES:

- ❖ Understand the basics of corporate taxation and tax planning
- ❖ Get acquainted with corporate tax in India
- ❖ Learn Corporate Tax Planning associated with managerial decisions
- ❖ Familiar with taxation provisions related to non-resident corporates
- ❖ Understand DTAA and tax implications on Foreign Collaborations

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	CORPORATE TAXATION – INTRODUCTION Meaning of Corporate taxation — Regulatory mechanism – Provisions of Income Tax Act, 1961 in brief - Corporate tax planning: Tax planning and Tax evasion - Relationship between corporate planning and corporate tax planning	08
II	CORPORATE TAX IN INDIA Definitions - Residential status - Tax incidence & Rates of Tax for companies - Minimum Alternate Tax [MAT] concept - Tax planning with respect to new business/undertaking: Planning with respect to specific locations, areas and industries - Tax benefit with respect to Exports	10
III	CORPORATE TAX PLANNING Tax planning with respect to Financial Management decisions - Tax planning with respect to Managerial decisions - Tax planning with respect to Liquidation, Amalgamation and Demerger	08
IV	NON-RESIDENT CORPORATES Tax planning - Double taxation relief - Transfer pricing and Advance ruling Concepts	08
V	INTERNATIONAL TAXATION Tax implications for foreign collaborations - Tax implications for Double Taxation Avoidance Agreements [DTAA]	08

EVALUATION:

Faculty of Management Studies: Master of Business Administration



The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Dr. Vinod K Singhania & Dr. Monica Singhania	Corporate Tax Planning and Business Tax Procedures	Taxman Publication	24 th Edition, September 2020
T-02	Girish Ahuja & Ravi Gupta	Direct Taxes Law & Practice	Commercial Law Publishers (India) Pvt. Ltd.	12 th Edition, 2020

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	Dr. Vinod K Singhania & Dr. Kapil Singhania	Direct Taxes - Laws & Practice	Taxman Publication	64 th Edition, 2020
R-02	T.N. Manoharan & G.R.Hari	Direct Tax Laws and International Taxation	Snow White	February Edition 2021

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	International Finance
COURSE CODE	04MB0308
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 Sessions of 60 Minutes each)

COURSE OUTCOMES:

- ❖ To provide comprehensive understanding of international business, its scope and significance for the financial manager.
- ❖ To understand international parity relationship and evaluate forces affecting exchange rate.
- ❖ To analyze exposures associated with currency fluctuations and strategies to manage it.
- ❖ To evaluate the international financial market and its structure.
- ❖ To appraise financial management of a multinational firms

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	International Finance – Overview Globalization and the Multinational Firm – Introduction to International Finance, Goal for international finance, Globalization, and world economy. International Monetary System– Evolution of monetary system, Bimetallism, Classical Gold Standard, Interwar period, Bretton Woods System, The Flexible Exchange Rate Regime, European Monetary System, world currency crises. Balance of payment – Balance-of-payment account, identity, Balance-of-Payments Trends in Major Countries	08
II	Fundamental Parity Relationships and Foreign Exchange Market International Parity Relationships and Forecasting Foreign Exchange Rates – Interest rate parity, purchasing power parity, Fisher effect, Forecasting exchange rate. The market for foreign exchange - Function and Structure of the FX Market, spot market and forward market.	08
III	Foreign Exchange Exposure Transaction Exposure – Meaning, Methods to mitigate transaction exposure, Economic Exposure – Meaning, measuring economic exposure & operating exposure, Managing Operating Exposure. Translation Exposure – Overview of translation methods, management of translation exposure.	08
IV	World Financial Market International banking and money market – Emergence of international banking, types of international banks, international money market, Global Financial crises. International Bond Market – Foreign bonds and Euro markets, Different instruments issued at international level, credit rating, major international indexes. International Equity Market – Market Structure, Trading Practices, and Costs, trading in international equities, Factors Affecting International Equity Returns. International Portfolio Investment – Optimal international portfolio selection, international bond investment, International mutual funds, international diversification through country funds.	10
V	Financial Management of the Multinational Firms	08



	Foreign Direct investment and Cross-Border Acquisition – Global trend in FDI, Cross border merger and acquisition, political risk and FDI. Multinational Cash Management – Management of international cash, Bilateral and multilateral Netting of Cash Flows, Cash management in practice. International Tax Environment – The objectives of taxation, types of taxation, national tax environment, transfer pricing, Blocked funds.	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Eun& Resnick	International Financial Management	Tata Mcgraw Hill	7 th Edition, 2017
T-02	P. G. Apte	International Financial Management	PHI	8 th Edition, 2020

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	J. Madura	International Financial Management	South Western Publication	11th Edition
R-02	Thummuluri Siddaiah	International Financial Management	Pearson	2 nd Edition, 2015
R-03	V. V. Sharan	International Financial Management	PHI - EEE	6 th Edition, 2019

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Financial Derivatives & Risk Management
COURSE CODE	04MB0309
COURSE CREDITS	03
COURSE DURATION	42 Hours

COURSE OUTCOMES:

- ❖ Demonstrate an understanding of the risk management approaches and techniques using derivatives
- ❖ Analyze the effectiveness of different hedging strategies using Forward and Futures contracts
- ❖ Formulate and solve problems requiring pricing derivative instruments and hedge market risk based on numerical data and current market trends
- ❖ Evaluate the effectiveness of different trading strategies using Call and Put Options
- ❖ Design & execute a swap using different underlying instruments such as interest rate and currency

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Overview of Risk and Derivative: Financial Risk Management: Concept of Risk, Types of Risk, Approaches to risk. Derivative: Definition, Objectives, types, Participants in derivative market: Hedgers, Speculators and Arbitrageur, Uses of Derivatives, Basic Derivatives terminology, Types of Orders, Derivatives in India, Exchange Traded and Over the Counter Markets.	08
II	Forward and Futures Contract: Forward: Meaning and types of forward contract, Structure and features of forward contract, FRA, Computation of Forward rates: Equity forwards, interest rate forward contracts, currency forward contracts. Pricing of forwards. Future: Introduction to Future market, future contract and future trading, clearing house, daily settlement, Margin and Marking to Market, Types of future contract, pricing of future, hedging strategies using futures, Single stock and Stock index futures.	09
III	Options and Strategies: Option Market: Introduction, Types of Options, Uses of Options, Payoffs from Options, Trading Strategies: Uncovered, Covered, Spread, Combination.	08
IV	Options Pricing & Greeks in options: Put Call Parity: Risk Free security and Put-call Implication. Options Valuation and Pricing. Factors Determining Option Price. Binomial Option Pricing model (Single period and two period), Black Scholes Models: Assumption, Pricing of call and put options. Options Greeks: delta, gamma, Vega, theta, rho. (Theory)	09
V	Swap Markets: Introduction, Types of swaps: Equity swaps, Interest rate swaps, Currency Swaps, commodity, and other Types of swaps, Swaptions, Valuation of Swaps. Risk in Swap.	08

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Sundaram Janakiramanan	Derivatives and Risk Management	Pearson Education	1st Edition, 2011
T-02	John C. Hull and Sankarshan Basu	Options, Futures and Other Derivatives	Pearson Education	9th Edition, 2016
T-03	Rajiv Srivastava	Derivatives & Risk Management	Oxford University	1st Edition, 2010

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	Robert A. Strong	Derivatives: An Introduction	Thompson Publications	2 nd Edition, 2004
R-02	S.L Gupta	Financial Derivatives theory, concepts, and problems	Prentice Hall	1 st Edition, 2005
R-03	Varma	Derivatives & Risk Management	Tata McGraw hill	1 st Edition, 2008
R-04	John C. Hull	Fundamentals of Futures and Options Markets	Pearson Education	9 th Edition, 2018
R-05	N.D. Vohra & B.R. Bagri	Futures and Options	Tata-McGraw Hill	2 nd Edition, 2003

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Consumer Behavior
COURSE CODE	04MB0310
COURSE CREDITS	3
COURSE DURATION	42 Hours (42 Sessions of 60 minutes each)

COURSE OUTCOMES:

- ❖ Students should be aware of basics of Consumer Behavior and Consumer Decision Making
- ❖ Students should be able to understand various theories of consumer behavior and learn its applications in the marketing field.
- ❖ Students should be able to analyze the product or service, its market and the factors affecting its purchase and usage.
- ❖ Evaluate and Correlate various models of consumer behavior with market situation
- ❖ Develop and implement successful marketing strategies by addressing
- ❖ Consumer's intrinsic and extrinsic Behavioral Factors

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
Unit I	INTRODUCTION: Consumer Behavior (CB) - Evolution, Decision Making Process, Implications of growing Technology for CB, Segmentation, Targeting & Positioning (STP) and its strategies , case study	07
Unit-II	INDIVIDUAL ASPECTS OF CONSUMER BEHAVIOR: Consumer Research Process, Consumer Motivation, Consumer Perception, Consumer Learning , case study	12
Unit-III	INDIVIDUAL ASPECTS OF CONSUMER BEHAVIOR: Consumer Attitude Formation – Tricomponent Attitude Model, Multi- attribute Attitude Model, The Trying-to-consume Model, & Attitude- toward the ad model, Diffusion of Innovation, Opinion Leader and Word of Mouth, three parts of brain theory for consumer decision making , case study	09
Unit-IV	EXTERNAL INFLUENCES ON CONSUMER BEHAVIOR: Influence of Family, Social Class, Reference Groups & Culture on Consumer Behavior, Social Stratification, Indian Core values , case study	07
Unit V	CONTEMPORARY ISSUES: Consumer Gifting Behavior, Personality traits, Marketing Ethics & Social Responsibility , case study	07

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)



B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Textbooks:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Schiffman, Wisenblit & S.Ramesh Kumar	Consumer Behavior	Pearson Education	10th Edition
T-02	Suja R Nair,	Consumer Behaviour in Indian Context	Himalaya Publications	1stEdition
T-03	S. Ramesh Kumar	Consumer Behaviour and Branding: Concepts	Pearson Education	2ndEdition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	Loudon & Della Bitta	Consumer Behavior	Tata McGraw Hill	4thEdition
R-02	Blackwell and Engel	Consumer Behavior	Cengage Learning	10th Edition
R-03	Hawkins & Mookerjee	Consumer Behavior: Building Marketing Strategy	McGraw-Hill	11th Edition

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Marketing Communications
COURSE CODE	04MB0111
COURSE CREDITS	3
COURSE DURATION	42 Hours (42 Session of 60 minutes each)

COURSE OUTCOMES:

- ❖ Understand the basic principles of IMC.
- ❖ Remember the concepts of campaign design
- ❖ Analyze the campaigning techniques for promotion
- ❖ Evaluate the options of Marketing communication
- ❖ Understand strategies and tactics to develop an overall communications campaign

COURSE CONTENTS:

Unit No	Unit / Sub-Unit	Sessions
	INTRODUCTION TO IMC: The role of Advertising in Marketing Communication, Advertising & Media Agency: Role, Culture, Structure, Types and Functions, Introduction to Integrated Marketing Communication elements, Campaign Cases: Illustration of India's top 10 as well as World's top 10 agencies and their campaigns, case study	14
II	ADVERTISING Advertising Objectives, Advertising Budgeting, DAGMAR & Designing, AIDA, case study	06
III	CAMPAIGN DESIGN Campaign Planning, Design & Production, Creative strategies, Advertising Appeals, Campaign Development . Cases: Ad campaigns with various appeals Activity: Campaign design (in groups), case study	08
IV	CAMPAIGN EXECUTION 360 degree Media Strategy & Planning (ATL & BTL) Digital Media: Role, Objective and Payment Methods Media Execution: Evaluation of broadcast, out-of-home and print media, Campaign Evaluation, Ethical responsibilities of advertiser Presentation: Media execution for the designed campaign, case study	07
V	SOCIAL MEDIA Social Networking (Facebook, Instagram, twitter, LinkedIn, etc.) Social Media (Broadcast, Podcasts, Blogging, etc.) Search Engine Optimization, E-commerce companies and their communication, case study	07

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
TEXTBOOKS:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Belch and Belch	Advertising and Promotion: An Integrated Marketing Communications Perspective	McGraw-Hill	11th Edition
T-02	Rajeev Batra, John G. Myers, David A. Aaker	Advertising Management	Prentice-Hall of India	5th Edition

REFERENCE BOOKS:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Kazmi & Batra	Advertising and Sales Promotion	Excel Books	3rd Edition
R-02	Duncon	Integrated marketing Communications	TMH	2nd Edition

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Product & Brand Management
COURSE CODE	04MB0312
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 Session of 60 Minutes Each)

COURSE OUTCOMES:

- ❖ Understand and define the purpose, process and model of brand building and its importance to the marketer.
- ❖ Understand the importance and the role of Brand Positioning and Brand Resonance & the process of acquiring the value through Brand Value Chain.
- ❖ Apply the concepts of Brand Elements for building the Brand Identity & Brand Personality.
- ❖ Formulate the Designing and Implementation of Branding Strategies such as Brand Extension, Brand Architecture and Brand Portfolio.
- ❖ Analyze the various concepts and models of Brand Equity and calculate the Brand Equity using various methods.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
Unit I	INTRODUCTION Brands & Brand Management, Brand Positioning and Values, Brand Elements, Brand - Product Relationship, Case study	06
Unit-II	CUSTOMER BASED BRAND EQUITY CBBE (Customer Based Brand Equity), Designing Marketing Programs to Build Brand Equity, Integrating Marketing Communications to Build Brand Equity, Leveraging Secondary Brand Knowledge to Build Brand Equity, Case study	09
Unit III	MANAGING BRAND EQUITY Developing Brand Equity Measurement and Management System, Measuring Sources of Brand Equity, Measuring Outcomes of Brand Equity, New Products in a Brand Umbrella, Case study	09
Unit IV	GLOBAL BRAND STRATEGIES Design and Implementing Branding Strategies, Managing Brands Over Time, Managing Brands Over Geographic Boundaries and Market Segments, Case study	09
Unit V	CONTEMPORARY ISSUES Brand Extension, Brand Partnerships, Brand Revitalization, Brand Mantra, Brand Hierarchy, Case study	09

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Particulars	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

TEXT BOOKS:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Kevin La ne Keller	Strategic Brand Management	Pearson Education	3rd Edition
T-02	S. Rame sh Kumar	Managing Indian Brands, Marketing Concepts & Strategies,	Sultan Chand and Sons.	2nd Edition

REFERENCE BOOKS:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	Elliott Richard and Percy Larry	Strategic Brand Management	Oxford University Press	3rd Edition
R-02	Y.L.R. Moorthi	Brand Management: Indian Context	Sangam Books Ltd	1st Edition
R-03	J.N. Kapferer	The New Strategic Brand Management	Kogan Page	5th Edition

PROGRAM	Master of Business Administration (MBA)
SEMESTER	3
COURSE TITLE	Marketing Research
COURSE CODE	04MB0313
COURSE CREDIT	3
COURSE DURATION	42 hrs (42 Sessions of 60 minutes each)

COURSE OUTCOMES:

- ❖ Develop a focus towards basic concepts of marketing research methodology.
- ❖ Understand the implications of marketing research for a business enterprise.
- ❖ Acquaintance with designing marketing research and data analysis for useful decision making in a business environment.
- ❖ To be able to understand and apply the statistical tools to analyse the data and suggest solutions.
- ❖ To be able to formulate a research proposal and to present research finding in research report

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
Unit I	Introduction to Marketing Research The nature of Marketing Research – Information and Decision Making – the Marketing Research Department, Industry and areas of applications, Marketing Information System, case study	08
Unit-II	Data Collection Methods and Sampling Techniques Secondary Data: Collection and Evaluation, Basic Methods of Primary Data Collection, Attitude Measurement and Scaling Techniques , Data Collection: Basic Forms (Questionnaire, Schedule etc.), Reliability and validity of data, determining sample size Sampling, Types of Samples, Sampling Problems and Procedures, Sample size decisions, Administering the Data Collection (field procedures), Data Preparation and Processing. case study	10
Unit-III	Statistical Tools Simple Regression, Testing the slope and model of regression, - Regression Analysis Types of Regression Analysis Factor Analysis (Advertising Theme Decisions etc.) – Fundamental Theorem & Central Concept, Factor Extraction Methods & Criteria, Factor Rotation & Scores. case study	09
Unit IV	Tools And Techniques for Market Research-II Cluster Analysis (Market Segmentation etc.)–Concepts and Process, Discriminant Function Analysis (Brand & Product Line Decisions etc.) - Multidimensional Scaling (concept), Conjoint Analysis. Multivariate Data Analysis Techniques, case study	09

Unit V	Report preparation and Interpretation Technical and Academic Report Writing, Significance of Report writing, Layout of Research Report, Precaution for writing Research Report and Conclusion. Ethics and Marketing Research, case study	06
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EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments/ Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
TEXTBOOKS:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Naresh S Malhotra & Dash	Marketing Research	Pearson Education	Seventh Edition
T-02	Luck and Rubin	Marketing Research	Prentice Hall India	Seventh Edition
T-03	Rajendra Nargundkar	Marketing Research: Text and Cases	Tata McGraw Hill	Third Edition

REFERENCE BOOKS:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	Churchill and A Gilbert Jr	Basic Marketing Research	Cengage Learning	Seventh Edition
R-02	G C Beri	Marketing Research	Tata McGraw Hill	Fifth Edition
R-03	Churchill and Laccubucci	Marketing Research: Methodological Foundations	Cengage Learning	Eighth Edition
R-04	Green Paul E &TullDonald S	Research f	PHI	Fifth Edition



		or Marketing Decisions		
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Faculty of Management Studies: Master of Business Administration



PROGRAM	Master of Business Administration (MBA)
SEMESTER	3
COURSE TITLE	Analytics for Marketing Management
COURSE CODE	04MB0314
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 Sessions of 60 Minutes Each)

COURSE OUTCOMES:

- ❖ Understand the decision-making process and the role of Marketing Analytics as a decision support tool in an organization.
- ❖ Choose appropriate tools/techniques to summarize marketing data.
- ❖ Propose optimum price of the product to maximize profit.
- ❖ Distinguish customers with the use of cluster analysis and collaborative filtering of markets.
- ❖ Examine the S curve to estimate the sales of new product

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
Unit I	Introduction to Analytics: Marketing Analytics as an enabler of Marketing Strategy. MARKETING STRATEGY: Market Segmentation and Product Positioning, Market Segmentation, Market Targeting, Target Market Strategies, Product Positioning and Differentiation, Choosing a Differentiation and Positioning Strategy. Use of cluster analysis and collaborative filtering for market segmentation. case study	05
Unit-II	Product Analytics: Pricing Analytics (Pricing and Revenue Management) Pricing, Estimating Demand Curves and Optimize Price, Price Bundling, Non Linear Pricing and Price Skimming, Assortment Optimization: Panel and Point-of-Sale data, Customer meets product, A retailer's nightmare: shelf-space optimization, Site-to-store, Product meets customer, case study	10
Unit III	Customer Analytics: Loyalty Data, Market Basket Analysis, Market-Basket Data, Product Affinities, Use of S curve for new product, Customer Value Analysis, Customer Lifetime Value, Conjoint Analysis, case study	10
Unit IV	Channel Analytics: Web Analytics, Online Data, Marketing Budget Optimization Across Channels., Advertising and Promotion Analytics, Data Mining and Social Media, Web and Social Media Analytics, RFM Analysis, case study	10

Unit V	Using Excel to Summarize Marketing Data, Slicing and Dicing Marketing Data with PivotTables, Excel Charts to Summarize Marketing Data, Excel Functions to Summarize Marketing Data, Introduction to R, Text Analytics, case study	07
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EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ Practical Record / Practical Examination etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination (Practical / Viva)	50% (External Assessment)

SUGGESTED READINGS
Textbooks:

Sr. No.	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Wayne L Winston	Marketing Analytics: Data Driven Techniques with Microsoft Excel	Wiley	First edition - 2014
T-02	Chapman, Christopher N., McDonnell Feit, Elea	R for Marketing Research and Analytics	Springer	Latest edition
T-03	Erik Haugom	Essentials of Pricing Analytics: Tools and Implementation with Excel	Routledge	1 st edition, 2021
T-04	Thomas T. Nagle & Georg Muller	The Strategy and tactics of Pricing: A Guide to Growing More Profitability	Routledge.	6 th edition. 2018

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	Jaiwei Ham and Micheline Kamber	Data Mining concepts and techniques	Kauffmann Publishers 2006	Latest edition
R-02	Field A., Miles J. & Field Z. (2012)	Discovering Statistics Using R.	Sage. p.	1st edition
R-03	Avinash Kaushik	Web Analytics 2.0: The Art of Online Accountability and Science of Customer Centricity	John Wiley & Sons;	2009
R-04	Robert L. Phillips	Pricing and Revenue Optimization	Stanford Business Book, 2005	Latest edition

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Retail Management & Services
COURSE CODE	04MB0315
COURSE CREDITS	03
COURSE DURATION	42 Hours

COURSE OUTCOMES:

- ❖ Understand the Retail Scenario prevailing in India and the world
- ❖ Compare and analyze various formats of organized retailing.
- ❖ Comprehend the Merchandise Management in organized retail formats
- ❖ Evaluate Consumer Behavior towards retailing offline & online
- ❖ Understand the applications of ICT in retail operations

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Retailing: Defining Retail – Evolution & Development – Organized v/s Unorganized Retailing – Functions – Forms & Formats of Retailing – Store and Non-Store Retailing – Franchising - Retailing in India – International Retail Scenario – Career in Retailing – Case Study	08
II	Buyer Behavior in Retail: Retail Buying Decision Making Process – Influencing Factors Affecting Retail Purchase – Influence of Group & Individuals – Customer Service in Retail – Retail Service Gap – Consumer Connect with Social Media Platforms – Online Reputation Management – Case Study	10
III	Retail Store Management: Retail location – types & factors to be considered – Store Layouts and Design – Space Planning - Shelf Management – HRM and Operations Management for Store - Visual Merchandising – Promotions – Case Study	08
IV	Branding & Merchandising in Retail: Branding Basics for Retailing – Assortment Planning – Category Management – Merchandise planning – Buying Merchandise – Retail Pricing – Case study	08
V	ICT in Retail: Applications of Information & Communication Technology in Retailing for Logistics Management – CRM – Warehousing – Transportation – POS machines – Inventory Management - Franchise Management – E-Tailing & M-Tailing – Case Study	08



EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ Practical Record / Practical Examination etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination (Practical / Viva)	50% (External Assessment)

SUGGESTED READINGS:
Textbooks:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Swapna Pradhan	Retailing Management Text and Cases	TMH	6th Edition - 2020
T-02	Michael Levy, Barton Weitz, Dhruv Grewal	Retailing Management	McGraw Hill Higher Education	10th Edition - 2017
T-03	Barry R. Berman, Joel R. Evans, Patrali M. Chatterjee	Retail Management – A Strategic Approach	Pearson	2017

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	Gibson G Vedamani	Retail Beyond Detail	SAGE	2018
R-02	David Gilbert	Retail Marketing Management	Pearson	2 nd Edition - 2006
R-03	Richard Hammond	Smart Retail	Pearson	2018

PROGRAM	Master of Business Administration (MBA)
SEMESTER	3
COURSE TITLE	Change Management & Organization Development
COURSE CODE	04MB0316
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 Sessions of 60 Minutes each)

COURSE OUTCOMES:

- ❖ To understand different approaches to manage organizational changes
- ❖ To recognize common symptoms and reactions to change in the workplace and recommend interventions to address the resistance
- ❖ To determine the role of an OD practitioner as a facilitator and understand the key competencies suitable for application of OD interventions
- ❖ To recognize the need of managing change and various interventions in the organization
- ❖ To distinguish between reactions and resistance to change
- ❖ To examine OD techniques by means of behavioral simulations and cases.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
Unit I	Introduction to Change Management & Organization Development Meaning of Change Management & Types, Introduction to Organization Development, The Evolution and Growth of Organization Development, Model for Organization Development, The Systems Approach, The Socio-Technical System, Understanding Corporate Culture, The Goals and Values of Organization Development, Organization Development in Global Settings, OD Profession in India	08
Unit II	The Process of Organization Development OD Practitioner Styles, The Intervention Process, The Diagnostic Process, Individual, Group & Organization level diagnosis, The Life Cycle of Resistance to Change, Driving Forces & Restraining Forces of Change Program, Strategies to Control Resistance	08

Unit III	Human Process Interventions Introduction to Process Intervention, Types of Process Intervention, Basic strategies to change, The Integration of Change Strategies, Employee Empowerment, and Interpersonal Interventions	08
Unit IV	Team Interventions The Need for Team Development, The Team Development Process, Cooperation versus Competition, Managing Conflicts, Work Team Development, Self-Managed Work Teams	08
Unit V	Successful Organizations System-wide Interventions, Learning Organizations, High- Performing Systems, Organizational Transformation and Strategic Management, Future Trends in Organization Development, Organization Development in Nonindustrial Settings: Health Care, School Systems, the Public Sector, and Family-Owned Businesses	08

EVALUATION:

The students will be evaluated on a continuous basis and broadly the scheme given below will be followed:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS
Textbooks:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Donald R. Brown, Donald Harvey	An Experiential Approach to Organizational Development	Pearson	8 th edition
T-02	Wendell L. French, Cecil Bell, Robert A. Zawacki	Organization Development and Transformation: Managing effective change	McGraw-Hill/Irwin	6 th edition



Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	Thomas Cummings, Christopher Worli	Theory of Organization Development and Change	Cengage Learning	9 th edition
R-02	S.K. Bhatia	Managing Change and Organization Development	Deep and Deep Publications	1 st edition
R-03	Harsh Pathak	Organizational Change	Pearson	1 st edition

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Compensation Management
COURSE CODE	04MB0317
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 Sessions of 60 Minutes Each)

Course Outcomes:

- ❖ To decode the underlying Compensation Philosophies of different organizations as why they value, what they value, and how they value the contributions of employees from different functions and levels across in the organizations.
- ❖ To recognize the significance of the basic issues of compensating human resources.
- ❖ To analyze, integrate, and apply the knowledge to solve compensation related problems in organizations.
- ❖ To create a Pay Structure for different occupational groups by defining Pay Levels and Pay Forms taking into consideration internal equity and external competitiveness.
- ❖ To recognize the legal aspects affecting Compensation.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Fundamentals of Rewards Management & Aspects of Reward Management Reward Management Overview, Total Rewards, Strategic Rewards, Factors affecting reward, financial rewards, Non-financial rewards.	10
II	Aspects of Reward Management & Base pay management Motivation and reward, Engagement and reward, Performance and reward, the ethical approach to reward and performance management, Job evaluation, Market pricing, Grade and pay structures, Rewarding and recognizing performance,	9
III	Rewarding and recognizing performance and Rewarding Special Groups pay progression through contingent pay, Bonus schemes, Team pay, rewarding for business performance, Recognition, Rewarding Chief Executives, Rewarding Sales and Customer Service Staff, Rewarding Knowledge Workers, International Rewards, Compensating Gig Workers	8
IV	Employee Pension, Benefits and The Practice of Reward Management Employee Pension and Benefits, Flexible Benefits, Evidence-based reward management, Managing Reward System, Managing Reward Risk	7
V	Legal Aspects of Compensation The Code on Wages, 2019; Employees' Compensation (Amendment) Act, 2017, Maternity Benefit Amendment Act, 2017, Employees' State Insurance Act, 1948 with latest amendments, Employees' P F & Miscellaneous Provisions Act, 1952 with latest provisions.	8



EVALUATION:

The students will be evaluated on a continuous basis and broadly the scheme given below will be followed:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation etc.)	30% (C.E.C)
B	Internal Assessment	20% (I. A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Textbooks:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Michael Armstrong	Armstrong's Handbook of Reward Management Practice	Kogan Page Publishers	2019, 6 th Edition
T-02	P. K. Padhi	Labour and Industrial Laws	PHI Learning Pvt. Ltd.	4 th Edition
T-03	P. R. N. Sinha, Indu Bala Sinha, Seema Priyadarshini Shekhar	Industrial Relations, Trade Unions and Labour Legislation	Pearson India	2017

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	Joseph J. Martocchio	Strategic Compensation: A Human Resource Management Approach	Pearson	2020
R-02	Richard I Henderson	Compensation Management in a Knowledge-Based World	Pearson/Prentice Hall	10 th Edition
R-03	Lance A. Berger, Dorothy Berger	The Compensation Handbook, Sixth Edition: A State-of-the-Art Guide to Compensation Strategy and Design	McGraw-Hill Education	6 th Edition

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Human Resource Information System
COURSE CODE	04MB0318
COURSE CREDITS	3
COURSE DURATION	42 hours (42 Sessions of 1 hour each)

COURSE OUTCOMES:

- ❖ To articulate the significance of incorporating a Human Resource information system in the organization.
- ❖ To analyze and diagnose key deliverables of an HRIS needs analysis of organizations.
- ❖ To justify the HRIS Investment and cost benefit analysis of HRIS in relation with direct and indirect benefits.
- ❖ To identify the role of HRIS in different HR Functions in both domestic and multinational organisations.
- ❖ To understand the importance of information security and privacy in today's technology- intensive and information-driven economy

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Human Resource Information System: Introduction, Definitions, Evolution of HRM and HRIS, eHRM vs HRIS, Types of HRIS, Value and Risk of HRIS, Database concepts and applications in HRIS: Database Management, Designing MS Access HR Database Management system, System consideration in Designing of an HRIS: HRIS Data Importance, HRIS Architecture	8
II	Managing HRIS Implementation: The Systems Development Life Cycle, Needs Analysis, System Design and Acquisition: Introduction, System Feasibility, HRIS and Resistance to Change: Introduction, Factors affecting system failure, HRIS implementation, Critical Success factors in HRIS Implementation. Cost Justifying HRIS Investments: Introduction, HRIS and Cost benefit analysis, Direct benefits, Indirect benefits, estimating value of Indirect benefits, Estimating Indirect benefits Magnitude, Methods of estimating the value of Indirect benefits.	10
III	HR Administration and HRIS- I: Talent Management: Introduction, Talent Management Cycle, Attributes of Talent, Talent Management and HRIS, Recruitment and Selection: Introduction, Attributes of Recruitment Website, Role of HRIS in e-recruiting, Introduction to selection and Assessment, Technological issues in selection, Applying HRIS to selection and assessment.	8
IV	HR Administration and HRIS- II: Training and Development: Introduction, System model of Training and Development, Role of HRIS applications in Training and Development, Performance Management: Introduction, Role of HRIS in designing of compensation, benefits, and payroll.	8
V	Advanced HRIS Applications and Future Trends: HRIS and IHRM: Introduction, Overview of role of HRIS in different HR Functions at Global Level, HRIS Privacy and Security, HRIS and Social Media, Gamifications, HRIS and Small Businesses.	8

EVALUATION:

Faculty of Management Studies: Master of Business Administration



The students will be evaluated on a continuous basis and broadly the scheme given below will be followed:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Michael J. Kavanagh and Richard D. Johnson	Human Resource Information Systems: Basics, Applications, and Future Directions	Sage	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	Satish K. Bagdi	Practical Human Resource Information Systems	PHI	Latest

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Management of Industrial Relations and Labor Laws
COURSE CODE	04MB0319
COURSE CREDITS	3
COURSE DURATION	42 hours (42 Sessions of 60 Minutes Each)

COURSE OUTCOMES:

- ❖ To define, compare and contrast the key theoretical perspectives in labour relations and how the perspectives shape the practice of labour relations.
- ❖ To understand industrial disputes with detailed knowledge of actual organization scenarios
- ❖ To deal with grievances and resolutions between employees and employers.
- ❖ To gain knowledge related to compensation benefits of workers and the extent of employer's liability in case of employment injury.
- ❖ To analyse the actual organizational situations and implications thereof via case based learning and analytical abilities

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Industrial Relations: Meaning, Definitions, Evolution of labor legislation, Factors Affecting IR, Approaches to IR Introduction to Labour Laws: Scope, Nature and Significance of Labor laws in India. Objectives and Principles of Labour Laws. Industrial Relations in the emerging scenario and growing relevance in India.	08
II	Industrial Disputes Act, 1947: Introduction, Objectives, Definitions, Various Methods and Various Authorities under the Act for resolution of industrial disputes e.g. methods of conciliation, adjudication and voluntary arbitration, Authorities like Works Committee, Conciliation officer, Court of Enquiry, Labour Court, Industrial Tribunal, National Tribunal, Provisions with respect to Strikes and Lockouts, Lay-off and retrenchment, Special provisions relating to lay-off, retrenchment and closure, offences and penalties, unfair labour practices. Collective Bargaining: Introduction, Definitions, Characteristics, Process of CB, Factors Obstructing CB, Case study	10
III	Factories Act, 1948: Objectives, definitions, Provisions regarding Health, safety, Welfare of workers, hazardous processes, working hours, restriction on employment of women and children, annual leave with wages, offences and penalties. Contract Labor (Regulation & Abolition) Act, 1970: Application, Establishments Definitions, Registration of establishments and licensing of contractors, Prohibition of employment of contract labor, Welfare and health of contract labor, Liabilities of the Principal employer, Inspecting Staff, offences and penalties, Case study	10
IV	Employees State Insurance Act, 1948: Objectives and Applicability of the Scheme; Definitions: Personal Injury, Factory, Manufacturing Process, Wages, Partial and Permanent Disablement; ESI Corporation, Standing Committee and Medical Benefit Council; Contributions; Adjudication of Dispute And Claims.	08



	Payment of Gratuity Act, 1972: Applicability and non- applicability of the Act; Definitions- employee, employer, continuous service; Payment of gratuity; Forfeiture of gratuity; Employer's duty to determine and pay gratuity; Recovery of gratuity; Penalties; Case study	
V	Discipline: Meaning and definitions, Characteristics, Objectives of discipline, Code of Discipline Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013: Definitions, Nature of problem, Supreme Court guidelines Vishakha vs Court of Rajasthan. Case study	6

EVALUATION:

The students will be evaluated on a continuous basis and broadly the scheme given below will be followed:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Quizzes / Class Participation etc.)	20%(CSE)
B	Internal Assessment	30%(IA)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Textbooks:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	P K Padhi	Labor and Industrial Laws	PHI	Latest Edition
T-02	P.R.N.Sinha, Indu Bala Sinha, Seema Priyadarshini Shekar	Industrial Relations, Trade Unions and Labor Legislations	Pearson	Latest Edition

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	C S Venkata Ratnam	Industrial Relations	Oxford	Latest Edition
R-02	C B Mamoria; Satish Mamoria; S V Gankar	Dynamics of Industrial Relations	Himalaya Publication	Latest Edition
R-03	SC Srivastava	Industrial Relations and Labor Laws	Vikas Publication	Latest Edition

R-04	AM Sharma	Industrial Relations Conceptual & Legal Framework	Vikas Publication	Latest Edition
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Faculty of Management Studies: Master of Business Administration



PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	HR Analytics
COURSE CODE	04MB0320
COURSE CREDITS	03
COURSE DURATION	42 Hrs (42 Sessions of 60 Minutes Each)

COURSE OUTCOMES:

- ❖ To interpret the concepts, tools and techniques of HR Analytics.
- ❖ To analyze the concepts of HCM:21 model of HR Analytics.
- ❖ To apply appropriate measures for data collection and data visualization in HR.
- ❖ To choose a predictive modelling tool for HR data analysis.
- ❖ To elaborate analytics for HR decision making.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	HR Decision-making and HR Analytics: Introduction, HR Decision-making, Importance, Significance and Benefits of HR Analytics, Steps to Implement HR Analytics, Critical HR Decision-making and HR Analytics, HR Analytics and Changing Role of HR Managers, Aligning Human Resources to Business Through HR Analytics, Steps for Alignment of HR Analytics with Business Goals and Strategies, Applications of HR and Descriptive, Predictive and Prescriptive Analytics. Case study.	9
II	The HCM:21 Model: Scanning the market & managing the risk, the new face of workforce planning, process analysis and process optimization, turning data into business intelligence. HR Metrics, Recruitment Metrics, Metrics for Training and Development Function, HR Scorecard, HR Dashboards.	8
III	Communicating with data and visuals: Data requirements, identifying data needs and gathering data, HR data and data quality, HR data collection, validity and consistency, using historical data, data exploration, data visualization, association between variables.	6
IV	Predictive modelling in HR: Equality, diversity and inclusion, engagement and workforce perceptions, predictive analytics for human capital management, employee retention and turnover; predicting employee performance. Case study: Diversity Analytics, Engagement and Workforce Analytics, Predicting Employee Turnover, Predicting Employee Performance.	10
V	Analytics for Decision Making: Regional and country level differences in turnover data, measuring turnover at individual and team level, recruitment and selection analytics, identifying flight-risk candidates, employee gamification as a recruitment and employee engagement technique, process of report generation, insights from reports, root cause analysis of HR issues. Case study: Recruitment and Selection Analytics.	9



EVALUATION:

The students will be evaluated on a continuous basis and broadly the scheme given below will be followed:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ Practical Record/ Practical Examination etc.)	20%
B	Internal Assessment	30%
C	End-Semester Examination (Practical /Viva)	50%

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Edwards, M. R., & Edwards, K.	Predictive HR Analytics: Mastering the HR	Kogan Page	2 nd edition (2019)
T-02	Dipak Kumar Bhattacharyya	HR Analytics: Understanding Theories and Applications	SAGE	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	JAC Fitz-Enz	The New HR Analytics: Predicting the Economic Value of Your Company's Human Capital Investments	American Management Association, USA	1 st edition (2010)
R-02	Jac Fitz-Enz John R. Mattox, II	Predictive Analytics for Human Resources	Wiley	1 st edition (2014)
R-03	Ferrar Jonathan, Guenole Nigel &Feinzig Sheri	The Power of People: How Successful Organizations Use Workforce Analytics to Improve Business Performance	Pearson FT Press	1 st edition (2017)

PROGRAM	Master of Business Administration (MBA)
SEMESTER	3
COURSE TITLE	Managing Diversity
COURSE CODE	04MB0321
COURSE CREDITS	3
COURSE DURATION	42 Hrs

COURSE OUTCOMES:

- ❖ To understand various theoretical implications and relevance of diversity
- ❖ To relate dimensions of diversity to the contemporary organizations
- ❖ To develop the organizational Strategies to manage diversity
- ❖ To assess the impact of diversity in the organization's performance
- ❖ To translate the idea of diversity in global perspective

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
Unit I	Introduction to Diversity Fundamentals of Diversity, Diversity in historical perspective of Business Management, Types of Diversity, Forces behind diversity, Effects of Diversity, Theories of Diversity, Stereotypes & Ethnocentrism.	8
Unit II	Understanding Dimensions of diversity Age, Race, Ethnicity, Cultural, Social class, Religion, Appearance, Weight, Language diversity, Gender diversity in workplace, Women in Leadership Position , Visible & Invisible Disability at workplace.	8
Unit III	Diversity and Organizational performance Workforce diversity as a competitive advantage, Impact of diversity on Individual, group and organizational performance, Diversity Scorecard, Challenges of Diversity at the workplace, Strategies for Managing Diversity at the workplace.	10
Unit IV	Leadership Legacy Diversity Management and Leadership, Inclusion in organization development and motivation for changing workforce, Diversity Awareness & Training Programme, Ethics in Diversity.	08
Unit V	The Future of Diversity – A Global Perspective Global Legislations and public policies towards diversity, Discrimination and equality in employment. The International Bill of Human Rights, diversity related employment legislation around the world.	08

EVALUATION:

The students will be evaluated on a continuous basis and broadly the scheme given below will be followed:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS
TEXTBOOKS:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	María Triana	Managing Diversity in Organizations: A Global Perspective	Routledge	1 st Edition
T-02	Marilyn Y. Byrd, Chaunda L. Scott	Diversity in the Workforce: Current Issues and Emerging Trends	Routledge	1 st Edition
T-03	Carol Harvey, M. June Allard	Understanding and Managing Diversity: Readings, Cases, and Exercises	Pearson Prentice Hall	6 th Edition

REFERENCE BOOKS:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	Gill Kirton, Annearie Greene	The Dynamics of Managing Diversity: A critical approach	A Butterworth - Heinemann Title	2 nd Edition
R-02	De Anca, Celia, Vazquez Vega, Antonio	Managing Diversity in the Global Organization- Creating New Business Values	Palgrave MacMillan	1 st Edition

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Global Marketing
COURSE CODE	04MB0322
COURSE CREDITS	03
COURSE DURATION	42 Hrs

COURSE OUTCOMES:

- ❖ Understand the different Cultural, political, and legal environments influencing Global Marketing.
- ❖ Analyse how global brand and products price and distribution takes place.
- ❖ Analyse how global decisions are taken related to advertising and marketing communications.
- ❖ Develop skills related to data analysis, assessing the international marketing opportunities.
- ❖ Develop international marketing strategies to enter various global markets.

COURSE CONTENTS:

Unit No	Unit / Subunit	Sessions
I	THE GLOBAL MARKETING ENVIRONMENT Introduction to Global Marketing. Trends and Challenges in Global Marketing. The Global Economic Environment. The Global Trade Environment, Global Cultures-Cross Cultural Analysis. The Political, Legal, Technological and Regulatory Environments. Pressure Groups and their impact. Buyer Behaviour - Panic Buying and Fear of Missing Out during crisis. Case study.	08
II	DEVELOPING GLOBAL MARKETING STRATEGIES Global Information Systems and Market Research, Global Market Profiling, Analysis and Selection, Segmentation, Targeting, and Positioning, Global Market-Entry Strategies. Global Marketing in a VUCA World, Global Marketing during a Pandemic. Case study.	06
III	THE GLOBAL MARKETING MIX I Product and Brand Decisions in Global Marketing, international product life cycle, Global Services Marketing, Pricing Decisions, Global Marketing Channels and Physical Distribution, Special Trade Terms in Export-Import. Case study.	12
IV	THE GLOBAL MARKETING MIX II Global Marketing Communications Decisions: Advertisement, Sales Promotion, Personal Selling, and Special Forms of Marketing Communication for the Global Markets. Sales Force Management and Negotiation. Case study.	10
V	ETHICAL & EMERGING ISSUES IN GLOBAL MARKETING Global Marketing and the Digital Revolution, Cross Border E-Commerce, Sustainable marketing, Global Strategies, Ethical and Social Responsibility Concerns. Case study.	6



EVALUATION:

The students will be evaluated on a continuous basis broadly following the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Textbooks:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Dr. Rakesh Mohan Joshi	International Marketing	Oxford University Press	2nd Ed, 2014
T-02	Kiefer Lee and Steve Carter	Global Marketing Management	Oxford University Press	3rd Ed, 2012
T-03	Philip Cateora and John Graham and Mary Gilly	International Marketing	Mc Graw Hill Education	18th Ed, 2020
T-04	Sak Onkvisit, John J. Shaw	International Marketing: Analysis and Strategy	Routledge	5th Ed, 2009
T-05	Isobel Doole, Alexandra J. Kenyon, Robin Lowe	International Marketing Strategy: Analysis, Development and Implementation	Cengage Learning	8th Ed, 2019

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	Leonidou, L.C., Katsikeas, C.S., Samiee, S., Aykol, B. (Eds.)	Advances in Global Marketing	Springer International Publishing	1st Ed, 2018
R-02	James Agarwal, Terry Wu, (Eds.)	Emerging Issues in Global Marketing- A Shifting Paradigm	Springer International Publishing	1st Ed, 2018

R-03	Atanu Adhikari and Sanjit Kumar Roy (Eds.)	Strategic Marketing Cases in Emerging Markets	Springer International Publishing	1stEd, 2017
R-04	Atanu Adhikari and Sanjit Kumar Roy (Eds.)	Instructor's Manual for Strategic Marketing Cases in Emerging Markets	Springer International Publishing	1st Ed, 2017
R-05	Florian Kohlbacher	International Marketing in the Network Economy- A Knowledge-Based Approach	Palgrave Macmillan	1st Ed, 2007

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PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	International Marketing
COURSE CODE	04MB0322
COURSE CREDITS	03
COURSE DURATION	42 Hrs

COURSE OUTCOMES:

- ❖ Students should be in position to apply key terms and develop critical thinking.
- ❖ Understand the different Cultural, political, and legal environments influencing international trade.
- ❖ Should will develop the knowledge towards products and services
- ❖ Develop international marketing strategies to enter various global markets.
- ❖ To understand how global brand and products related decisions are taken related to advertising and related marketing communications.
- ❖ Develop skills related to analysis related data analysis assessing the international marketing opportunities.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	THE GLOBAL MARKETING ENVIRONMENT Introduction to Global Marketing, The Global Economic Environment. The Global Trade Environment, Social and Cultural Environments, The Political, Legal, and Regulatory Environments. case study	08
II	APPROACHING GLOBAL MARKETS Global Information Systems and Market Research, Segmentation, Targeting, and Positioning, Importing, Exporting, and Sourcing, Global Market-Entry Strategies: Licensing, Investment, and Strategic Alliances. case study	08
III	THE GLOBAL MARKETING MIX I Brand and Product Decisions in Global Marketing, Pricing Decisions, Global Marketing Channels and Physical Distribution, Global Marketing Communications Decisions I: Advertising and Public Relations, Global Marketing, case study	08
IV	The GLOBAL MARKETING MIX II Communications Decisions II: Sales Promotion, Personal Selling, and Special Forms of Marketing Communication, Global Marketing and the Digital Revolution, Consumer behaviour. case study	08
V	STRATEGY AND LEADERSHIP IN THE TWENTY-FIRST CENTURY Strategic Elements of Competitive Advantage, Industry Analysis: Forces Influencing Competition, Competitive Advantage, Global Competition and National Competitive Advantage Leadership, Leadership and Core Competence, Organization, and Corporate Social Responsibility, Organizing for Global Marketing, Patterns of International Organizational Development, Ethics, Corporate Social Responsibility, and Social Responsiveness in the Globalization Era. case study	10



EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Mark C. Green, Warren J. Keegan	Global Marketing	Pearson	10th Edition.
T-02	Kiefer Lee and Steve Carter	Global Marketing Management	Oxford University Press	3rd Edition
T-03	Philip Cateora and John Graham and Mary Gilly	International Marketing	Mc Graw Hill Education	17th Edition
T-04	SakOnkvisit, John J. Shaw	International Marketing: Analysis and Strategy	Routledge	4th Edition
T-05	Gautam Dutta	Global Marketing	Pearson	1st Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition
R-01	Masaaki Kotabe and KristiaanHelsen	Global Marketing Management	Wiley Publications.	3 rd Edition
R-02	Leonidou, L.C., Katsikeas, C.S., Samiee, S., Aykol, B. (Eds.)	Advances in Global Marketing	Springer International Publishing AG 2018	1 st Edition
R-03	James Agarwal Terry Wu	Emerging Issues in Global Marketing	Springer International Publishing.	1 st Edition
R-04	Atanu Adhikari Sanjit Kumar Roy	Instructor's Manual for Strategic Marketing Cases in Emerging	Springer International Publishing.	1 st Edition

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		Markets		
R-05	Michael Kleinaltenkamp Wulff Plinke Ian Wilkinson Ingmar Geiger	Fundamentals of Business-to- Business Marketing	Springer International Publishing.	1 st Edition

Faculty of Management Studies: Master of Business Administration



PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	International Human Resource Management
COURSE CODE	04MB0323
COURSE CREDITS	03
COURSE DURATION	42 sessions

COURSE OUTCOMES:

- ❖ Explain the issues related to International Human Resource Management.
- ❖ Develop skills in sourcing Human Resources for global markets.
- ❖ Classify International Training and Development need.
- ❖ Explain the strategic importance of international compensation.
- ❖ Critically analyse international industrial relations and different global issues in HRM.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction of IHRM: Defining international HRM, Difference between domestic and International HRM, The changing context of IHRM, The cultural context of IHRM, Standardization and Localization of HRM Practices, The path to global status, Control Mechanisms, Mode of operation, case study	9
II	Sourcing Human Resources for Global Markets: Approaches to staffing, Transferring staff for international business activities, The role of an expatriates, The role of non-expatriates, Recruitment and Selection of International Managers, Expatriate Failure and Success, Selection Criteria, Dual Career Couples. case study	9
III	International Performance Management: Introduction, Multinational Performance Management, Control and Performance Management, Performance Management of International Employees, Performance Appraisal of International Employees. International Training, Development and Careers: The role of expatriate training, components of effective pre-departure training, developing staff through international assignments, case study	8
IV	Repatriation: Re-Entry and Career Issues, Repatriation Process, Individual reactions to re-entry, Multinational responses, designing a repatriation program International Compensation: Objectives of International, compensation, Key components of an international compensation program, Approaches to International compensation, Patterns in complexity, case study	8
V	International Industrial Relations and the Global Institutional Context: Introduction, Key issues in International Industrial relations, The response of trade unions to multinationals, Regional integration: the European Union(EU), The issues of social dumping, Managing Human Resources in 'Off shoring Countries' Global issues in HRM: Retaining, developing and retrenching staff, HR implications of language, standardization, monitoring the HR practices of host country sub-contractors. case study	8



EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20%
B	Internal Assessment	30%
C	End-Semester Examination	50%

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Peter. J. Dowling, Marion Festing and Allen D. Engle, Sr.	International Human Resource Management	Cengage Learning	6 th , 2013
T-02	Tony Edwards & Chris Rees	International Human Resource Management	Pearson Education	1 st , 2006

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	Dennis R. Briscoe Randall S. Schuler Lisbeth Claus	International Human Resource Management: Policies and practices for multinational enterprises	Routledge's	3 rd , 2009
R-02	Christopher Brewster, Elizabeth Houldsworth, Paul Sparrow, Guy Vernon	International Human Resource Management	The Chartered Institute of Personnel and Development	4 th , 2016
R-03	K Aswathappa	International Human Resource Management	Mc Graw Hill India	2 nd , 2012

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	International Advertising
COURSE CODE	04MB0324
COURSE CREDIT	03
COURSE DURATION	42

COURSE OUTCOMES

- ❖ Understanding how to create and implement the basic types of marketing communication.
- ❖ Theoretical foundations and strategic understanding of how to set and manage marketing communication, which will have an impact on relationships with customers and brands,
- ❖ Understanding of the concept and process of integrated marketing communications,
- ❖ Ability to apply knowledge in the field of marketing communications in practice
- ❖ Ability to analyze, synthesize and predict solutions and consequences of phenomena in the field of marketing communication,
- ❖ Mastery of research methods and procedures, and processes in the field of marketing communication and the development of critical judgment in this area,

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
Unit I	FOUNDATIONS India and Introduction to Advertising, Advertising's Role in Marketing, Advertising and Society. case study	08
Unit II	PLANNING AND STRATEGY How Advertising Works, The Consumer Audience, Strategic Research Strategic Planning. case study	08
Unit III	EFFECTIVE ADVERTISING MEDIA Print and Out-of-Home Media, Broadcast Media, Interactive and Alternative Media, Media Planning and Buying. case study	08
Unit IV	EFFECTIVE ADVERTISING MESSAGE Creative Side and Message Strategy, Copywriting, Design and Production. The case study	08
Unit V	INTEGRATION AND EVALUATION Direct Response, Sales Promotion, Events, and Sponsorships, Public Relations, Special Advertising Situations, Evaluation of Effectiveness. case study	10

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Textbooks:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Sandra Moriarty, Nancy Mitchell, William D. Wells	Advertising: Principles and Practice, 8th Edition	Pearson Publication	08 th Edition.
T-02	Jack Z. Sissors, Roger B. Baron	Advertising Media Planning, Seventh Edition	Mc Graw Hill	07 th Edition
T-03	Ritu Narang	Advertising, Selling & Promotion	Pearson Publication	1 st Edition
T-04	Manendra Mohan	ADVERTISING MANAGEMENT: Concepts and Cases	Mc Graw Hill	1 st Edition

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	Tom Altstiel, Jean Grow, Marcel Jennings	Advertising Creative Strategy, Copy, and Design	Sage Publication	5 th Edition
R-02	Batra Rajeev, John G. Myers, David A. Aaker	Advertising Management	Pearson Education	5 th Edition
R-03	Joel Davis	Advertising Research: Theory & Practice	Pearson Publication	2 nd Edition
R-04	Gerard J. Tellis	Effective Advertising Understanding When, How, and Why Advertising Works	Sage Publication	1 st Edition
R-05	Emmanuel Mogaji	Introduction to Advertising Understanding and Managing the Advertising Process	Routledge Publication	1 st Edition



PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	India and WTO
COURSE CODE	04MB0325
COURSE CREDIT	03
COURSE DURATION	42

COURSE OUTCOMES

- ❖ Understand the functions of WTO and importance of Cross-Border Trade.
- ❖ Analyse how the Foreign Trade investment impacts the emerging markets.
- ❖ Implement the WTO policies in day-to-day routine for import and export business.
- ❖ Explore the role of Indian entrepreneurs in context to WTO negotiations.
- ❖ Analysis of the role of India with reference to WTO trade and finance.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
Unit I	FOUNDATIONS TRADE IN GOODS AND SERVICES Background and birth of WTO, Structural aspects of WTO, WTO and India's Exports: Trends and challenges with Special Reference to Engineering Goods, India's Services Trade: Opportunities, Challenges, and International Engagements. Regional Comprehensive Economic Partnership: Issues and Concern for India. Cross-Broader Trade and Development in India's Northeast. case study	12
Unit II	TRADE AND DEVELOPMENT Impact of International Trade on Poverty and Inequality, Does FID favour Exporting in India? Trade and Environment: Issues and Emerging . case study	08
Unit III	TRADE POLICY Withering WTO and Indecisive India: Challenges and Opportunities of Trade Policy in a volatile World. India's Tryst with TRIPS: Revisiting the Patent. Anti-dumping Measure: An Indian Perspective. case study	08
Unit IV	TRADE, FRAGMENTATION, AND INNOVATION Dynamics of Fragmentation Trade: India in Comparatives Asian Perspective. Innovation and Exports: Evidence from India Enterprises, E- Commerce and India: Emerging Trade Policy, Negotiating Issues and Way forward. case study	08
Unit V	INTEGRATION AND EVALUATION TRADE FACILITATION AND E- COMMERECE Trade Facilitating Trade in India: What Matters the Most, Trade Finance: A Critical Conduit for Trade. case study	06



EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS
Textbooks:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
1	Ajitava Raychauduri, Prabir De, Suranjan Gupta.	World Trade and India Multilateralism, Progress and Policy Response	Sage Publication	01 th Edition
2	Marc Bacchetta, Emmanuel Milet and José-Antonio Monteiro.	Making Globalization More Inclusive Lessons from experience with adjustment policies.	WTO Publications Switzerland	07 rd Edition
3	Koul, Autar Krishen	Guide to the WTO and GATT	Springer Nature Singapore Pte Ltd.	01 th Edition
4	Palle Krishna Rao	WTO Text & Cases	Excel Books India	01 th Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	C. Magariños L. Yongtu F. Sercovich	China in the WTO The Birth of a New Catching-Up Strategy	Springer Nature Singapore Pte Ltd.	01 st Edition
R-02	Patros Mavrodis	Trades in Goods: The GATT and the Other Agreements Regulating Trade in Goods	Oxford University Press	05 st Edition
R-03	Mr. Vinod Rege, Former director - WTO	The Business Guide to the World Trading	International Trade Centre and the Commonwealth, Secretariat, Geneva.	01 st Edition
R-04	Mitsun Matsunshila, Thomas J Schoenbaum,	The World Trade Organization, Law, Practice and Policy	The Political Economy of the World Trading System	01 st Edition



	Petros Maveroidis, Michael Hatin			
R-05	Sachin Kumar Sharma	The WTO and Food Security Implications for Developing Countries	Springer Nature Singapore Pte Ltd.	1 st Edition

Faculty of Management Studies: Master of Business Administration



PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	International Negotiations
COURSE CODE	04MB0326
COURSE CREDIT	03
COURSE DURATION	42 Hours (42 Sessions of 60 Minutes Each)

COURSE OUTCOMES

- ❖ Correlate the theoretical and practical aspects of Negotiations.
- ❖ Gain in-depth knowledge related to current theoretical debates in the field of negotiations at international markets.
- ❖ Provide proper recommendations for improving the negotiation capacity
- ❖ Describes power, persuasion, and influence tactics at the bargaining during different rounds of Negotiation
- ❖ Describes how to deal with dilemmas, or situations in which negotiators make choices in a mixed-motive context, where cooperation involves building trust with the other party, and competition involves an attempt to increase one's own share of resources.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
Unit I	BASICS OF NEGOTIATIONS The Nature of Negotiation, Strategy and tactics used in Distributive Bargaining, Strategy and tactics of Integrative Negotiation, Negotiation: Strategy and Planning, Ethical issues in Negotiation. case study	10
Unit II	NEGOTIATION AND SUB PROCESSES Perception, Cognition, and Emotion, Communication, Finding and Using Negotiation, Power and Influence, case study	08
Unit III	NEGOTIATION CONTEXTS Relationships in Negotiation, Agents, Constituencies, Audiences, Coalitions, Multiple Parties, Groups, and Teams in Negotiation, case study	08
Unit IV	INDIVIDUAL DIFFERENCES Individual Differences I: Gender and Negotiation, Individual Differences II: Personality and Abilities, Consumer Negotiations, case study	08
Unit V	NEGOTIATION AND CULTURES International and Cross-Cultural Negotiation, Consumer negotiations, Organizational negotiations, Community negotiations, the art and science of Negotiations. case study	08



EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Textbooks:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Roy Lewicki and Bruce Barry and David Saunders	Negotiation	McGraw Hill Publication.	08 th Edition.
T-02	Molly Fletcher	A Winner'S Guide to Negotiating: How Conversation Gets Deals Done.	McGraw Hill Publication.	01 st Edition
T-03	Leigh Thompson	The Mind and Heart of the Negotiator.	Pearson Publications	06 th Edition
T-04	Beverly DeMarr, Suzanne C. de Janasz.	Negotiation and Dispute Resolution: Global Edition	Pearson Publication	01 st Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition
R-01	Max H. Bazerman	The Power of Noticing: What the Best Leaders See	Simon & Schuster	1 st Edition
R-02	Samuel Dinnar Lawrence, E. Susskind	Entrepreneurial Negotiation	Palgrave Macmillan	1 st Edition
R-03	Ming Yang, Fan Yang	Negotiation in Decentralization	Springer-Verlag London	1 st Edition
R-04	Mauro Galluccio	Handbook of International Negotiation	Springer International Publishing	01 st Edition
R-05	Gary Noesner	Stalling for Time:	Sage Publication	1 st Edition

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Planning, Structuring and Financing Small Business
COURSE CODE	04MB0327
COURSE CREDITS	03
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- ❖ Analyze the core concepts of entrepreneurship
- ❖ Gain knowledge of essential factors for starting a new business
- ❖ Understand the process of business formulation and management
- ❖ Comprehend the financial aspects for funding the business
- ❖ Evaluate the role of effective planning for successful running of business

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Planning Small Business: Entrepreneurship – meaning, definition and forms, Management and survival, Entrepreneurship development, Environment of small business management, small business management process vs. Large business management process, Strategy formulation and implementation in small business	08
II	Identifying business opportunities: Feasibility study, Market survey and research, Business plan formulation, Components of a business plan – executive summary, business description, industry analysis and trends, target market, competition, strategic position and risk assessment, marketing plan and sales strategy, technology plan, management and organisation, financial aspects, Preparing a successful business plan	08
III	Structuring the Business: Determining the resources required, Compliance with legal requirements, Framework of marketing management, Product development, Pricing and promotion strategies, Framework of human resource management, Strategies for competition, Promotional activities for small business, Inventory management	10
IV	Financing the Business: Pattern of financing and risk management, Raising finance for business, Various forms of financing – scope, advantages and limitations, Venture capital and private equity	10
V	Financial planning and control: Financial health analysis, financial projections, Working capital management in small entities	06

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Quizzes / Class Participation etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Textbooks:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T1	Desai, Desai Vasant	Small Industrial Organisation and Management	Himalaya Publishing House	2011
T2	Holt H., David	Entrepreneurship: New Venture Creation	Pearson Education	2017
T3	Katz, Jerome and Richard, Green	Entrepreneurial Small Business	McGraw Hill Education	2015

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	Leach J. Chris, Melicher W. Ronald	Entrepreneurial Finance	Cengage Learning, New Delhi	2016
R-02	Kumar Arya	Entrepreneurship: Creating and Leading an Entrepreneurial organisation	Pearson Education	2017
R-03	Drucker, Peter	Innovation and Entrepreneurship	Tata Mc Graw Hill	2010
R-04	Longenecker, Moore, Petty and Palich	Managing Small Business	Cengage Learning, India Edition	2013
R-05	Poornima M. Charantimath	Entrepreneurial Development and Small Business Enterprises	Pearson Education	2018

Faculty of Management Studies: Master of Business Administration



PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Managing Startup
COURSE CODE	04MB0328
COURSE CREDITS	3
COURSE DURATION	42 hours

COURSE OUTCOMES:

- ❖ Identify business opportunities for startup ventures
- ❖ Estimate the capital requirements of Startup
- ❖ Analyze the financial and legal issues arising in new venture creation
- ❖ Explain various approvals and clearances necessary for setting up a new venture
- ❖ Develop strategies for survival and growth of new ventures

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Startup opportunities: The New Industrial Revolution – The Big Idea- Generate Ideas with Brainstorming- Business Startup - Ideation- Venture Choices - The Rise of the startup economy - The Six Forces of Change - The Startup Equation- The Entrepreneurial Ecosystem –Entrepreneurship in India- Government Initiatives.	9
II	Calculating Startup Capital Requirements: Identifying Startup capital Resource requirements - estimating Startup cash requirements - Develop financial assumptions- Constructing a Process Map - Positioning the venture in the value chain - Launch strategy to reduce risks- Startup financing metrics	9
III	Startup - Financial Issues: Feasibility Analysis - The cost and process of raising capital- Unique funding issues of high-tech ventures - Funding with Equity – Financing with Debt- Funding startups with bootstrapping- crowdfunding- strategic alliances.	9
IV	Startup - Legal Issues: The legal Environment- Forms of Organization- Approval for new ventures- Taxes or duties payable- Intellectual property- Franchising	7
V	Startup Survival and Growth: Stages of growth in a new venture- Growing with the market - Growing within the industry- Venture life patterns- Reasons for new venture failures- Scaling Ventures - preparing for change - Leadership succession. Support for growth and sustainability of the venture.	8



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	Component	Weightage
A	Continuous Evaluation Component (Assignments / Quizzes / Class Participation etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Kathleen R Allen	Launching New Ventures, An Entrepreneurial Approach	Cengage Learning	7 th , 2016.
T-02	Anjan Raichaudhuri	Managing New Ventures	PHI Learning	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	S.R. Bhowmik & M. Bhowmik	Entrepreneurship	New Age International	Latest
R-02	Steven Fisher, Ja-nae' Duane	The Startup Equation -A Visual Guidebook for Building Your Startup - Indian Edition	McGraw Hill	Latest
R-03	Donald F Kuratko, Jeffrey S. Hornsby	New Venture Management: The Entrepreneur's Road Map	Routledge	2 nd , 2017.
R-04	Bruce R. Barringer, R.Duane Ireland	Entrepreneurship successfully, launching new ventures	Pearson	Latest

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Marketing for MSMEs
COURSE CODE	04MB0329
COURSE CREDITS	03
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- ❖ Understand the basics of Marketing Management Practices and challenges for Small Businesses in India
- ❖ Apprehend the perspectives of consumer and their decision-making process for New Products
- ❖ Understand and apply the Product Development Policies and Pricing Methods for various types of products in each marketing scenario for a small business start-up
- ❖ Comprehend the Promotional strategies using various IMC tools with the limitation faced by small businesses
- ❖ Suggest Different Distribution strategies for different types of products within prevailing managerial constraints of Funds, Technology and Manpower

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction: Characteristics of Small Businesses – Nature, Scope & Limitations – Marketing Department Structure in Small Business – Marketing Environment for Small Business- Marketing Mix for Small Business – Value Chain and Value Delivery for Small Business – Case Discussion on Successful Start-up Marketing	08
II	Consumer Behavior and its Impact on Small Business: Segmentation – Targeting and Positioning Strategies for Small businesses – Consumer Motivation and Perception about Products from Small Businesses – Consumer Buying Process and Participants at each stage– Challenges in brand Building For Small Business – Sales Forecasting: Objectives – Importance – Process and Limitations	10
III	Product and Pricing for Small Business: Classification of goods – Product mix – Product Life Cycle – Product planning – Importance. Pricing Decisions – Objectives and Advantages of Pricing Decisions – Factors affecting pricing decisions – Kinds of Pricing – Process of price Determination	08
IV	Promotion and Distribution Strategies for Small Business: – Promotion mix: Components – Advertising - Personal selling - sales promotion and publicity for small business – Importance of Channels of distribution, Channel – Selection of appropriate channel – Distribution – evaluation – Sales Management for Small Business	08

V	Emerging marketing environment in India: Super Markets – Departmental Stores– Service marketing – Functionaries – Rural Marketing – Marketing Research concepts and Techniques for Small Business – Case Discussion on Success Stories of Mid-Sized Organized Retail Formats	08
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EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Quizzes / Class Participation etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T1	Philip Kotler, Keller, Koshy and Jha,	Marketing Management	Pearson Education	Latest
T2	Namakumari & Ramaswamy	Marketing Management: Indian Context	McMillan Limited	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	Noel Capon, Siddharth Shekhar Singh	Managing Marketing: An Applied Approach	Wiley Publication	Latest
R-02	Jennifer Thome	Small Business Marketing Made Easy	CreateSpace Independent Publishing Platform	Latest
R-03	Stuart Atkins	Small Business Marketing: A Guide for Survival Growth and Success	BookSurge Publishing; Reprint edition	Latest



PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Management of Family Business
COURSE CODE	04MB0330
COURSE CREDITS	3
COURSE DURATION	42 hours

COURSE OUTCOMES:

- ❖ Explain the dynamics of family business
- ❖ Identify the characteristics that differentiate a family business from a non-family business
- ❖ Apply the specific practices and skills of effective family businesses.
- ❖ Evaluate situations and problems in family businesses
- ❖ Analyze different perspectives of the various stakeholders in family firms and develop strategic solutions to improve family business performance.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Family Business Management Basics: The distinction between family and non-family business – Uniqueness & Dynamics – People, Women in Family Business, Systems & Life Cycles - economic contribution of family firms – Strengths and weaknesses of family firms- Competitive Challenges and Competitive advantages of family businesses-Family emotional intelligence -Agency Theory of Family business-The systems theory model of Family Business.	9
II	Governance in the family business: Why do family firms need governance – typical governance constellations in family firms- Performance implications of governance constellations- Corporate Governance-Ownership governance- Family governance- Wealth governance- Governance documents- Governance bodies.	8
III	Strategic Management in the family business: Strategic decision making in family firms – conceptualizing the competitive advantage of family firms – The agency perspective – The resource-based perspective – The organizational identity perspective- The institutional perspective- The paradox perspective- Generic tools for family firms- Tools for strategic management in family firms.	9
IV	Succession in the family business: Succession planning- Succession options: Opportunities of Succession options, Significance of succession options- Sources of complexity in family business succession- structuring succession process: succession framework-Clarifying goals and priorities- Reviewing firm’s strategy- Planning the transition of responsibilities	8

V	Relationship and Conflict in the family business: The social structure of the family-trends in social structure of the family-understanding interpersonal dynamics in the family firm- Justice perceptions-types of conflicts- Conflict dynamics- Conflict management styles- Communication strategies.	8
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EVALUATION:

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	Component	Weightage
A	Continuous Evaluation Component (Assignments / Quizzes / Class Participation etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External assessment)

SUGGESTED READINGS:
Textbooks:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Thomas Zellweger	Managing the Family Business Theory and Practice	Edward Elgar Publishing Ltd	Latest
T-02	Peter Leach	Family Businesses – The Essentials	Profile Books Ltd.	Latest
T-03	Ernesto J. Poza, Mary S. Daughterty	Family Business	Cengage Learning	4e, 2015.

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	Alberto Gimeno, Gemma Baulenas & Joan Coma-Cros	Family Business Models – Practical Solutions for the Family Business	Palgrave Macmillan	Latest
R-02	Mark Fischetti	The Family Business Succession Handbook	Family Business Publishing Co.	Latest
R-03	Frank Hoy, Pramoditha Sharma	Entrepreneurial Family Firms	Prentice Hall	Latest

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Social Entrepreneurship
COURSE CODE	04MB0331
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- ❖ Understand the significance of social entrepreneurship and the role played by social entrepreneurs in building a sustainable society.
- ❖ Explain skills and competencies to be a successful social entrepreneur.
- ❖ Identify the social entrepreneurial opportunities
- ❖ Develop a social venture plan.
- ❖ Analyze the problems/ challenges associated with social entrepreneurship

COURSE CONTENTS:

Unit No	Unit / Subunit	Sessions
I	UNDERSTANDING THE APPROACH OF SOCIAL ENTREPRENEURSHIP <ul style="list-style-type: none"> · Social entrepreneur – factors impacting transformation into social entrepreneur · Need for social entrepreneur (shifting focus from economic growth to economic development) · Emerging social issues and challenges · What drives social entrepreneurs (vision, mission and being change agent) · The characteristics of social entrepreneurs · The four distinctions of social entrepreneurship · Concept of “Shared Value” in social Ventures · Defining and distinguishing Social Entrepreneurs. · Defining social entrepreneurs as “Change Makers” · Process of Social Entrepreneurship · A Topology of Social Entrepreneurship · Generating ideas and turning them into social innovations · Feasibility Analysis for Social ventures. · Resistance to Social Entrepreneurship · Key Challenges for Social Entrepreneurs 	8
II	UNIT II: SOCIAL ENTREPRENEURSHIP FRAMEWORK AND FORMS <ul style="list-style-type: none"> · Social Opportunity Assessment Model · Social Lean Canvas Model - Social Value Proposition · Business Model Canvas · PCDO (People, Context, Deal, Opportunity) Framework · CASE Model · Freemium business model FORMS OF SOCIAL ENTERPRISES · Profit and non-profit Proprietorships – partnership - company 	8



	<ul style="list-style-type: none"> · non-Governmental organization - Society – Trust and Company (sec. 25) registration · Factors determining selection of forms of registration 	
III	<p>UNIT III: SOCIAL ENTERPRISE AND SOCIAL MARKETING</p> <ul style="list-style-type: none"> · Ethical consideration in designing products for service · Planning for social marketing, Marketing Mix for Social Enterprise · Understanding Social Marketing – distinguishing Social from commercial Marketing · Principles of Social Marketing – Community Based Marketing · Designing markets for social innovation and segmenting target audience · Pricing and promotion strategies – Monetary and Non-Monetary incentives · Managing distribution channel – Social Franchising 	8
IV	<p>UNIT IV: OPPORTUNITIES FOR SOCIAL ENTREPRENEURS</p> <ul style="list-style-type: none"> · Concept of Sustainable Development and its importance · Factors affecting sustainable development - Environmental costs and its economic value - The Political Challenge and development Issues in India · Entrepreneurship and skill development policy for social enterprise · Navigating the Challenges of Capital Raising and understanding Intentions of Investors. · Investment Decision Process and Due Diligences · Enterprise launching and its procedures – start-ups – incubation – accessing venture capital – CSR funds – PPP – Grant Funding 	8
V	<p>UNIT V: SUCCESSFUL SOCIAL ENTREPRENEURSHIP INITIATIVES</p> <ul style="list-style-type: none"> · Governance of Social Enterprises · Measuring Social Impact · Study of successful models · Grameen Bank – Aravind Eye Care System’s – LEDeG – TERI – Pasumai Payanam, Siruthuli – SEWA – Amul – Evidence from OASIS - Case Study on SELCO, case study on Annapurna – Goonj, - Bhartia Samruddhi Investments & Consulting Services (BASIX) · Role of Women in social entrepreneurship (A voluntary social contributors) 	8

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Quizzes /Class Participation etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)



SUGGESTED READINGS:

Textbooks:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Jill Kickul, Thomas S. Lyons	Understanding Social Entrepreneurship	Taylor & Francis	3rd Edition 2020
T-02	Anica Zeyen, Markus Beckmann	Social Entrepreneurship and Business Ethics	Taylor & Francis	1st Edition
T-03	Teresa Chahine	Introduction to Social Entrepreneurship	Taylor & Francis	1st Edition (2016)
T-04	Andreasen	Social marketing in the 21st century	. SAGE Publications.	(2006)
T-05	French, Merritt and Reynolds	Social marketing case book,	Sage publications, London.	(2011)

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Ramachandran	Corporate and Social Entrepreneurship: A Transformational Dimension,	The ICFAI University Press	(2009)
R-02	Jeff French, Rowena Merritt & Lucy Reynolds	Social Marketing Casebook	SAGE Publications Ltd	(2011)
R-03	Philips, Boniefel and Sharma	Social Entrepreneurship,	Global vision publishing house, New Delhi.	(2011)
R-04	Robert Hisrich, Michael Peters and Dean Shepherd	Entrepreneurship	New Delhi, Tata McGraw-Hill Publishing Company Limited	(2009)

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Investment Banking
COURSE CODE	04MB0332
COURSE CREDITS	3
COURSE DURATION	42Hrs (42 Sessions of 60 minutes each)

COURSE OUTCOMES:

- ❖ To Apprise the role of investment banking services in the financial markets
- ❖ To Evaluate various restructuring alternatives and role of investment banking in advisory services
- ❖ To assess the valuation aspects and issue of various kinds of securities.
- ❖ To Elaborate various issues related to investment banking
- ❖ To Develop appropriate investments options for fundraising

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Overview of investment banking Global and Indian Investment Banking Paradigm – Functions of Investment Banks – Types of Investment Banks – Services offered by Investment Banks Role of Investment Banking as Financial Intermediaries Business of Investment Banking	10
II	Fundraising services : Domestic Issue Management - Underwriting - Global Security Issuances - Buybacks and Delisting, Raising funds through IPO , Methods of bringing out an IPO, and IPO Pricing Due diligence process	8
III	Financial Advisory Services : Corporate Restructuring – Mergers and Acquisitions - Divestitures – Leveraged Buyouts – Venture Capital - Private Equity and Placements Corporate Debt Restructuring (CDR) , Underwriting Services, Business Model of Underwriting, Underwriting Commissions, Devolvement and Green Shoe Option, Issuing ADR, GDR and IDRs ,Arranging for Buyback and Delisting of Shares	10
IV	Investment Banking and Business Valuation: Various valuation models applied in estimating value of the firm and value of equity • Merits and Limitations of each models/methods of valuation • Valuing Private Equity and Venture Finance	8
V	Issues in Investment Banking Designing new financial instruments • Adoption of Blockchain in Investment Banks • Data Security • Other Issues	6

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation etc.)	30% (C.E.C)
B	Internal Assessment	20% (I. A.)



C	End-Semester Examination	50% (External Assessment)
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SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Giri Pratap S	Investment Banking: Concepts, Analyses and Cases, 3	McGraw Hill Education	3 rd edition 2017
T-02	Khan, M.Y	Financial Services	McGraw Hill Education	9 th edition 2018
T-03	Machiraju, H.R	Merchant Banking	New Age International	4 th edition 2011

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Stowell, D. P	Investment banks, hedge funds, and private equity	Academic press	3rd edition 2017
R-02	Joshua Pearl, Joshua Rosenbaum	Investment Banking: Valuation, Leveraged Buyouts, and Mergers and Acquisitions	Wiley	2nd Edition 2013
R-03	Aswath Damodaran	Investment Valuation: Tools and Techniques for Determining the Value of Any Asset	Wiley	3rd edition 2012

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Financial Services
COURSE CODE	04MB0333
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 Sessions of 60 mins each)

COURSE OUTCOMES:

- * Apprising the role of financial services in Indian economy
- * Understanding functions and operations of different financial services
- * Evaluating the role of banking services in India
- * Analyzing Role of insurance, leasing and repurchase and factoring service
- * Elaborating Current situation and challenges faced by Indian financial service sector

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction of Financial Services: India – as a Global Financial Hub, Indian financial system participants, functions and process, Challenges and Opportunities in field of Financial Services, Fund Based and Non-Fund Based Financial Services in India	8
II	Fund Based services Banking Services: Introduction to the spectrum of banking services in India, Financial Reforms and overall approach towards the reforms, Marketing of Banking Products and Services in India, Emerging Issues in Banking Services, Financial Inclusion, E - financial inclusion, Plastic Money Micro Finance: Microfinance & its role in India, Microcredit, Micro Pensions, Micro Insurance, Emerging issues in the field of Microfinance	10
III	Leasing and Hire Purchase: Introduction and Overview on the status and performance of leasing and Hire Purchase as Financial Service, leasing, benefits and limitations, types of leasing, lease financing and hire-purchase financing. Factoring Services: Mechanics of Factoring Services and the emerging issues, process and features of factoring, types of factoring contracts, advantages and disadvantages of factoring, differences between factoring and bill discounting, process of factoring as it exists in India and explains the process of forfeiting.	8
IV	Fee Based Insurance Services: Genesis and growth of Insurance Industry in India, Reforms in Insurance Industry in India, Emerging Issues and Models in Insurance Industry, Reinsurance	8
V	Other Financial Services: Reverse Mortgage, Credit Rating Services, Securitization, Asset Management Services, Capital Market Services, Merger and Acquisitions Services	8



	ITC and Financial Services Providers: Money Wallets like PayTM and other online Financial Services Provider, Strategic impact of IT on Financial Services Emerging Issues in Financial Services, Regulatory Framework of Financial Services in India	
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EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation etc.)	30% (C.E.C)
B	Internal Assessment	20% (I. A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Rajesh Kothari	Financial Services	Sage Publication	1st Edition 2010
T-02	M Y Khan	Financial Services	Tata McGraw Hill Publishing Company Ltd	10th Edition 2019
T-03	Bharti Pathak	Indian Financial System	Pearson Publications	5 th Edition 2018

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	S. Gurusamy	Essentials of financial services	Tata McGraw-Hill Education	2nd edition 2009
R-02	M.Y Khan	Indian Financial System	Tata McGraw-Hill Education	11th edition 2019

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Principles and Practices of Banking
COURSE CODE	04MB0334
COURSE CREDITS	3
COURSE DURATION	42 Hrs. (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- * Understand the Types, Classifications of Banking and its Scope in Industry
- * Appraise the understanding of Lending Policy and types of charging Securities
- * Develop the understanding of Money Laundering Concept and Measure of prevention of Money Laundering
- * Evaluate problems of non-performing businesses and suggest measures of recovery of loans.
- * Analyze the mechanism of digital financial services and their importance in business.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Bank – Meaning and Definition of Bank, Origin and Evolution of Bank , Structure of Indian banking System - Classification of Banks, Functions of Commercial banks - Primary and Secondary Functions - Conventional and Innovative Functions, types of products and services offered by banks, types of Deposits and features, benefits, variants of Savings, Current, Fixed and recurring deposits, Types of Loans- Retail lending, secured and unsecured , rights, duties and responsibilities of bankers and banker- customer relationship,	8
II	Loans and Advances – Study of the Borrower- Types of Borrowers: Individual, Firms, Companies, Types of Advances – Loan, Cash Credit, Overdraft, Term Loans, Bills Purchasing and Discounting – Secured and Unsecured Advances – Types of charging Securities – Pledge, Hypothecation, Mortgage, Lien, Set-Off and Assignment. Documentation - Types of Documents, Procedure, Stamping, Securitisation	8
III	Central Banking, Monetary Policy and Reforms in Indian Banking - Evolution of RBI - Organisation and Management, Functions of RBI, RBI Act, Regulatory Measures - Repo rate, Bank Rate, SLR, CRR, OMO, LAF, MISS, MSF. Banking Sector reforms - Narasimham Committee - I and II, Money Laundering Concept, Stages, Objectives of Money Laundering, CFT and PMLA, Know Your Customer Norms - key elements, KYC Verification for individuals, companies, partnership firms, trusts, and foundations. Consumer Protection - Operational Aspects of COPRA Act & Banking Ombudsman Scheme	8
IV	NPA Management - Definition; Income Recognition; Asset Classification as – Slandered, Non Performing and Doubtful assets, Causes and Remedial Measures, Provisioning Norms, CDR, DRTs and DRATs, Lok-Adalat, SARFAISI Act, NPA related norms and Provisions of Insolvency and Bankruptcy Code in India.	8



V	Role of ICT in Payment System of Banking - ATMs, HWAK, PIN, Electromagnetic Cards, Electronic Banking, Signature Storage & Retrieval System, CTS, Note & Coin Counting Machines, NPC, RUPAY. Components & Modes of Transmission, Major Networks in India, Emerging Trends in Communication Networks for Banking, Evolution of EFT System, SWIFT, Automated Clearing Systems, Funds Transfer Systems, UPI and E-Wallets. Overview of IT Act - Gopalakrishna Committee Recommendations	10
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EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

		Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	K. Natarajan and E. Gordon	Banking Theory, Law and Practice	Himalaya Publishing House	25th Edition, 2017
T-02	Clifford Gomez	Banking and Finance- Theory, Law and Practice	PHI Learning Private Limited	1st Edition, 2011

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	The Institute of Company Secretaries Of India	Banking Law and Practice	The Institute of Company Secretaries Of India	2014
R-02	MacMillan Publishers	Principles and Practices of Banking	MacMillan Publishers	5 th edition, 2021
R-03	Viral V Acharya	Quest for Restoring Financial Stability in India	Sage Publication	1 st edition, 2020

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Treasury Management
COURSE CODE	04MB0335
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- * To understand the importance of treasury management in banking institutions
- * To apply treasury mathematics in its management and recognize capital requirements in banking institutions
- * To apply risk management strategies in banking institutions
- * To analyze the financial performance of banks with the use of various ratios and models
- * To discuss other contemporary issues applicable in treasury management of banking institutions

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	The Overview of Financial Markets & Treasury Management: Financial Markets: Classification of financial markets, role and functions of participants in financial markets, money market, money market instruments, participants in money market, interest rate quotation and market terminology, capital markets and foreign exchange markets, introduction to derivatives Treasury Management: Nature of treasury assets and liability, objectives of treasury, organizational structure of treasury, treasury as a cost center and profit center, treasury terminology, treasury operations in global scenario	8
II	Treasury Mathematics & Capital Requirement for Banks: Treasury Mathematics: Dynamics of fixed income securities, price calculations for treasury bills, exchange rate mechanism, FEDAI guideline and valuation, exchange rate mechanism and arithmetic, swap valuation mathematics Capital requirement for Banks: Economic capital of banks, measuring and allocating economic capital, Constituents of bank capital, treatment of credit and market risk, capital adequacy norms in India, minimum capital requirement for credit risk, credit risk mitigation, significance of market discipline	12
III	Risk Analysis/Control & Role of IT in treasury management: Risk analysis: Interest rate risk, credit risk, operational risk, liquidity risk, Value at Risk (VaR), hedging risk at banks, Risk management with the use of derivatives market, Derivatives based funding strategies, Asset backed financing strategies (Trade finance & Letters of credit, Forfaiting and factoring, Securitisation, warehouse financing)	8

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	Role of IT: Negotiated Dealing System (NDS), various trading platforms and systems, Straight through Processing (STP)	
IV	Performance Analysis for Banks: Determinants of bank performance, ratio analysis for banks, RoE model for profitability analysis, CAMELS (an integrated scorecard for banks)	6
V	Contemporary Issues in Treasury Management: Regulations (Basic), Supervision and Compliance of Treasury Operations, Back Office Operations in International and Domestic Treasury, Assets/Liability Management (ALM), Accounting for treasury transactions, Valuation of Assets and Liability	8

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Meera Sharma	Management of Financial Institutions: With Emphasis on Bank and Risk Management	PHI Publication	1 st Edition, 2018
T-02	Steven M Bragg,	Treasury Management	Wiley	1st, Edition of 2010

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Indian Institute of Banking & Finance	Treasury Investment & Risk Management	Indian Institute of Banking & Finance	3 rd Edition, 2018
R-02	Indian Institute of Banking & Finance	Treasury Management	Macmilam India Ltd.	1 st Edition, 2018

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PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Fundamentals of Insurance
COURSE CODE	04MB0336
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- * Analyze the insurance sector and its mechanism in India.
- * Assess the role of life insurance in personal risk management.
- * Understand the dynamics of non-life insurance in India.
- * Evaluate the social security systems in India.
- * Appraise the marketing and distribution strategy adopted by insurance companies.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Insurance: Introduction to Insurance: Purpose and need of insurance, Insurance as a social security tool; History of Insurance- Indian Context; cost and benefits of insurance, Elements of insurable risk; Principles of Insurance; Insurance Contract Regulatory Framework: overview of Insurance Act,1938 and IRDA- Role and functions in Indian Insurance sector	8
II	Fundamental of Life Insurance: Introduction to Life Insurance: meaning, definition, features, nature, benefits; Life assurance contract, their nature and characteristics, Parties to the contract and their rights and duties. Type of life insurance; Conditions and terms of policy; Basic Procedure for Issuing a Life Insurance policy; alteration in policy; Issuing a Duplicate policy, Nomination, Assignment, Revivals, Policy Loans, Surrender Value, claim Settlements. Mortality Table.	10
III	Fundamental of Non-Life Insurance: Historical Framework of General Insurance in India, Industry Structure; GIC-Organization and Working; Practice of Non-life Insurance: Issue of Insurance policies, Rating Procedures, Claim Settlements	8
IV	Social Insurance:	8

	Meaning, characteristics; Legal framework; social insurance in India: Role of center and state government	
V	Insurance Marketing and Intermediaries Insurance Marketing Concept: Modern views on marketing, Various distribution channels- traditional channel of distribution- New Distribution Channels- Direct marketing, digital marketing, telemarketing, retail chains, Bancassurance. Insurance Intermediaries – Agents and Procedure for Becoming and Agent: Prerequisite for obtaining a license: Duration of license; Cancellation of license, Revocation of suspension/ termination of agent appointment; Code of conduct; Unfair practices	8

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

		Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	P. K. Gupta	Insurance and Risk Management	Himalaya Publishing House	2019/ 2 nd edition
T-02	O.P. Agrawal	Banking & Insurance	Himalaya Publishing House	2017/ 1st Edition
T-03	M. N. Mishra	Principles and Practices of Insurance	S. Chand and Sons	2016/ 22 nd edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Neelam C Gulati,	Principles of Insurance Management	Excel Books India	First Edition in 2007 Revised in 2012
R-02	Emmett J. Vaughan and Therese Vaughan	Fundamentals of Risk and Insurance	Wiley	2013/10 th edition
R-03	Reports - IRDAI	Annual Reports	IRDAI- ,Mumbai	latest report / other annual reports

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PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Software Project Management
COURSE CODE	04MB0337
COURSE CREDITS	03
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- * Understand the major SPM concepts
- * Interpreting the effective ways SPM tools and Techniques
- * Examining the Software Project Maintenance and Software Quality Managements.
- * Explaining SPM testing plans and methods
- * Assessing the Software Risk Management strategies

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Software Project Management: Concepts, Umbrella Activities under Software Project Management. Software Project Planning tools and techniques: Work breakdown Structure, Milestones, Software Sizing, Rayleigh curve etc. Cost Estimation techniques like COCOMO, Function Point Analysis and other Cost Estimation methods. Time Estimation Tools like CPM/PERT, Gantt charts and other methods, COCOMO for time estimation etc. (Use of MS-PROJECT is recommended).	06
II	Software Project Maintenance: Types, steps, Resource planning and estimation, Re-engineering the software products, Documentation standards, Version Control and Software Configuration Management.	08
III	Software Testing: Techniques, test plans, Introduction to manual testing and Automated testing tools. User Acceptance Testing: Implementation Planning, Steps, methods, Documentation etc.,	08
IV	Software Risk Management: Strategies of Risk Management, Software Risks, risks Identification, Risk Projection, Risk Refinement, Risk Mitigation, Monitoring & Management.	10
V	Software Quality Management: Quality Concepts, SQA, V & V Planning, tools and techniques (reviews, FTR inspections, walkthroughs etc.), Software Quality parameters with their definitions, Introduction to ISO 9000 Quality Standards and CMM.	10



EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (IA)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T1	K.K. Aggarwal and Yogesh Singh	<i>Software Engineering</i>	New Age International	2002
T2	Martin L Shooman	<i>Software Engineering</i>	Tata McGraw Hill	1983

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Carlo Ghezzi, Mehdi Jazayeri	<i>Software Engineering</i>	PHI	1996
R-02	Roger S. Pressman	<i>Software Engineering: A Practitioner's Approach</i>	Tata McGraw Hill 4 th edition 1999.	4 th edition 1999
R-03	Sommerville Ian	<i>Software Engineering,</i>	Pearson Ed	2004



PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Network and Communication Management
COURSE CODE	04MB0338
COURSE CREDITS	03
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- * Understand the major Network concepts
- * Interpreting the effective ways of Network Components and Architecture
- * Determining the Network Standards and Network Operations.
- * Explaining the Network Protocols
- * Reviewing the elements of network connectivity.

COURSE CONTENTS:

Module No	Unit / Sub Unit	Sessions
I	Introduction to Networking: Introduction to Network, Network Configuration, Network Topology. Basic Network Media: Network Cabling, The Network Interface Card, Wireless Networking	06
II	Understanding Network Architecture: Access Method, How Networks Send Data, Ethernet, Token Ring	08
III	Introducing Network Standards and Network Operating: Open System Interconnection (OSI) Reference Model, Introduction to Network Operating Systems.	10
IV	Defining Network Protocols: Introduction to Protocols, TCP/IP. Elements of Network Connectivity: Connectivity Devices, Connection Services	10
V	Network Security & Management - Principles of cryptography – Elliptic-AES- Authentication – integrity – key distribution and certification – Access control and: fire walls – DoS-attacks and countermeasures – security in many layers.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (IA)



C	End-Semester Examination	50% (External Assessment)
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SUGGESTED READINGS:

Text Books:

Sr. No	Name of the Book	Author /s	Publisher	Edition & Year
T-01	Network+	KELLY W. KUTZ	John Wiley & Sons, Inc	2 nd edition,2019
T-02	Network Security	Dr. Eric Cole, Dr. Ronald Krutz, and James W. Conley.	Bible.	1 st edition,2012

Reference Books:

Sr. No	Name of the Book	Author/s	Publisher	Edition & Year
R-01	Upgrading and Repairing PCs	Scot Muller	Cengage Learning	5 th edition,2012
R-02	Networking Essentials Plus.	MCSE Training Kit	MCSE Training Kit	Third Edition or latest 2014

Faculty of Management Studies: Master of Business Administration



PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Database Management Systems
COURSE CODE	04MB0339
COURSE CREDITS	03
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- * Understand the major DBMS concepts
- * Learn effective ways of building a model of the real world and optimizing it through normalization algorithms
- * Study of database concepts with emphasis on network, CODASYL, and relational models and their application to business systems.
- * Realize what database system is and list its characteristics
- * Write basic SQL statements for data creation

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Databases and Transaction: What is Database system, Purpose of Database System, view of data, Relational Databases, Database Architecture, Transaction Management Data Models: The importance of Data Models, Basic Building Blocks, Business Rules, The evolution of Data Models, Degrees of Data Abstraction. Object Oriented Data Model	08
II	Database Design, ER-Diagram and Unified Modelling Language: Database Design and ER Model: Overview, ER-Model, Constraints, ER-Diagrams, ERD Issues, Weak Entity Sets, Codd's rules, Relational Schemas, Introduction to UML	08
III	Relational Algebra and Calculus: Relational Algebra: Introduction, Selection and Projection, Set Operations, Renaming, Joins, Division, Syntax, Semantic. Operators, grouping and ungrouping, Relational Comparison. Calculus: Tuple Relational Calculus, Domain Relational Calculus, Calculus vs Algebra, Computational Capabilities.	10
IV	Constraints, Views and SQL: What is Constraints, types of Constrains, Integrity Constraints Views: Introduction to views, Data independence, security, updates on views, comparison between tables and views SQL: Data definition, Aggregate function, Null Values, Nested sub Queries, Joined relations, and Triggers	10
V	Relational database model: Logical view of data, keys, and Integrity rules: Relational Database design: Features of good Relational Database Design, Atomic Domain and Normalization (1NF, 2NF, 3NF, BCNF)	06



EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

		Weight age
A	Assignment & Presentation	20%
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T1	A Silberschatz, H Korth, and S Sudarshan	"Database System and Concepts	McGraw-Hill	fifth Edition
T2	Rob, Coronel	Database Systems"	Cengage Learning	Seventh Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Rini Chakrabarti, Shilbhadra Dasgupta	Advanced Database Management System	Wiley	First Edition
R-02	Arun K. Majumdar, Pritimoy Bhattacharyya	Database Management Systems	McGraw Hill Education	2017
R-03	C.J. Date	An Introduction to Database Systems	Pearson	8 th Edition

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Big Data in IT and Systems
COURSE CODE	04MB0340
COURSE CREDITS	03
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- * Understand the concept and challenge of Big Data and why existing technology is inadequate to Analyze the Big Data;
- * Integrate and Apply knowledge on Collect, Manage, Store, Query, and Analyze various form of Big Data;
- * Gain hands-on experience on large-scale Analytics tools to solve some open Big Data problems
- * Ability to integrate machine learning libraries and mathematical and statistical tools with modern technologies like hadoop and mapreduce.
- * Understand the impact of Big Data for Business Decisions and Strategy.

COURSE CONTENTS:

Module No	Unit / Sub Unit	Sessions
I	Introduction to Big Data Analytics and Lifecycle Big Data Overview, Data Structures, Perspective on Data Repositories, Practices in Analytics, BI versus Data Science, Analytical Architecture, Drivers of Big Data, Big Data Ecosystem Data Analytics Lifecycle: Phase 1: Discovery, Phase 2: Data Preparation, Phase 3 Model Planning, Phase 4: Model Building, Phase 5: Results, Phase 6: Operationalize	8
II	Advanced Analytical Theory and Methods -I: Clustering Overview of Clustering, K-means Use Cases; Overview of the Method; Determining the Number of Clusters; Diagnostics; Reasons to Choose and Cautions. Association Rules Overview of Association Rules, Apriori Algorithm, Evaluation of Candidate Rules, Applications of Association Rules, Validation and Testing, Diagnostics.	8
III	Advanced Analytical Theory and Methods -II: Classification Decision Trees: Overview of Decision Tree, The General Algorithm, Decision Tree Algorithms, Evaluating a Decision Tree. Naïve Bayes: Bayes Theorem, Naïve Bayes Classifier, Smoothing, Diagnostics. Diagnostics of Classifiers.	8

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	Text Analysis Text Analysis Steps, Collecting Raw Text, Representing Text, Term Frequency-Inverse Document Frequency (TFIDF), Categorizing Documents by Topics, Determining Sentiments, Gaining Insights.	
IV	Advanced Analytics: Technology and Tools - MapReduce and Hadoop Analytics for Unstructured Data: Use Cases, MapReduce, Apache Hadoop The Hadoop Ecosystem: Pig, Hive, HBase, Mahout, NoSQL Technology and Tools – In-Database Analytics SQL Essential: Joins, Set Operations, Grouping Extensions Advanced SQL: Window Functions, User-Defined Functions and Aggregates, Ordered Aggregates, MADlib	10
V	Application of Data Mining, predictive and prescriptive analytics using big data: Data Mining, predictive and prescriptive analytics using big data & Decision-Making Predictive Analysis, Forecasting, Optimization, Simulation Gamification, Business Metrics in Action Data science in Startups Basics of Problem-Solving Design Patterns in Statistical Computing Excel for Data Science.	8

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

		Weight age
A	Assignment & Presentation	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Name of the Book	Author /s	Publisher	Edition & Year
T-01	Big Data & Analytics	Chellappan and Acharya	Wiley	2 nd edition, 2019
T-03	Big Data Big Analytics: Emerging Business Intelligence and Analytic Trends for Today's Businesses	Michael Minelli, Michele Chambers, Ambiga Dhiraj	John Wiley & Sons, Inc.	1 st edition, 2012

Reference Books:

Sr. No	Name of the Book	Author/s	Publisher	Edition & Year
R-01	Business Analytics: Data Analysis and Decision Making	S. Christian Albright	Cengage Learning	5 th edition, 2012
R-02	Analytics in a Big Data World	Bart Baesens	John Wiley & Sons	3 rd edition, 2014
R-03	Big Data Analytics with R & Hadoop	Vignesh Prajapati	PACKT Publishing	1 st edition, 2019

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PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Data Science Using R
COURSE CODE	04MB0341
COURSE CREDITS	03
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- * Apply R code to use the API (Application Programming Interface) to manage databases.
- * Select the right functions and control structure of R Programming language.
- * Combine various tools and packages of R programming language for business analytics.
- * Analyze data graphically by creating various plots using visualization tools in R.
- * Analyze business data using simple linear regression and multiple linear regression for prediction and decision making.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	R Nuts and Bolts, Getting Data In and Out of R & Using Textual and Binary Formats for Storing Data R Nuts and Bolts: Entering Input, Evaluation, R Objects, Numbers, Attributes, Creating Vectors, Mixing Objects, Explicit Coercion, Matrices, Lists, Factors, Missing Values, Data Frames, Names Getting Data In and Out of R: Reading and Writing Data. Reading Data Files with, read.table(), Reading in Larger Datasets with read.table, Calculating Memory Requirements for R Objects	06
II	Sub setting R Objects, Managing Data Frames with the dplyr package & Control Structures Sub setting R Objects: Sub setting a Vector, Sub setting a Matrix, Sub setting Lists, Sub setting Nested Elements of a List, Extracting Multiple Elements of a List, Partial Matching, Removing NA Values Managing Data Frames with the dplyr package: Data Frames, The dplyr Package, dplyr Grammar, Installing the dplyr package, select(), filter(), arrange(), rename(), mutate(), group_by(), %>%	08
III	Control Structures: if-else for Loops, Nested for loops, while Loops, repeat Loops, next, break Functions, Scoping Rules of R & Loop Functions: Functions: Functions in R, Your First Function, Argument Matching, Lazy Evaluation, The ... Argument, Arguments Coming After the ... Argument Loop Functions : Looping on the Command Line, lapply(), sapply(), split(), Splitting a Data Frame, tapply, apply(), Col/Row Sums and Means, Other Ways to Apply, mapply(), Vectorizing a Function	08



IV	<p>Descriptive Statistics: Basic Arithmetic Operations, Standard Functions like abs(), sqrt(), round(), sum(), product(), log(), log10(), Statistical Functions like min(), max(), range(), mean(), quantile (), summary(), var(), sd(), scale(), boxplot(), cov(), cor()</p> <p>Frequency Measures and Graphical Presentation frequency distribution and cumulative frequency distribution tables, Bar Chart, Pie Chart, Histogram, Box-Whisker Plot, Scatterplots, Matrix of Plots</p> <p>Simulation: Generating Random Numbers, Setting the random number seed, Simulating Random Sampling, R function for solution of Binomial, Poisson, Normal and Exponential distribution problems</p> <p>Hypothesis Testing: Testing Means (Single mean and Two Means)</p>	08
V	<p>Predictive Analytics: Types of Analytics, Analytics in Decision Making, Introduction to Predictive Analytics.</p> <p>Simple Linear Regression (SLR): Simple Linear Regression: Overview, Model Development, Assumptions, Model Validation, Model fitness and R^2, Example of SLR.</p> <p>Multiple Linear Regression and Logistic Regression: MLR: Introduction, Estimation of Regression Parameters, Explanatory vs. Predictive Modeling, Assumptions and Model Diagnostics, MLR with categorical predictors (dummy variable), Derived & Interaction Variables, Multi-collinearity, Adjusted R^2, Model Deployment, Example of MLR.</p>	12

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

		Weight age
A	Continuous Evaluation Component (Assignments / Quizzes /Class Participation etc.)	20% (C.E.C.)
B	Internal Assessment (Lab based Practical Examination using R-software)	30% (I.A.)
C	End-Semester Practical Examination	50% (Practical/VIVA)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Roger D. Peng	R Programming for Data Science	Lean Publishing	1 st edition, 2015
T-02	Nicholas J Horton	Using R and RStudio for Data Management, Statistical Analysis and Graphs	CRC Press – T&F Group	2015
T-03	Christian Heumann, Michael Schomaker, Shalabh Sinha	Introduction to Statistics and Data Analytics: With Exercise, Solutions and Applications in R	Springer	2016

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	Roger D. Peng	Exploratory Data Analysis with R	Lean Publishing	1 st Edition, 2015
R-02	Alain F Zuur, Elena Leno	A Beginner's Guide to R	Springer (Use R!)	1 st Edition 2009
R-03	A. Ohri	R for Business Analytics	Springer	1 st Edition, 2012
R-04	Seema Acharya	Data Analytics Using R	McGraw Hill	1st edition, 2018

Faculty of Management Studies: Master of Business Administration



PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Information Security, Ethics and Issues
COURSE CODE	04MB0342
COURSE CREDITS	03
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- * Understand, appreciate, employ, design and implement appropriate security technologies and policies to protect computers and digital information.
- * Identify & Evaluate Information Security threats and Cryptography methods
- * Identify common Response and Human factors on Information Security
- * Demonstrate the use of standards and cyber laws to enhance information security in the development process and infrastructure protection.
- * Identify the common concepts involved in Information security and correlate the same with Industry practices.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Foundations of Cyber Security Concepts: Essential Terminologies: CIA, Risks, Breaches, Threats, Attacks, Exploits. Information Gathering (Social Engineering, Foot Printing & Scanning). Open Source/ Free/ Trial Tools: nmap, zenmap, Port Scanners, Network scanners.	6
II	Cryptography and Cryptanalysis: Introduction to Cryptography, Symmetric key Cryptography, Asymmetric key Cryptography, Message Authentication, Digital Signatures, User Management, VPN Security, Security at Transport Layer- SSL and TLS, Security at Network Layer-IPSec.	08
III	Intrusion Detection and Response – Anomaly (network and host) – Specification based (network and host) – Human Factors: – Captcha’s – Social engineering, e.g., phishing – Economics of Security – Incentives and motivations for attack.	10
IV	Ethical Issues pertaining to IS: · Ethical responsibilities of business professionals · Computer crime – hacking & cracking, cyber theft, unauthorized use at work, software piracy, theft of intellectual property, viruses & worms, adware and spyware.	12
V	Information Security: · First line of defence – People / employees’ · Second line of defence – Technology for authorization, prevention, detection and response. Contemporary/ emerging technologies: · Cloud and mobile computing · E-commerce, m-commerce · Internet of Things	06



EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

		Weight age
A	Assignment & Presentation	20%
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T1	Michael T. Goodrich and Roberto Tamassia	Introduction to Computer Security	Addison Wesley	2011
T2	William Stallings	Cryptography and Network Security	Pearson Education	4 th Edition 2010

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Alfred J. Menezes, Paul C. van Oorschot and Scott A. Vanstone	Handbook of Applied Cryptography	CRC Press	2001
R-02	Nina Godbole	"Information System Security"	Wiley	2016
R-03	Bothra Harsh	"Hacking"	Khanna Publishing House, Delhi	2010

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Fundamentals of Logistics and Supply Chain Management
COURSE CODE	04MB0343
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- * Understand the importance of Logistics and Supply chain management relative to an Organization
- * Apply the techniques of supply chain management in the Industry
- * Examining the concept of Bull Whip Effect in managing Inventories
- * Integrating the concept of Outsourcing and its role in Supply Chain Management
- * Reviewing the concept of forecasting supply chain management in the industry

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Logistics management: Introduction, Logistics system design, Demand planning, Multiple channel distribution, multi-echelon system, Model development, Concept of warehousing, Methods of storage, Primary and secondary transportation, Logistics information system, Logistics costing	6
II	Concept and various issues involved, EOQ models, Buffer Stock, leave time reduction, reorder point, ABC analysis, SDE/VED analysis	8
III	Supply chain management: Overview, Supply chain basics, Decision phases in a supply chain, Planning and operations, Importance of supply chain process, Functional and organizational scope of SCM, Management of Demand and supply in SCM, Capacity, Inventory, market segments, Supply chain forecasting, Supply chain forecasting management performance (SCFMP). Collaborative planning, forecasting and replenishment (CPFR).	12
IV	Drivers of outsourcing: Procurement approaches to SCM, Operational, strategic and global outsourcing, Production supply chain model, Intrafirm production, build to order production, Lean, JIT, Dispersed production Relevance and role of supply chain coordination	10
V	Bullwhip effect: Modeling the impact of information on inventories, Role of Marketing, sales and R&D in SCM, Information systems and technology in supply chain, E-Business models: B to B, B to C. Managing service	6

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Sunil Chopra and Peter Menidl	Supply chain management- Strategy planning and operations	Prentice Hall	2001
T-02	Manish Govil and Jean Marie Prop	Supply chain design and management: Statistical and Tactical perspectives	Academic press	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Sridhar Tayur, Ram Ganeshan and Micheal Magazine	Quantitative models for supply chain management	Kluwer Academic publishers	Latest
R-02	Lambert, D.M., Stock J.R.	Fundamentals of Logistics management	Irwing McGraw Hill	1998
R-03	Blanchard, B.S.,	Logistics Engineering & management	Prentice Hall, New Jersey	1997

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Operations Research Applications
COURSE CODE	04MB0344
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- * Select optimal problems solving techniques for a given problem using LPP with simplex method.
- * Demonstrate and solve Simulation.
- * Demonstrate and solve models of Game theory.
- * Evaluate optimum solutions using dynamic programming for different applications.
- * Choose / devise appropriate queuing model for practical application

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	<i>Linear Programming: Simplex Method:</i> Introduction, Linear Programming Problem, Requirements of LPP, Mathematical Formulation of LPP, Standard Form of LPP, Fundamental theorem of LPP, Solution of LPP	06
II	<i>Simulation:</i> Introduction, Methodology of Simulation, Basic Concepts, Simulation Procedure, Application of Simulation, <i>Simulation</i>	08
III	<i>Game Theory:</i> Introduction, Competitive Situations, Characteristics of Competitive Games, Maximin – Minimax Principle, Dominance, Advanced Queuing, sequencing, Simplex Method, The Simplex Algorithm, Penalty Cost Method or Big M-method, Two Phase Method, Solved Problems on Minimization, Goal Programming, Dynamic programming,	12
IV	Replacement theory: Introduction, Replacement of capital equipment which depreciated with time, replacement by alternative equipment, Group and individual replacement policy.	08
V	<i>Monte-Carlo Method:</i> Introduction, Monte-Carlo Simulation, Applications of Simulation, Advantages of Simulation, Limitations of Simulation	08

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Quizzes / Class Participation etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)



C	End-Semester Examination	50% (External Assessment)
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SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	N.D.Vohra	Quantitative Techniques in Management	Tata McGraw-Hill	Latest
T-02	V.K Kapoor	Operations Research: techniques for Management	Sultan Chand	Latest
T-03	J.K Sharma	Operations Research: theory and application	Lakshmi publication	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	R. Paneerselvam	Operations Research	Prentice Hall of India Pvt. Ltd.	Latest
R-02	Hamdy Taha	Operations Research: An Introduction	Pearson	Latest
R-03	D. S. Hira and Prem Kumar Gupta	Operations Research	s. chand	latest

PROGRAM	Master of Business Administration
SEMESTER	03
COURSE TITLE	Material Management and Inventory Control
COURSE CODE	04MB0345
COURSE CREDITS	03
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- * Have the depth knowledge of material requirement planning-methods
- * Implement methods like EOQ, POQ in Industries and Manufacturing Sector.
- * Analyze the demands-supply gap and forecasting practices implementation.
- * Understand the importance of warehousing & inventory control.
- * Evaluate the store's operation and its importance in Industries.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to materials management –production planning system, master scheduling, material requirement planning-process, bills of material, using material requirements plan	06
II	Capacity management, purchasing, selecting suppliers, ordered quantity-EOQ, quantity discounts, period order quantity (POQ)	08
III	Physical distribution, Total quality management, production activity control, data requirements, order preparation	08
IV	Stock and inventories, models for known demand, just in time, models for uncertain demand- models for discrete demand, service level, periodic review methods, Planning and stocks- levels of planning, master and operational schedules, forecasting-methods,	12
V	Stores Management: Layout of stores and warehouse, material handling in stores, physical control of stocks : obsolete, surplus and scrap Management, accounting and record keeping of stores, classification, coding and codification systems,	08

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Quizzes / Class Participation etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

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SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	J. R. Tony Arnold, Stephen N. Chapman, Lloyd M. Clive	Introduction to materials Management	Pearson (prantice hall)	sixth edition
T-02	Donald waters	Inventory control and management	Wiley	Latest edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Datta A K	"Materials Management, Procedures, Text and Cases" by	PHI PUBLICATION	Latest edition
R-02	James H Greene	Production and Inventory Control Handbook	McGraw-Hill Education	3rd edition
R-03	Geoff Relph and Catherine Milner	Inventory management	Koganpage	Latest edition

PROGRAM	Master of Business Administration
SEMESTER	03
COURSE TITLE	Total Quality Management
COURSE CODE	04MB0346
COURSE CREDITS	03
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- * Overview of quality and TQM and explain the salient contributions of Quality. General barriers in implementing TQM.
- * Interpret the meaning of TQM concepts like customer Focus, Employee Focus and their involvement, continuous process improvement and Supplier Management.
- * Explain the analytical skills required for investigating and analyzing quality management issues.
- * Illustrate the in-depth knowledge on various tools and techniques of quality management.
- * Review the ISO 14000 Principles and implementation of the same in Industries.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction - Need for quality - Evolution of quality - Definitions of quality - Dimensions of product and service quality - Basic concepts of TQM	06
II	TQM Framework - Contributions of Deming,- Barriers to TQM - Quality statements - Customer focus - Customer orientation, Customer satisfaction, Customer complaints, and Customer retention - Costs of quality.	08
III	Continuous process improvement - PDCA cycle, 5S, Kaizen - Supplier partnership - Partnering, Supplier selection, Supplier Rating, TQM TOOLS & TECHNIQUES the seven traditional tools of quality- New management tools - Control Charts - Process Capability	12
IV	TPM - Concepts, improvement needs- Performance measures. QUALITY SYSTEMS: Need for ISO 9000 - ISO 9001-2008 Quality System - Elements, Documentation, Quality Auditing - QS 9000 - ISO 14000 - Concepts, Requirements and Benefits	10
V	TQM Principles- Leadership - Strategic quality planning, Quality Councils - Employee involvement - Motivation, Empowerment, Team and Teamwork, Quality circles Recognition and Reward, Performance appraisal	6

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Quizzes / Class Participation etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Er. V. Mohanavel Er. S. Suresh Kumar Er. T. Sathish Er. M. Balamurugan Er. G. Balamurugan	A text book on Total Quality Management	International research publication house	Latest edition
T-02	John s. oakland	Total Quality Management and Operational Excellence: Text with Cases	Taylor and francis	4 th edition
T-03	B. Jankiraman, R.K. Gopal	The total quality management: text and cases	PHI learning	Latest edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Paul James	Total quality management: an introductory text	Prentice Hall, 1996	Latest edition
R-02	Joel E. Ross	Total quality management	Taylor & Francis, 2017	3 rd edition

Faculty of Management Studies: Master of Business Administration



PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Management of Manufacturing Systems
COURSE CODE	04MB0347
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- * Understand facility, capacity, and layout planning.
- * Apply the concepts of production planning and control.
- * Analyze the production planning and control.
- * Evaluate the inventory planning and control.
- * Critically examine demand forecasting and project management

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Facility planning - factors affecting selection of plant location, plant design, plant layout, criteria for good layout. Capacity planning- analysis of designed capacity, installed capacity, commissioned capacity, utilized capacity, factors affecting productivity. Facility layout planning – Assignment model, load distance analysis, closeness ratings.	10
II	Steps in PPC process mapping, preparation of process mapping and feedback control for effective monitoring. Aggregate production planning, production planning strategies, Disaggregating the aggregate plan, Materials Requirement Planning (MRP), MRP-II, Supply chain management, Operation scheduling, prioritization.	8
III	EOQ models- with and without shortages, price breaks, effect of quantity discount – selective inventory control techniques – ABC, FSN, VED etc. Types of inventory control – Perpetual, two-bin and periodic inventory system – JIT.	8
IV	Demand forecasting – Quantitative and qualitative techniques, measurement of forecasting errors, numerical problems.	8
V	Project management – its role in functional areas of management, network diagrams, CPM and PERT techniques, crashing, resource levelling and resource smoothing.	8

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Quizzes / Class Participation etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)

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C	End-Semester Examination	50% (External Assessment)
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SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	S.N.Chary	Production and Operations management	SIE, TMH2007	3rd edition, 2007
T-02	R.Pannererselvam	Production and operations management	PHI, 2008.	2nd edition, 2008

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	James.B.Dilworth	Operations management-Design, planning and control for manufacturing and services	McGraw hill, Inc Management series 1992	1992
R-02	Melnyk.Denzler	Operations management-A value driven approach	Irwin McGraw-Hill 1996.	1996.
R-03	Lee.J.Krajewski, L.P.Ritzman, M.K.Malhothra	Operations management – Process and value chains	PHI	8th edition, PHI, 2007.
R-04	R.B.Chase, N.J.Aquilano, F.R.Jacobs	Operations management – for competitive advantage	SIE, TMH 2007	11th edition, 2007
R-05	Kanishka Bedi	Production and Operations management	Oxford higher Education 2007.	2nd edition, Oxford higher Education 2007.

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Sourcing Management
COURSE CODE	04MB0348
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- * Understand the process of how Sourcing works and its relationship with Production & Operations.
- * Interpret the meaning of Sourcing.
- * Integrate the in-depth knowledge of Sourcing Process, Vendor Selection.
- * Assess the Global Trends in Sourcing.
- * Devise the practices used in sourcing.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Understanding Sourcing as a Strategic Organizational Function -Evolution of purchasing, Purchasing, sourcing and vendor management as a key organizational function, purchasing objectives, Impact of strategic purchasing on profitability, Make or Buy Decisions, Types and methods of sourcing in retail; centralized vs decentralized, single sourcing vs multiple sourcing, day-to-day vs long range sourcing	8
II	The Sourcing Process -Market analysis and supplier research, Prime sources of supplier information, Request for Proposal, Fundamental steps of the buying process, terms and condition of purchase, Buying Documentation, Negotiation, Use of IT in sourcing, Global Tenders and E-Procurement, Reverse Auctions, Expanded role of global purchasing	8
III	Vendor Selection and Management -Vendor selection process, Evaluation of existing vendors, developing vendor performance measures, new vendor development process, working with suppliers to manage quality, JIT and TQM in sourcing, Key supplier account management, Vendor relationship development, Negotiation skills, Vendor monitoring, Promoting SME suppliers.	10
IV	Cross functional Approach to Sourcing - Overview of material management function and supply chain alignment, Role of purchasing in supporting inventory objectives, Goals of Inventory Control, hedging vs. Forward Buying, Risk management, managing price fluctuation and volatility in international finance, matching supply with customer demand, managing inward logistics, Transportation modes and warehousing.	10
V	Global Trends and Issues in Sourcing -Global Trade Barriers, Dealing with international suppliers, UNO and GATT conventions, Legal, socio-cultural issues in international buying, Environmental issues-Green Purchasing- Industry Best Practices, Measurement of sourcing performance, Benchmarking in Retail Purchasing.	6



EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Quizzes / Class Participation etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Leenders, Johnson, Flynn and Fearon	Purchasing And Supply Management—,	Tata McGraw Hill	Latest
T-02	Burt, Dobler, Starling,	World Class Supply Management	Tata McGraw Hill	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Robert B. Handfield Larry C. Giunipero	Sourcing and Supply Chain Management	Cengage	2012
R-02	Robert Handfield	Supply Market Intelligence: A Managerial Handbook for Building Sourcing Strategies	Auerbach Publications	2006
R-03	Professor Olivier Bruel	Strategic Sourcing Management: Structural and Operational Decision-making	Kogan Page	1 st , 2016

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Physical Distribution and Transportation Management
COURSE CODE	04MB0349
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- * Evaluate how Distribution contributes to managing Supply Chain network
- * Understand the role Transportation in Logistics.
- * Analyze the Importance of Information Technology in relation to Transportation Management.
- * Apply various concepts of International Transportation in Industry
- * Remember the Process of Planning of Distribution & Transportation.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Distribution Role of Distribution in Supply chain, Distribution channels – Functions, resources, Operations in Distribution, Designing Distribution network models - its features - advantages and disadvantages	06
II	Planning & Transportation Distribution network planning, Distribution network decisions, Distribution requirement planning (DRP)	08
III	International Transportation International transportation, Carrier, Freight and Fleet management, Transportation management systems-Administration, Rate negotiation, Trends in Transportation.	08
IV	Information Technology (IT) Usage of IT applications -E commerce – ITMS, Communication systems-Automatic vehicle location systems, Geographic information Systems.	10
V	Role of Transportation in Logistics and Business, Principle and Participants-Scope and relationship with other business functions, Modes of Transportation - Mode and Carrier selection, Routing and scheduling	10



EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Janat Shah	Supply Chain Management	Pearson Education India	2016
T-01	Raghuram and N. Rangaraj	Logistics and Supply chain Management - Leveraging Mathematical and Analytical Models: Cases and Concepts	Macmillan	2000

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	David Lowe	Lowe's Transport Manager's and Operator's Handbook	Prentice Hall of India	2019
R-02	Michael B Stroh	Practical Guide to Transportation and Logistics	Logistics Network	2006
R-03	Alan Rushton, John Oxley	Handbook of Logistics & Distribution Management	Kogan Page Publishers	2006



PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	EXIM Trade Documentation and Procedures
COURSE CODE	04MB0350
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- * Examine how Government Policies works and how it is related to EXIM
- * Identify how Export & Import works and how it can be applied in real world
- * Gather in-depth knowledge of Documentation.
- * Link of Incoterms & Practical Examples.
- * Understand the Quality Control & Inspection related to the Import Export Process.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Regulatory Framework Governing Exports and Imports:- Laws governing India's export-import (general provisions), Foreign trade (Development and Regulation) Act, 1992, Foreign trade (Development and Regulation) Amendment Bill, 2010., DGFT, The Customs Act, GST Act · Export Inspection Council · Overview of Foreign Trade Policy (2015-2020) Legal basis and duration of FTP, Handbook of Procedures, E-IEC, General Provisions, EDI, Bonded Warehouses, Free exports, Objective of MEIS & SEIS, Towns of Export Excellence, Specific Input-Output Norms (SION)	8
II	International Trade Documents: - Aligned Documentation System (ADS), Proforma Invoice, Commercial Invoice, Packing List 9 18, Shipping Bill Certificate of Origin, Consular Invoice, Certificate of Origin vs. Consular Invoice Commercial Invoice vs. Consular Invoice ,	8
III	Export Procedure:- · Registration Procedure · Pre-shipment Procedure · Shipment Procedure · Post-shipment Procedure (Realization of Export Proceeds) · Excise Clearance for Exportable Goods / GST provisions Quality Control and Pre-shipment Inspection · Objectives of Quality Control and Pre-shipment Inspection	10
IV	Import Procedure: · Categories of Importers · Import License · Import of Samples · Import Contract · Pre-import Procedure · Legal Dimensions of Import Procedure · Retirement of Import Documents · Customs Clearance for Imported Goods · Warehousing of Imported Goods · Exchange Control Provisions for Imports · Import Risks · Import Duties · Valuation for Customs Duty · Import Incentives under Special Schemes · Import of Personal Baggage · Import of Gifts.	10
V	· Methods of Quality Control and Pre-shipment Inspection · Procedure for Pre-shipment Inspection · Procedure for Shipping and Customs Clearance · Registration-cum-Membership Certificate (RCMC) · Role of Customs House Agents (CHAs), Mate's Receipt , Bill of Lading	6



	,Mate's Receipt vs. Bill of Lading ,Guaranteed Remittance (GR) Form ,Bill of Exchange , Airway Bill , Import Documents	
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EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Nabhi's Board of Editors	How to Export	Nabhi Publications-New Delhi,	2019,
T-02	Mahajan	A Guide on Export Policy Procedure & Documentation	Snow White Publication Private Limited	13th Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Sudhir Kochhar	Export Import Procedures and Documentation	Gullybaba Publishing House (P) Ltd	2012
R-02	Raj Kumar Sharma	Export Business – A beginner's Guide	Notion Press	1st Edition, 2020
R-03	Jignesh Vidani	Export and Import Procedures	Educreation Publishing	2019

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Project Management
COURSE CODE	04MB0351
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- * Understand Project Management.
- * Understand Monitoring and Controlling the Project
- * Evaluating and Terminating the Project.
- * Relate the importance of Project Management.
- * Illustrate Strategic implications of Project Planning.
- * Acquaintance with basics of Project management and execution.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Project management: Introduction to Project Management, Need for Project Management, Organization: Structure and Culture, Strategic Management Process	6
II	Project Identification and Selection: Generation of Project Ideas, Defining the Project Scope, WBS, Phases of a project, Feasibility study, project selection.	8
III	Project Planning and Implementation: Project Appraisal Method -Marketing, Technical, Environmental, Social, Estimation of project time and cost, Project Implementation-Managing Project Team & Effective Project Leadership.	12
IV	Project Controlling & Risk Management: Project Control Process, Tools -Project Network Construction (AOA and AON approach), Gantt Chart, CPM and PERT Techniques, (PERT & CPM: Theory and Examples), Crashing of the Project (Concept and Sums), Construction of Gantt Chart, Project Risk Management Process.	10
V	Project Closures: Project Audit, Project Termination, Project Closeout Reports	6

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Quizzes / Class Participation etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)



SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Gray, C. F., Larson, E.W., and Desai, G. V.	Project Management-The Managerial Process	McGraw Hill	2010
T-02	Samuel J. Mantel, Jr. , Jack R. Meredith, Scott M. Shafer, Margaret M. Sutton with M. R. Gopalan	1. Project Management	WILEY-INDIA	2012

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Chandra Prasanna	Projects – Planning analysis, Selection, Implementation and Review	Tata McGraw-Hill.	2014
R-02	Sitangshu Khatua	Project Management and Appraisal	Oxford	2008
R-03	Marr, B.	Need to Know Key Performance Indicators.	Pearson	2014

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Creativity and Innovation
COURSE CODE	04MB0352
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- * Recognize innate creative potential and its role in to enhance quality of individual / Business.
- * Appreciate the role of courage in coming up with and implementing new ideas and approaches in entrepreneurial problem solving.
- * Describe the creative and innovative processes and understanding the ways in which individuals/ firms interact with the society.
- * Discuss practice of entrepreneurial thinking in a larger social context.
- * Invent or experiment with a project that shows the students understanding of creativity and innovation to become more visionary.
- * Apply frameworks and tools that will improve individual, team, and organizational creativity.
- * Understand creativity and innovation in global context with a focus on the changing economy and entrepreneurial thinking.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction Creativity - Recognize the own creativity, its potential ; Self- education and expansion - The importance and need for innovation. - Understanding and managing a human centered innovation methodology.	8
II	Investigation - Recognizing the importance of observation and empathy tools to understand real user needs. - Developing own observation guidelines and tools to gather information. Innovation – Types -Incremental and Radical Innovation - Factors that Favor Incremental Innovation, - Service Innovations - Innovations in Processes	8
III	Ideation - Creativity Tools and Techniques - Entrepreneurial Creativity - Characteristics of Creative Groups, Three Components of Individual Creativity	8



	<ul style="list-style-type: none"> - Time Pressure and Creativity - Steps for Increasing Creativity - Developing the ability to create in a collaborative and diverse team. - Designing multiples alternatives of solutions for the same problem. 	
IV	<p>Prototyping</p> <ul style="list-style-type: none"> - Developing concepts and ideas through modeling and “Rapid Prototype”. - Communicating ideas trough visual maps and three-dimensional representations. - Feedback from the users by testing the prototypes. <p>Moving Innovation to Market</p> <ul style="list-style-type: none"> - The Idea Funnel - Stage-Gate Systems - Extending Innovation through Platforms 	9
V	<p>Implementation</p> <ul style="list-style-type: none"> - Controlling and combining multiple variables of a problem. - Detecting the key proposals and synthesizing them in a final solution - Identifying the appropriate specialists to develop the design. - Creating a system around the solution and developing a value proposition. - Designing an effective presentation of the offer. - Technology Management - Asset Protection through IPR 	9

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignment/ Quiz/ Class participation/ presentation/ etc.,	20%(C.E.C)
B	Internal assessment	30%(I.A)
C	End- Semester Examination	50% (External assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Harvard Business Review Press	Managing Creativity and Innovation	Harvard Business Press	Latest Edition
T-02	Bettina von Stamm	Managing Innovation, Design and Creativity	John Wiley & Sons	Latest Edition
T-03	Vijaykumar Khurana	Management of Technology and Innovation	Ane Books Pvt. Ltd	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	H. S. Fogler and S.E. LeBlanc	Strategies for Creative Problem Solving	Prentice Hall	Latest
R-02	E. Lumsdaine and M. Lumsdaine	Creative Problem Solving	McGraw Hill	Latest
R-03	E. Sickafus	Unified Structured Inventive Thinking	Ntelleck	Latest

Faculty of Management Studies: Master of Business Administration



PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Econometrics
COURSE CODE	04MB0353
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- * Understand some useful tools for empirical economic models
- * Develop a way of thinking in quantitative terms for economic analysis
- * Estimate the economic models with econometric modeling software Developing critical thinking and the application of both logical and quantitative skills.
- * Learn basic econometric techniques and their applications to business, economics, and finance
- * Understand how to postulate and test hypotheses related to economic issues or problems.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I Introduction to Econometrics	Introduction to Econometrics and its application in business and economics, Methodology of Econometrics. Structure of Economic Data – Cross-sectional, Time series and Panel data. Introduction to Time series Econometrics - Stationary and non-stationary data, tests of stationarity, Data handling using EViews – Raw data and log values and data differencing	08
II Modeling through Non-Stationary Time-series processes	transformation of non-stationary data to stationary data, Deterministic and stochastic trends, Integrated process and random walk, random walk with drift, Unit root and tests for unit root- Dickey-Fuller and Augmented Dickey Fuller tests, Phillips-Perron Test and KPSS test, Unit Roots and Structural Breaks, Unit roots in regression residuals and spurious regression, Cointegration and its testing using Engel-Granger method, Lead-lag and Long Run relationships, Characteristic Root, Rank and Cointegration, Testing for and estimating cointegrating systems using the Johansen method based on VARs, Vector Error Correction Models.	10
III Modeling through volatility clustering	Volatility-Meaning and measurement, Volatility clustering, Econometric models of volatility, Conditional heteroscedasticity in ARMA models, Estimation and Testing for ARCH and GARCH models for volatility clustering in economic time-series, multivariate regression models and conditional heteroscedasticity, Asymmetric GARCH models-GJR model and EGARCH.	08
IV Regression model using SPSS and STATA	Two variable regression model – assumptions – method of least squares – properties – BLUE – R-square – maximum likelihood method – testing of hypotheses using point and interval estimates – forecasting – solving problems using SPSS and STATA. General linear model (matrix approach) – specification	08



	– OLS estimators – testing significance of individual and overall regression coefficients – restricted least squares – structural regression models – dummy variables – problems and application using STATA.	
Unit V Relaxing the Assumptions of the Classical Model	Violation of classical assumptions – Nature and estimation of multicollinearity; Heteroscedasticity – problems – causes – consequences, the method of Generalised least Squares (GLS) – remedial measures Autocorrelation – OLS Estimation in the presence of autocorrelation, OLS versus FGLS and HAC.	08

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (IA)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	DamodarN. Gujarati and Sangeetha	Basic Econometrics	McGraw Hill Education	6th Edition Special Indian Edition
T-02	J. Johnston	Econometric Methods,	McGraw Hill Education	4th Edition
T-03	Brooks, C.	Introductory Econometrics for Finance	Cambridge University Press,	3rd Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Hamilton, J. D.	Time Series Analysis,	Princeton University Press, 1994	2 nd Edition
R-02	Baltagi, Badi.	Econometric Analysis of Panel Data,	Wiley Publication	5th Edition
R-03	Shankar Kumar Bhaumik	Principles of Econometrics: A Modern approach using Eviews	Oxford Publication	Latest Edition



PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Personal Financial Management
COURSE CODE	04MB0354
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- * Acquainting themselves about essentials of finance and financial planning.
- * Be aware of protecting the resources by varieties of Insurance.
- * Evaluate the risk and return associated with different types of investments alternatives and construct an efficient portfolio.
- * Meet the client's wealth creation needs through financial planning.
- * Competent in retirement planning and estate planning.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction of Financial Planning Personal Finance Basics and Time Value of Money, Financial aspects of Career Planning, Money management strategy, Financial Statements and Budgeting, Planning your Tax Strategy.	10
II	Insurance of your resources Property Insurance, Motor vehicle insurance, health disability and long-term care insurance, Life insurance.	8
III	Investment Planning, I Managing your Money, managing your Credit, Investment Objectives, investing fundamentals, investing in stocks, Investing in bonds.	8
IV	Investment Planning II Understanding of Mutual Funds, Investing in Mutual fund, Investing in real estate and other investment alternatives	8
V	Retirement Planning and Estate Planning Retirement needs analysis, Development of retirement plans, Various retirement schemes. Objectives of will and creating a valid will; Power of Attorney, Setting personal financial goals. Life cycle approach to financial planning.	8

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignment/ Presentations/ Quizzes/ Class Participations/ etc.)	20% (CEC)
B	Internal Assessment	30% (IA)
C	End Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Jack R. Kapoor, Les R. Dlabay, Robert J. Hughes	Personal Finance	McGraw Hill	12 th Edition, July 2020
T-02	Madura Jeff	Personal Finance	Pearson	6 th Edition, May 2016
T-03	Keown A J	Personal finance	Pearson	8 th Edition, 2019

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	V.K.Singhania	Taxman's direct taxes planning and management	Taxman	2021- professional edition
R-02	Prasanna Chandra	Investment Analysis and Portfolio Management	McGraw Hill	5 th Edition, March 2017

Faculty of Management Studies: Master of Business Administration



PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Customer Relationship Management
COURSE CODE	04MB0355
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- * Avail the understanding of the concept of CRM and its importance in marketing functions.
- * Gaining the conceptual & practical know-how of the system and tools used in contemporary CRM practices.
- * Understand the CRM planning process and the scope of the same.
- * Have a comprehensive idea about the various automation systems used in CRM.
- * Aligning the CRM to the business strategy and plan as well as implement the CRM strategies.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	CRM concepts – Acquiring customers, – Customer loyalty and optimizing customer relationships – CRM defined – success factors, the three levels of Service/ Sales Profiling – Service Level Agreements (SLAs), creating and managing effective SLAs. case study	8
II	CRM in Marketing – One-to-one Relationship Marketing – Cross-Selling & Up-Selling – Customer Retention, Behavior Prediction – Customer Profitability & Value Modeling, – Channel Optimization – Event-based marketing. – CRM and Customer Service – The Call Centre, Call Scripting – Customer Satisfaction Measurement. case study	8
III	Salesforce Automation – Sales Process, Activity, Contact- Lead, and Knowledge Management – Field Force Automation. – CRM links in e-Business – E-Commerce and Customer Relationships on the Internet – Enterprise Resource Planning (ERP), – Supply Chain Management (SCM), – Supplier Relationship Management (SRM), – Partner Relationship Management (PRM). case study	8
IV	Analytical CRM – Managing and sharing customer data – Customer information databases – Ethics and legalities of data use – Data Warehousing and Data Mining concepts – Data analysis – Market Basket Analysis (MBA), Clickstream Analysis, Personalization, and Collaborative Filtering. case study	8
V	CRM Implementation – Defining success factors – Preparing business plan requirements, justification, and processes. – Choosing CRM tools – Defining functionalities – Homegrown versus out-sourced approaches – Managing customer relationships – conflict, complacency, Resetting the CRM strategy. Selling CRM internally – CRM development Team – Scoping and prioritizing -Development and delivery – Measurement. case study	10



EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignment/ Presentations/ Quizzes/ Class Participations/ etc.)	20% (CEC)
B	Internal Assessment	30% (IA)
C	End Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Alokkumar Rai	CRM CONCEPT & CASES	Prentice Hall of India Private Limited	Latest
T-02	Francis Buttle, Stan Maklan	Customer Relationship Management: Concepts & Technology	Routledge	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Brand H Schmitt	CUSTOMER EXPERIENCE MANAGEMENT: A Revolutionary Approach To Connecting With Your Customers.	Jhon Willy & Sons	Edition is old but relevant

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Value chain Management
COURSE CODE	04MB0356
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- * Understand the different customers value and measuring inputs and outputs to assess value
- * Analyze and maximize value in accounting, operations, and marketing.
- * Generate value for customers and greater surplus for organizations.
- * Synthesize information to make decisions for organizational initiatives.
- * Apply analytical techniques for tactical operations and process improvement decisions.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Session
I	Module 1: Managerial accounting: Managerial accounting and its importance, financial perspective of accounting for costs, Problems associated with financial accounting information and internal decision making, Organize cost information, Apply activity-based costing (ABC) and recognize the influence of setting and decision characteristics on the relevance of ABC systems, cost-volume-profit (CVP) analysis, Apply CVP analysis in a variety of scenarios.	6
II	Module 2: Managerial Accounting- The role of managerial accounting information in common business decisions, Differentiating relevant and irrelevant information, Avoid common pitfalls in business decisions, master budget and its key components, the iterative and interrelated nature of budgeting, Capital investments via a variety of measures, how upper management uses variance analysis, Calculate, interpret, and investigate variances, decentralization and its advantages and disadvantages, Compute and interpret financial performance measures, the role of non-financial measures and strategic performance measurement systems, issues associated with performance measurement and incentives, the nature and role of subjective performance evaluation	10
III	Module 3: Operation Management- Analysis and Improvement Methods in operation Management, The role of operations management, principles to operations management frameworks and techniques, information to make strategic operations decisions, Evaluating processes on different dimensions, analytical techniques for tactical operations decision	8
IV	Module 4: Operations Management- Strategy and Quality Management for the Digital Age, the roles of process improvement, principles to frameworks and techniques used for process improvement, Information to make decisions for organizational initiatives and process improvement, Apply analytical techniques for tactical decisions in a process improvement project.	10



V	Module 5: Marketing Management - Define marketing, how marketing creates value, Elements of the marketing mix, Role of each element in creating value, Different analytical frameworks to examine to solve business problems, Brand extensions and how it can be evaluated, Developing a marketing Plan & proposal, Different pricing models, Use of different channels of distribution by existing businesses, Critique advertising execution, Create a persuasive advertising piece	8
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EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignment/ Quiz/ Class participation/ presentation/ etc.,	20%(C.E.C)
B	Internal assessment	30%(I.A)
C	End- Semester Examination	50% (External assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Adam & Ebert	Production and operation Management	E-book (amazon)	latest
T-02	William Stevenson	Operation Management	E-book (amazon)	Latest
T-03	Saxena & vashist	Advanced cost & Management accounting	Sultan & Chand	4 th edition
T-04	Inamdar S.M (satis. Inamdar)	Cost & Management accounting	Everest publishing house	14 th edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Christopher Lovelock	Service marketing	Pearson	Latest
R-02	Rampal & Gupta	Service marketing	Pearson	latest

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Emotional Intelligence
COURSE CODE	04MB0357
COURSE CREDITS	03
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- * Understand the concept and significance of emotions
- * Explain the ability to recognize and regulate the emotions
- * Know how to use emotions to facilitate thought and behaviour that support high performance
- * Analyse the competencies of Emotional Intelligence for personal and workplace effectiveness
- * Gain Knowledge to measure and assess Emotional Intelligence

COURSE CONTENT:

Unit No.	Unit / Sub Unit	Sessions
Unit: 1	INTRODUCTION: Emotions–Concept, Components of Emotion, Emotion Wheel, Emotions and Childhood, Emotional Developments, Emotional Maturity, Emotions and Enneagram, Rational Emotive Therapy, Role of Emotions, Emotions and Attitude	10
Unit: 2	CONCEPT OF EMOTIONAL INTELLIGENCE: Emotional Intelligence- Concept, History of Emotional Intelligence, Science of Emotional Intelligence, Emotional Quotient and Intelligence Quotient, Models of Emotional Intelligence, Strategies to improve Emotional Intelligence, Emotional Intelligence and Resilience	8
Unit: 3	COMPONENTS OF EMOTIONAL INTELLIGENCE: Self-awareness, Self-regulation, Self-motivation, Empathy, Social skills, Developing Emotional Intelligence, Interpersonal Management, Intrapersonal Management, Problem Solving, Conflict Management	8
Unit: 4	EMOTIONAL INTELLIGENCE AT WORKPLACE: Role of Emotional Intelligence at Workplace, Stress Tolerance, Anxiety Management, Social Competencies, Emotionally Intelligent-Leadership, Emotionally Intelligence-Job Performance, Emotional Intelligence-Teamwork, Emotional Labour	8
Unit: 5	MEASURING EI AND IMPACT OF EI: Bar-On Emotional Quotient Inventory, Mayer-Salovey-Caruso Emotional Intelligence Test, The Work Group Emotional Intelligence Profile, Emotional Intelligence-Personality, Impact of Emotional Intelligence on Behaviour, Behavioural Emotional Quotient, Emotional Intelligence-Relationships	8



EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

		Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/Experiment etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

TEXT BOOKS

Sr. No	Author/s	Name of the Book	Publisher	Edition and year of publication
T-01	Dr. Dalip Singh	Emotional Intelligence	Sage Publication	4 th -2015
T-02	Daniel Goleman	Working with Emotional Intelligence	Bantam Doubleday Dell Publishing Group	2000
T-03	Liz Wilson, Stephen Neale & Lisa Spencer-Arnell	Emotional Intelligence Coaching	Kogan Page India Private Limited	2012

REFERENCE BOOKS:

Sr. No	Author/s	Name of the book	Publisher	Edition and year of publication
R-01	Daniel Goleman	Emotional Intelligence - Why it can Matter More than IQ	Bantam Doubleday Dell Publishing Group	1996
R-02	Gupta S.K.	Guidance and Counselling in Indian Education	New Delhi: NCERT	1980
R-03	Jean Greaves and Travis Bradberry	Emotional Intelligence 2.0	Talent Smart	2009
R-04	David R. Caruso and Peter Salovey	The Emotionally Intelligent Manager: How to Develop and Use the Four Key Emotional Skills of Leadership	Jossey-Bass	1 st - 2004

PROGRAM	Master of Business Administration
SEMESTER	4
COURSE TITLE	Psychometric Testing
COURSE CODE	04MB0358
COURSE CREDITS	3
COURSE DURATION	42 Hours (42 Sessions of 60 Minutes Each)

COURSE OUTCOMES: This course aims to,

- * Develop understanding about the basics of measurement theory.
- * Apply theoretical background for supplementing the understanding of psychological assessment.
- * Develop capacity for critical judgment of the adequacy of measures purported to assess behavior in the role of theory development.
- * Interpret test profiles and explore patterns in interpretation from several tests.
- * Develop a perspective about the intricacies and ethics of use of psychological tests.
- * Create scales or use established scales for measuring constructs.

COURSE CONTENTS:

Unit No	Unit / Subunit	Sessions
I	<p>Basics of Measurement Theory- Measurement in Science, Definition and Meaning of Measurement, Theories of Measurement: Campbell's Theory, Steven's Contribution, Types of Measurement Scale: Nominal, Ordinal, Interval, Ratio, Attributes of Measuring Instruments, Application of Measurement Theory to Educational and Psychological Research,</p> <p>Problems in Psychological Measurement Errors in Measurement- What are Errors of Measurement, Sources/Types of Error</p> <p>Speed Test versus Power Test – Speed Test, Power Test, Types and Errors and Speed and Power Tests, Effect of Unattempted Items on Errors of Measurement</p> <p>Criterion for Parallel Tests – Equality of Means, Variances and Covariances, Calculation of Lmvc, Interpretation of Lmvc, Equality of Variances and Covariances, Calculation of Lvc, Interpretation of Lvc, Equality of Means, Interpretation of Lm, Use of Parallel Tests to Calculate Test Reliability</p>	9
II	<p>Introduction to Psychological Testing – Psychological Tests: What are They? Nature and Characteristics of Psychological Tests, History of Psychological Testing, Types of Psychological Tests</p> <p>Test Construction – Test Construction and Standardization, Steps Involved in Test Construction</p> <p>Item Analysis – Introduction: Item Analysis, Item Discrimination, Item Difficulty, Item Validity: Biserial Correlation Method and Point-Biserial Correlation, Role of Item Characteristics Curve in Predicting the Test Scores</p>	8



	Scoring of Tests and Problems of Scoring – Scoring of Tests, Problems of Scoring: Time Scoring Problems, Response Prejudice/Bias, Scoring of Rank-Ordered Items, Importance of scoring in psychological testing	
III	<p>Reliability – What is Reliability? Methods of Calculating Reliability: (i) Test-Retest (ii) Parallel Form (iii) Split-Half (iv) Method of Rational Equivalence (v) Cronbach Alpha, Factors Affecting Reliability, Types of Reliability Used in Some Psychological Tests, Importance of Reliability in Psychological Testing</p> <p>Validity – What is Validity? Methods for Calculating Validity, Factors Affecting Validity, Using Validity Information to Make Prediction, Relationship between Reliability and Validity</p> <p>Norms – The Concept of Norms: Definition and Nature, Types and Methods of Calculating Norms, Difference between Norms and Standards, Types of Norms Used by Some Psychological Tests</p>	6
IV	<p>Applications of Psychological Testing in Educational Setting - Psychological Testing in the Field of Education, Two Practical Demonstrations with Scores, and Interpretation: Career Interest Inventory and Standard Progressive Matrices (SPM), Directory of Major Tests Used in the Educational Field: Foreign Test and Indian Tests</p> <p>Applications of Psychological Testing in Counselling and Guidance - Psychological Testing for Better Health, Adjustment and Counselling. Two Practical Demonstrations of Tests with Scores and Interpretation: Dimensions of Temperament Scale (DTS) and Family Environment Scale (FES)</p> <p>Applications of Psychological Testing in Organisational Setting - Two Practical Demonstrations with Scores and Interpretations: Myres-Briggs Type Indicator (MBTI) and Emotional Quotient (EQ) Test</p>	9
V	<p>Ethical Issues in Psychological Testing – Ethical Considerations in Psychological Testing, Specific Principles for Psychological Testing: America Psychological Association (APA) Guidelines, Moral and Legal Standards, Inter-Professional Relation, Responsibility Towards Organisations, Promotional Activities</p> <p>Basics of Factor Analysis - Factor Analysis: Introduction, Relationship between Correlation Coefficient and Factor Loadings, Communality, Specificity, Uniqueness, R-Type and Q-Type Factor Analyses, Merits of Factor Analysis, Major Limitations of Factor Analysis, When to Factor Analyse?</p> <p>Extraction of Factors by Centroid Method - The Purpose of Factor Extraction, The Centroid Method of factor extraction, Finding the number of Factors to be extracted: Fruckter Formula, Eigen Value Index and Residual Correlation Matrix, Rotation of the Reference Axis: Oblique Rotation and Scree Test, Interpretation of Factors.</p> <p>Applications of Factor Analysis - Applications of Factor Analysis to Various Fields, Theory Development, Test Development, Vocational Psychology, Personnel Selection and Job Performance, Clinical Psychology, Experimental Psychology, A Factor Analytic Study of the Dimensions of Temperament, A Factor Analytic Study of Socio-Economic Status, Frustration and Anxiety</p>	10

EVALUATION:

The students will be evaluated on a continuous basis and broadly the scheme given below will be followed:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation etc.)	30% (C.E.C)
B	Internal Assessment	20% (I. A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Textbooks:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Narender Kumar Chadha	Applied Psychometry	SAGE Publications India Pvt Ltd	2009
T-02	Anne Anastasi and Susana Urbina	Psychological Testing	Pearson	1997, 7 th Edition
T-03	Paul Kline	The New Psychometrics: Science, Psychology and Measurement	Routledge	2000

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Udai Pareek and Surabhi Purohit	Training Instruments in HRD and OD	SAGE Publications Pvt. Ltd	2018, 4th Edition
R-02	D.M. Pestonjee	Third Handbook of Psychological and Social Instruments (In 2 Volumes)	Concept Publishing Company Pvt. Ltd.	1997

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Managerial Psychology
COURSE CODE	04MB0359
COURSE CREDITS	03
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- * Interpret the concepts, motivation, attitudes and values on human thinking.
- * Analyze how a person can try to change the behavior of another.
- * Apply appropriate measures to improve uses of groups in modern organizations.
- * Interpret the role of organizational leadership, culture and structure.
- * Elaborate relationship between contemporary organizations and their environments.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	People one at a time: The Individual in the organization Motivation, reinforcement and cognition, development of individuality, Human feelings and the manager, reasoning, attitudes, beliefs and values, managerial styles of thinking, dilemmas of the evaluation process.	10
II	People two at a time: Communicating, influencing, challenging Communicating, influencing others, authority, power tactics, Manipulation, collaborative models, efforts to influence human productivity.	8
III	People in threes to twenties: Efficiency and influence in groups Group decisions, group process, group pressure and the individual, conflict and competition among groups, communication nets in groups and organizations, designing organizations around small groups.	8
IV	People in hundreds and thousands: Managing the whole organization Managing process, volatile organization, from scientific management to organizational culture, organizational missions and strategies, managing people in large numbers, Organizational structure.	8
V	Organizations and environments: Managing in a turbulent world Changing organizational environment, organizations in intrusive environments, Managing our environments.	8

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Particulars	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ Practical Record/ Practical Examination etc.)	20% (C.S.E.)



B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (E.S.E.)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Harold J. Leavitt, Homa Bahrami	Managerial Psychology Managing Behavior in Organizations	University of Chicago Press	5 th edition
T-02	Ricky W. Griffin, Jean M. Phillips, Stanley M. Gully	Organizational Behavior: Managing People and Organizations	Cengage Learning	13 th edition

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition / Year of Publication
R-01	Robert B Cialdini	Influence: Science and Practice: The Comic	Pearson	5 th edition
R-02	Rick D. Johnson	Handbook of Research on Multidisciplinary Perspectives on Managerial and Leadership Psychology	IGI GLOBAL	1 st edition
R-03	Robert R. Spillane, John Martin	Personality and Performance Foundations for Managerial Psychology	UNSW Press	1 st edition, 2005

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	GOODS AND SERVICE TAX
COURSE CODE	04MB0361
COURSE CREDITS	02
COURSE DURATION	28 Hrs (28 sessions of 60 minutes each)

COURSE OUTCOMES:

- * Understand basics of GST and the concept of Supply in GST
- * Analyse provisions of Input Tax Credit in GST
- * Evaluate provisions concerning various GST returns to be filed by GST Dealer and Modes of Payment of GST

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO GST AND SUPPLY Basics of Indirect Taxation – Difference between Direct Taxes and Indirect Taxes- GST charge and applicability – Advantages and limitations of GST – Concept of Supply and various types of supply under GST	12
II	INPUT TAX CREDIT Meaning of Input Tax Credit -Eligibility for taking Input Tax Credit – Conditions attached with availing and utilizing Input Tax Credit – Overview of blocked credit	8
III	REGISTRATION AND RETURN FILINGS UNDER GST -Persons required to take Registration under GST – Explanation of GST Portal – Process and Time Limit of taking Registration - Various returns under GST- Frequency of Returns – Overview of Payment of GST	8

NOTE:- Provisions of the GST Act as amended from time to time shall be the part of syllabus

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	0% (C.S.C.)
B	Internal Assessment	50% (I.A.)
C	End-Semester Examination	50% (External Assessment)

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Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	V.S DATEY	GST Law And Practice	Taxman	Latest

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Dr Yogendra Bangar, Dr. Vandana Bangar	Bangar's comprehensive guide to Taxation	Aadhya Prakashan	Latest
R-02	CA Raj K Agrawal	GST (CA Intermediate)	Taxmann	Latest

PROGRAM	Master of Business Administration
SEMESTER	3
TITLE OF THE SUBJECT	Advanced Corporate Communication
COURSE CODE	04MB0362
DURATION	28 hrs. (28 session of 60 minutes each)
CREDITS	2

Learning Outcomes: At the end, participants will be able to,

- * Develop oral and written skills required in the corporate world.
- * Learn language functions required for interactions at a workplace.
- * Make an effective oral presentation on a topic.

Course Duration:

The course duration is of 28 sessions of 60 minutes each.

Course Contents:

UNIT	TOPIC	CONTACT HRS.
1 Communication Verbal & Non-Verbal	Elements of Communication <ul style="list-style-type: none"> - Introduction - Face-to-Face communication - Tone of Voice - Body Language - Verbal Communication 	3
	Interpersonal Communication Functions: <ul style="list-style-type: none"> - Accepting and declining the invitation - Making requests - Giving suggestions 	2
	Telephone Skills <ul style="list-style-type: none"> - Making business calls - Short talks over the calls - Active Listening Skills 	3
	Written Discourse <ul style="list-style-type: none"> - Introduction to Basic Writing - Styles of writing - Significance of Writing - Do's and Don'ts of good writing 	2
	Article Writing <ul style="list-style-type: none"> - What is an article? - Essential elements of Article Writing. 	3

2 Business Correspondence	<ul style="list-style-type: none"> - Format - Practice 	
	<p>Report Writing</p> <ul style="list-style-type: none"> - What is a Report? - Essential elements of Report Writing - Kinds of reports <ul style="list-style-type: none"> a. Report for a Meeting b. Report for a Newspaper c. Report for a Magazine - Format - Practice 	4
	<p>Email Writing</p> <ul style="list-style-type: none"> - Elements of a formal email - Cohesive devices to used in writing formal email - Format - Kinds of emails - Practice 	4
	<p>Writing formal Letters</p> <ul style="list-style-type: none"> - Types of letters <ul style="list-style-type: none"> a. Circulars b. Promotional Content c. Sales - Format - Practice 	3
3 Presentation Skills	<p>Spoken Discourse</p> <ul style="list-style-type: none"> - Introduction to Basic speaking - Styles of speaking - Significance of speaking - Do's and Don'ts of good speech 	2
	<p>Using Powerpoint</p> <ul style="list-style-type: none"> - Preparing effective slides - Using images, graphs and charts etc., - Delivering an effective presentation - Do's and Don'ts of Power Point 	2

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Quizzes / Class Participation etc.)	0% (C.E.C.)
B	Internal Assessment	50% (I.A.)
C	End-Semester Examination (Practical/Viva)	50% (External assessment)

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Dr.J.Jethwaney	Corporate Communication: Principles & Practices	OXFORD Higher education	2016
T-02	Klement Podnar	Corporate Communication: Marketing Viewpoint	Taylor & Francis Ltd	2019

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Foreign Language - French
COURSE CODE	04MB0363
COURSE CREDITS	2
COURSE DURATION	28 hours

COURSE OUTCOMES:

- * Develop a beginner level proficiency in the language
- * Be in a position to initiate conversation in French
- * Express the views using simple sentence structure
- * Be familiar with common French nuances, vocabulary, and expressions
- * Participate in culture exchange programs
- * Explore options in French speaking countries for higher studies or for immigration
- * Understand French tradition and culture
- * Develop self-learning practices

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	<ul style="list-style-type: none"> ● Greetings and Salutations ● Colors ● Numbers ● Introduction ● 1st Group verbs : Manger, aimer, parler, écouter, adorer etc. 	9
II	<ul style="list-style-type: none"> ● Sentence formation (grammar) ● Ce/Cet/Ces/Cette (grammar) ● De/de la/du/des (grammar) ● Quelques objets ● Negation 	9
III	<ul style="list-style-type: none"> ● Passe compose (Etre and Avoir) ● Passe recent (Venir) ● Futur proche (Aller) ● Questions using (Est-ce-que and que-est-que) 	10

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	0% (C.E.C.)
B	Internal Assessment	50% (I.A.)
C	End-Semester Examination	50% (External Assessment)



SUGGESTED READINGS:**Text Books:**

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Marie-Noelle Cocton	Saison 1	Didier; Methode de Francais	Latest
T-02	J. Girardet, J. Pecheur	Echo	Method of French	Latest

Reference Book:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Mahitha Rajit and Monica Singh	Apprenons le francais : 3	New Saraswati House	Latest

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	International Finance
COURSE CODE	04MB0370
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 Sessions of 60 Minutes each)

COURSE OUTCOMES:

- ❖ Provide comprehensive understanding of international business, its scope and significance for the financial manager.
- ❖ Understand international parity relationship and evaluate forces affecting exchange rate.
- ❖ Analyze exposures associated with currency fluctuations and strategies to manage it.
- ❖ Evaluate the international financial market and its structure.
- ❖ Appraise financial management of a multinational firms.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	International Finance – Overview Globalization and the Multinational Firm – Introduction to International Finance, Goal for international finance, Globalization, and world economy. International Monetary System– Evolution of monetary system, Bimetallism, Classical Gold Standard, Interwar period, Bretton Woods System, The Flexible Exchange Rate Regime, European Monetary System, world currency crises. Balance of payment – Balance-of-payment account, identity, Balance-of-Payments Trends in Major Countries	08
II	Fundamental Parity Relationships and Foreign Exchange Market International Parity Relationships and Forecasting Foreign Exchange Rates – Interest rate parity, purchasing power parity, Fisher effect, Forecasting exchange rate. The market for foreign exchange - Function and Structure of the FX Market, spot market and forward market.	08
III	Foreign Exchange Exposure Transaction Exposure – Meaning, Methods to mitigate transaction exposure, Economic Exposure – Meaning, measuring economic exposure & operating exposure, Managing Operating Exposure. Translation Exposure – Overview of translation methods, management of translation exposure.	08
IV	World Financial Market International banking and money market – Emergence of international banking, types of international banks, international money market, Global Financial crises. International Bond Market – Foreign bonds and Euro markets, Different instruments issued at international level, credit rating, major international indexes. International Equity Market – Market Structure, Trading Practices, and Costs, trading in international equities, Factors Affecting International Equity Returns. International Portfolio Investment – Optimal international portfolio selection, international bond investment, International mutual funds, international diversification through country funds.	10
V	Financial Management of the Multinational Firms	08

	Foreign Direct investment and Cross-Border Acquisition – Global trend in FDI, Cross border merger and acquisition, political risk and FDI. Multinational Cash Management – Management of international cash, Bilateral and multilateral Netting of Cash Flows, Cash management in practice. International Tax Environment – The objectives of taxation, types of taxation, national tax environment, transfer pricing, Blocked funds.	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Eun& Resnick	International Financial Management	Tata Mcgraw Hill	7 th Edition, 2017
T-02	P. G. Apte	International Financial Management	PHI	8 th Edition, 2020

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	J. Madura	International Financial Management	South Western Publication	11th Edition
R-02	Thummuluri Siddaiah	International Financial Management	Pearson	2 nd Edition, 2015
R-03	V. V. Sharan	International Financial Management	PHI - EEE	6 th Edition, 2019

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Financial Markets and Institutions
COURSE CODE	04MB0371
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 Sessions of 60 minutes each)

COURSE OUTCOMES:

- ❖ Appreciate the need for and importance of Financial Markets and Institutions in India.
- ❖ Understand procedures of raising capital from the primary market and various legal aspects of Public Issue Management.
- ❖ Know Trading Mechanism and Settlement system of Secondary market.
- ❖ Apprehend various Financial and Non – Financial Institutions and regulatory aspects of such Institutions in Indian Financial System.
- ❖ Understanding the importance of various Non-Banking Financial institutions.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Financial Markets and Institutions: Indian Financial System, Components of IFS, Introduction to Financial Markets, Classification of Financial Markets, LPG and its Impact on Financial Markets, Challenges in Financial Markets. Introduction to Financial Institutions: Role of RBI as a regulator of Banking and Non-banking Financial Institutions, Structure of Financial Institutions in India.	8
II	Money Market: Meaning, Functions of Money Market, Participants and Instruments, Mechanism of Money Market, Role of RBI in Money Market, A Glance on Debt and Foreign Exchange Market.	8
III	Capital Market: Primary Market: Meaning, Functions, Different Participants, Public Issue, IPO, FPO, Rights Issue, Private Placement, Offer for sale, IPO Mechanism, Pricing of IPO - Fixed pricing, Book Building and Auctions. Secondary Market: Stock Exchange, Functions, Listing Norms, Stock Indices and its Computational Mechanism (Sensex, NIFTY), Trading settlement systems, key Role of SEBI.	10
IV	Banking Institutions: Evolution of Banking in India, Functions, Classifications of Banks (PSBs, Private Sector Banks, Foreign Banks, New Generation Banks, Small Banks, Payment Banks, Urban and State Cooperative Banks) Recent Developments, Problems and Challenges of Banking Industry.	8
V	Non – Banking Financial Institutions: History, Objectives, Administrative and Regulatory Framework of NBFIs, Role of NBFIs in Economic Development, Objectives, functions, Different Schemes, and Recent Developments in (1) SIDBI, (2) NHB, (3) EXIM Bank, and (4) NABARD. NBFCs and their Scope, Functions and Classifications, PDs and their Scope, Functions and Classifications.	8

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Bharti Pathak	Indian Financial System	Pearson	5th Edition, 2018
T-02	Vasant Desai	The Indian financial system and Development	Himalaya Publishing House	5th edition, 2013
T-03	Federic s. Miskin and Stanley G. Eakins	Financial Markets and Institutions	Pearson Publishing House	6th Edition, 2017

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	Anthony Saunders	Financial Markets and Institutions	McGraw Hill Publication	3rd Edition, 2017
R-02	Modigliani and Jones	Foundation of Financial Markets and Institutions	Pearson Education	4th Edition, 2009
R-03	Jeff Madura	Financial Markets and Institutions	Cengage Learning	10th Edition, 2014

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Sourcing Management
COURSE CODE	04MB0372
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- * Understand the process of how Sourcing works and its relationship with Production & Operations.
- * Interpret the meaning of Sourcing.
- * Integrate the in-depth knowledge of Sourcing Process, Vendor Selection.
- * Assess the Global Trends in Sourcing.
- * Devise the practices used in sourcing.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Understanding Sourcing as a Strategic Organizational Function -Evolution of purchasing, Purchasing, sourcing and vendor management as a key organizational function, purchasing objectives, Impact of strategic purchasing on profitability, Make or Buy Decisions, Types and methods of sourcing in retail; centralized vs decentralized, single sourcing vs multiple sourcing, day-to-day vs long range sourcing	8
II	The Sourcing Process -Market analysis and supplier research, Prime sources of supplier information, Request for Proposal, Fundamental steps of the buying process, terms and condition of purchase, Buying Documentation, Negotiation, Use of IT in sourcing, Global Tenders and E-Procurement, Reverse Auctions, Expanded role of global purchasing	8
III	Vendor Selection and Management -Vendor selection process, Evaluation of existing vendors, developing vendor performance measures, new vendor development process, working with suppliers to manage quality, JIT and TQM in sourcing, Key supplier account management, Vendor relationship development, Negotiation skills, Vendor monitoring, Promoting SME suppliers.	10
IV	Cross functional Approach to Sourcing - Overview of material management function and supply chain alignment, Role of purchasing in supporting inventory objectives, Goals of Inventory Control, hedging vs. Forward Buying, Risk management, managing price fluctuation and volatility in international finance, matching supply with customer demand, managing inward logistics, Transportation modes and warehousing.	10
V	Global Trends and Issues in Sourcing -Global Trade Barriers, Dealing with international suppliers, UNO and GATT conventions, Legal, socio-cultural issues in international buying, Environmental issues-Green Purchasing- Industry Best Practices, Measurement of sourcing performance, Benchmarking in Retail Purchasing.	6

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Quizzes / Class Participation etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Leenders, Johnson, Flynn and Fearon	Purchasing And Supply Management—,	Tata McGraw Hill	Latest
T-02	Burt, Dobler, Starling,	World Class Supply Management	Tata McGraw Hill	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Robert B. Handfield Larry C. Giunipero	Sourcing and Supply Chain Management	Cengage	2012
R-02	Robert Handfield	Supply Market Intelligence: A Managerial Handbook for Building Sourcing Strategies	Auerbach Publications	2006
R-03	Professor Olivier Bruel	Strategic Sourcing Management: Structural and Operational Decision-making	Kogan Page	1 st , 2016

PROGRAM	Master of Business Administration
SEMESTER	03
COURSE TITLE	Total Quality Management
COURSE CODE	04MB0373
COURSE CREDITS	03
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- * Overview of quality and TQM and explain the salient contributions of Quality. General barriers in implementing TQM.
- * Interpret the meaning of TQM concepts like customer Focus, Employee Focus and their involvement, continuous process improvement and Supplier Management.
- * Explain the analytical skills required for investigating and analyzing quality management issues.
- * Illustrate the in-depth knowledge on various tools and techniques of quality management.
- * Review the ISO 14000 Principles and implementation of the same in Industries.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction - Need for quality - Evolution of quality - Definitions of quality - Dimensions of product and service quality - Basic concepts of TQM	06
II	TQM Framework - Contributions of Deming,- Barriers to TQM - Quality statements - Customer focus - Customer orientation, Customer satisfaction, Customer complaints, and Customer retention - Costs of quality.	08
III	Continuous process improvement - PDCA cycle, 5S, Kaizen - Supplier partnership - Partnering, Supplier selection, Supplier Rating, TQM TOOLS & TECHNIQUES the seven traditional tools of quality- New management tools - Control Charts - Process Capability	12
IV	TPM - Concepts, improvement needs- Performance measures. QUALITY SYSTEMS: Need for ISO 9000 - ISO 9001-2008 Quality System - Elements, Documentation, Quality Auditing - QS 9000 - ISO 14000 - Concepts, Requirements and Benefits	10
V	TQM Principles- Leadership - Strategic quality planning, Quality Councils - Employee involvement - Motivation, Empowerment, Team and Teamwork, Quality circles Recognition and Reward, Performance appraisal	6

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Quizzes / Class Participation etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Er. V. Mohanavel Er. S. Suresh Kumar Er. T. Sathish Er. M. Balamurugan Er. G. Balamurugan	A text book on Total Quality Management	International research publication house	Latest edition
T-02	John s. oakland	Total Quality Management and Operational Excellence: Text with Cases	Taylor and francis	4 th edition
T-03	B. Jankiraman, R.K. Gopal	The total quality management: text and cases	PHI learning	Latest edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Paul James	Total quality management: an introductory text	Prentice Hall, 1996	Latest edition
R-02	Joel E. Ross	Total quality management	Taylor & Francis, 2017	3 rd edition

PROGRAM	Master of Business Administration
SEMESTER	03
COURSE TITLE	Material Management and Inventory Control
COURSE CODE	04MB0374
COURSE CREDITS	03
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- * Have the depth knowledge of material requirement planning-methods
- * Implement methods like EOQ, POQ in Industries and Manufacturing Sector.
- * Analyze the demands-supply gap and forecasting practices implementation.
- * Understand the importance of warehousing & inventory control.
- * Evaluate the store's operation and its importance in Industries.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to materials management –production planning system, master scheduling, material requirement planning-process, bills of material, using material requirements plan	06
II	Capacity management, purchasing, selecting suppliers, ordered quantity-EOQ, quantity discounts, period order quantity (POQ)	08
III	Physical distribution, Total quality management, production activity control, data requirements, order preparation	08
IV	Stock and inventories, models for known demand, just in time, models for uncertain demand- models for discrete demand, service level, periodic review methods, Planning and stocks- levels of planning, master and operational schedules, forecasting-methods,	12
V	Stores Management: Layout of stores and warehouse, material handling in stores, physical control of stocks : obsolete, surplus and scrap Management, accounting and record keeping of stores, classification, coding and codification systems,	08

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Quizzes / Class Participation etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	J. R. Tony Arnold, Stephen N. Chapman, Lloyd M. Clive	Introduction to materials Management	Pearson (prantice hall)	sixth edition
T-02	Donald waters	Inventory control and management	Wiley	Latest edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Datta A K	“Materials Management, Procedures, Text and Cases” by	PHI PUBLICATION	Latest edition
R-02	James H Greene	Production and Inventory Control Handbook	McGraw-Hill Education	3rd edition
R-03	Geoff Relph and Catherine Milner	Inventory management	Koganpage	Latest edition

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Fundamentals of Logistics and Supply Chain Management
COURSE CODE	04MB0375
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- * Understand the importance of Logistics and Supply chain management relative to an Organization
- * Apply the techniques of supply chain management in the Industry
- * Examining the concept of Bull Whip Effect in managing Inventories
- * Integrating the concept of Outsourcing and its role in Supply Chain Management
- * Reviewing the concept of forecasting supply chain management in the industry

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Logistics management: Introduction, Logistics system design, Demand planning, Multiple channel distribution, Multi-echelon system, Model development, Concept of warehousing, Methods of storage, Primary and secondary transportation, Logistics information system, Logistics costing	6
II	Concept and various issues involved, EOQ models, Buffer Stock, leave time reduction, reorder point, ABC analysis, SDE/VED analysis	8
III	Supply chain management: Overview, Supply chain basics, Decision phases in a supply chain, Planning and operations, Importance of supply chain process, Functional and organizational scope of SCM, Management of Demand and supply in SCM, Capacity, Inventory, market segments, Supply chain forecasting, Supply chain forecasting management performance (SCFMP). Collaborative planning, forecasting and replenishment (CPFR).	12
IV	Drivers of outsourcing: Procurement approaches to SCM, Operational, strategic and global outsourcing, Production supply chain model, Intrafirm production, Build to order production, Lean, JIT, Dispersed production Relevance and role of supply chain coordination	10
V	Bullwhip effect: Modeling the impact of information on inventories, Role of Marketing, sales and R&D in SCM, Information systems and technology in supply chain, E-Business models: B to B, B to C. Managing service	6

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Sunil Chopra and Peter Menidl	Supply chain management- Strategy planning and operations	Prentice Hall	2001
T-02	Manish Govil and Jean Marie Prop	Supply chain design and management: Statistical and Tactical perspectives	Academic press	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Sridhar Tayur, Ram Ganeshan and Micheal Magazine	Quantitative models for supply chain management	Kluwer Academic publishers	Latest
R-02	Lambert, D.M., Stock J.R.	Fundamentals of Logistics management	Irwing McGraw Hill	1998
R-03	Blanchard, B.S.,	Logistics Engineering & management	Prentice Hall, New Jersey	1997

PROGRAM	Master of Business Administration
SEMESTER	4
COURSE TITLE	Business Ethics & Corporate Governance
COURSE CODE	03BM0401
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

Learning Outcomes: This course aims,

- * To demonstrate an enhanced appreciation for the relevance and practical application of ethics in the role of management.
- * Critically evaluate the different ways in which people may respond to ethical issues at work and what may influence such responses.
- * To develop accountability towards business and community through understanding of principles and importance of corporate governance.
- * Critically evaluate the theory of corporate governance and apply these theories in analyzing corporate structures, board composition and how boards of directors conduct their affairs.
- * To appreciate how the ethical and business values of different countries and societies differ.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Business Ethics: Meaning, Nature and Sources, Features of Unfair Business Practices, Ethical Theories, Values: Meaning, Types, Teaching from Scriptures like Gita, Quran, Bible w.r.t. Indian Value Systems in Business.	10
II	Institutionalization of Business Ethics: Ethical dilemma, Ethical Leadership, Ethical Decision-making, Ethical Dilemmas in Organization, Ethics of Whistle Blowing, Creative Accounting, Insider Trading, Social Responsibility of Business, Ethics in Functional Area - Marketing, Finance, Human Resource, and Information Technology	9
III	Introduction to Corporate Governance (Framework in India): Meaning, Principles, Significance, Dimensions of CG, benefits of CG, issues in CG, Reasons for corporate Governance Failure, Certain new initiatives in Governance, Corporate Governance Reports of Narayana Murthy Committee, Clause 49 and role of SEBI, Naresh Chandra, Ganguly Committee by RBI	7
IV	Internal Control System: Board Structure, Various Board Committees (remuneration committee, nomination committee, CSR committee, Stake Holder committee, Audit committee), Role, and responsibilities of Independent director, Corporate governance rating. Training of Board Member	7
V	Corporate Governance in Globalized Economy (International Perspective): Introduction- Corporate Governance in Globalized Economy, Corporate Governance in Family-owned Business, International Corporate Governance Committee and Acts, Cadbury Committee, OECD Principles, Sarbanes Oxley Act of 2002,	9

EVALUATION:

The students will be evaluated on a continuous basis and broadly the scheme given below will be followed:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation etc.)	30% (C.E.C)
B	Internal Assessment	20% (I. A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	A. C. Fernando	Business Ethics Corporate Governance and	Pearson	2 nd edition, 2012
T-02	S K Mandal	Ethics in Business Corporate Governance and	Tata McGraw Hill	2 nd edition, 2012

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and
R-01	Murthy C.S.V.	Business Ethics and Corporate Governance	Himalaya Publishing	1 st edition, 2017
R-02	Daniel Albuquerque	Business Ethics: Principles and practice	Oxford Uni. Press	2010
R-03	Ferrell, Fraedrich, Ferrell	Business Ethics	Cengage Learning	11 th edition, 2017
R-04	Rupani Riya	Business Ethics and Corporate Governance	Himalaya Publishing	4 th edition, 2015

PROGRAM	Master of Business Administration
SEMESTER	4
COURSE TITLE	Management Information System
COURSE CODE	04MB0402
COURSE CREDITS	03
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- * Understand the role of Management Information Systems in achieving competitive business advantage through informed decision-making.
- * Analyse how information technology impacts a firm in terms of value creation and bring about strategic advantage for a firm.
- * Gain consciousness about the ethical responsibilities while dealing with information.
- * Develop the ability to make meaningful decisions aimed at acquisition, development, deployment and management of information systems.
- * To explain the contemporary issues related to emerging technologies and

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Organization and Information Systems: The Organization: Structure, Managers and activities. The level of people and types of decisions and their information needs. Changing the Environment and its impact on Business - IT/IS and its influence. Information Systems: Data, information and its attributes. Information Systems – meaning, functions and dimensions and needs. Categorization of Organizational Information Systems – hierarchical and functional perspective. Strategic business use of IS: Interdependence between organization and IS · IS strategies for competitive advantage using Porter’s Five Forces Model and Value Chain Mode	10
II	Types of Information systems - I: Meaning, functions and applications of: - Transaction Processing Systems - Management Information Systems - Decision Support Systems - Executive Support / Information Systems o Digital Dashboards o Artificial Intelligence and Machine Learning - Expert Systems	10
III	Types of Information systems - II: Meaning, functions and applications: - Functional system: o Financial o Human Resource o Marketing o Production and Operations.	10
IV	Ethical Issues pertaining to IS: · Ethical responsibilities of business professionals · Computer crime – hacking & cracking, cyber theft, unauthorized use at work, software piracy, theft of intellectual property, viruses & worms, adware and spyware.	12
V	Information Security: · First line of defence – People / employees · Second line of defence – Technology for authorization, prevention, detection and response. Contemporary/ emerging technologies: · Cloud and mobile computing · E-commerce, m-commerce · Internet of Things Enterprise Systems: Business Process integration: ERP o Supply chain management systems o CRM o Business Intelligence	

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T1	Kenneth Laudon, Jane Laudo	Essentials of Management Information Systems	PHI	10th
T2	EfraimTurban, Dorothy Leidner, Ephraim McLean and James Wetherbe	Information Technology for Management: Transforming Organizations in Digital Economy	Wiley	2010

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	W.S. Jawadekar	Management Information systems	Tata McGraw Hill	2012
R-02	James A O'Brien, George M Marakas, Ramesh Behl	Management Information Systems	TMH	2016
R-03	Raymond McLeod and George P. Schel	Management Information systems	Pearson	10th

PROGRAM	Master of Business Administration
SEMESTER	4
COURSE TITLE	Corporate Restructuring and Valuation
COURSE CODE	04MB0403
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- * Understand the various forms of corporate restructuring.
- * Evaluate the value of firms undergoing corporate restructuring.
- * Estimate value of synergies for valuing firms at the time of corporate restructuring.
- * Equip with accounting and tax aspects of M & A.
- * Analyze and develop a leader's approach in implementing and integrating the strategies of Merger and acquisition.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Basics of corporate restructuring Corporate restructuring: Meaning, Reasons for corporate restructuring, Barriers to Restructuring, Forms of corporate restructuring Mergers and acquisitions: Meaning, Various concepts, Theories of M&A, reverse mergers Strategic alliances: Meaning, reasons Take Over: Meaning, techniques for takeover, defense tactics of takeover	8
II	Forms of corporate restructuring Demergers: Meaning, Split off, Spin off, Slum sale, Equity carve-out Employee stock option plan: Meaning, Conditions/features, SEBI guidelines for ESOP Going private and Leverage buyout : Concept, Types of Leverage Buyouts Share buyback: Meaning, SEBI guidelines Cross border mergers and acquisitions: Concept, Benefits of Cross Border Acquisitions, Difficulties in Cross Border Acquisition Due Diligence: Concept, Types of Due Diligence Sources of fund for M & A	8
III	Accounting and taxation of Mergers and Acquisitions (Theory and examples) Accounting standard 14, Methods of accounting, balance sheet restructuring after M & A Provisions of Income Tax Act	8
IV	Valuation of business: (Theory and examples) Asset Based Valuation Net Asset Method: Book Value basis, Market value basis, liquidation value basis Income Based Valuation: Equity Valuation and Firm Valuation covering Stable growth and two stage growth (FCFE and FCF models), Dividend Yield Method, Capitalization Method	10

V	Recent trends in Mergers and Acquisitions, Contemporary issues in M& A Practical learning through real Indian cases: Acquisition of Corus by TATA, Demergers of L&T and Ultratech, Demerger of RTL and RITL, Acquisition of Kotak by ING Vysya bank, Consolidation Dena bank/ Vijya Bank and Bank of Baroda, Acquisitions of Jaguar and Land rover by TATA	8
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EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Prasad G. Godbole	Mergers, Acquisitions and Corporate Restructuring	Oxford	Second edition -2013
T-02	Rajinder S. Aurora, Kavita Shetty, Sharad Kale	Mergers and Acquisitions	Vikas Publication	Second Edition - 2012
T-03	Aswath Damodaran	Damodaran on Valuation	Wiley publication	Second edition - 2014

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Prasanna Chandra	Financial Management: Theory and Practice	McGraw Hill	10th edition -2019
R-02	Pradip Kumar Sinha	Mergers, Acquisitions and Corporate Restructuring	Himalaya	First edition - 2016
R-03	Prasanna Chandra	Corporate Valuation: A Guide for Analysts - Managers and Investors	McGraw Hill	First Edition - 2014

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Financial Modeling and Analytics
COURSE CODE	04MB0404
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each

COURSE OUTCOMES:

- * To understand Financial Modeling and use of MS Excel in Financial Modeling
- * To analyze performance of a firm in terms of Profit and loss, Balance sheet and Cash flow Analysis
- * To Develop an integrated knowledge of Forecasting Model of Financial statement
- * To develop and design the model for analysis of securities
- * To Develop knowledge of Investment Analysis

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Financial Modeling : What is Financial Model, Excel as Modeling tool, Independent and Dependent Variable, Steps in Creating Model – Define and Structure Problem, Define Variable, User of the Model, Design, Spreadsheet, Test the model, Protect and Documentation of Model, Update Model, Overview of Financial Modeling Using Excel -overview on Basic and Advanced Functions(Relative Cell reference, Creating Name for Cell and Range, Data Table, Scenario Manager, Goal Seek, Logical Functions, Data Validation, Conditional Formatting, Solver, Pivot table), Financial Functions – Annuity, PV, FV, PMT, NPER, RATE, IPMT, PPMT, TVM Functions,	06
II	Analyzing Performance and Cash flow Analysis - Profit and loss, Balance sheet, Key ratios – Du Pont ratios (core ratios), Profitability, Operating efficiency, Leverage, liquidity and capital structure, Coverage on interest, Trend analysis, Sustainability Cash flow - Deriving cash flow – NOCF, free cash flow, Cover ratios	08
III	Forecasting Model and Forecast Financials - Linear regression and Multiple Regression, Trend lines, Trend lines for analysis, Data smoothing – Simple Moving Average and Exponential Moving Average, Forecast financials Key drivers - Deriving financial statements Analysis	10
IV	Portfolio Analysis and Bonds Pricing -Review Of Theory And Concept, Model 1: Calculating Total Returns, Model 2: Comparing Returns On Several Assets, Model 3: Comparing Nominal And Real Growth Of Investment, Model 4: Comparing Rolling Period Returns, Simulating Stock Prices : Model 1: Estimating A Stock's Volatility, Model 2: Simulating Stock Prices, Model 3: Lognormal Distribution Of Stock Prices, Bonds Pricing- Yield measures - Yield to maturity, Duration, Sensitivity Chart and modified duration	08
V	Investment analysis Investment model revisited, Payback and discounted payback, Accounting Return, Net present value, Fisher Formula, Internal rate of return, Benefit Cost Ratios, Management tests – cash flow etc., Scenarios, Sensitivity analysis and graphs, Capital rationing – Solver and Solver Chart	10

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Quizzes / Class Participation etc.)	20% (C.E.C.)
B	Internal Assessment (Lab based Practical Examination using software)	30% (I.A.)
C	End-Semester Practical Examination	50% (Practical/VIVA)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	C. Sengupta	Financial Modeling Using Excel and VBA	John Wiley & Sons, Inc.	1st Edition, Year 2004
T-02	Alstair L. Day	Mastering Financial Modeling in Microsoft Excel: A Practitioner's Guide to Applied Corporate Finance	FT Publishing International	3rd Edition, Year - 2012

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Alistair L. Day	Mastering Risk Modeling: A Practical Guide to Modeling Uncertainty with Excel	Prentice Hall	Second Edition, 2008
R-02	Sengupta Chandan	Financial Analysis and Modeling	Wiley India Pvt. Ltd.	Second Edition, 2009

PROGRAM	Master of Business Administration
SEMESTER	4
COURSE TITLE	Project Appraisal & Finance
COURSE CODE	04MB0405
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- * Gain knowledge on various aspects of projects planning, project selection and implementation
- * Apply the Project Appraisal methods for financing and risk evaluation of various distinct projects.
- * Evaluate Projects with the help of projecting cash flows and making capital allocation decisions by developing profitability projections.
- * Acquaint with the application of mathematical and statistical tools for analyzing project appraisal decisions and managerial problems.
- * Develop the strategies employed in managing project risk.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION AND OVERVIEW OF PROJECTS Understanding Project and Project Management, Project identification and idea generation monitoring and evaluating the environment corporate appraisal for identifying investment opportunities scouting for project ideas and contracting project rating index strategy (corporate & business level) and proper resource allocation process.	8
II	PROJECT APPRAISAL Market and Demand Analysis: Identification of the Target Market, Choice of the Market Strategy, Projection of Demand using Primary Data and Secondary Data, Projection of Demand using Qualitative models. Technical Analysis: Selection of appropriate technology, acquisition of technology, choice of good location of the project, design of the layout of facilities at project site	8
III	PROJECT FINANCEING AND RISK ANALYSIS Project Financing: Pattern of financing, Sources of finance, Menu of financing, capital structure, debt capital, debentures, bonds, Term Loans, Working capital, Advances, equity and preference capital, project financing structures. Various debt instruments and innovative Structures, New source of financing avenues for promoting projects-venture, seed finance. Project risk analysis: sources, measures and perspectives on risk, types of risk, sensitivity analysis, scenario analysis, stimulation analysis, BEP analysis, Hillier Model, Decision making tree analysis, managing risk and project selection under risk.	8
IV	SOCIAL COST BENEFIT ANALYSIS Rationale for SCBA, UNIDO Approach, Net benefit for economic efficiency, measurement of impact on distribution, shadow prices and adjustment of goods, saving and income	8

	distribution impact, Little-Mirrlees Approach, SCBA for financial institution and investment decision making in India.	
V	FINANCING INFRASTRUCTURE PROJECT AND SPECIAL DECISIONS SITUATION Financing Infrastructure Project: key project parties, financing power project Infrastructure Project Financing and managing risk associated with it, Different considerations for projects under private, public, and joint sectors. PPP models Special Decisions Situation: Choice between mutually exclusive projects and unequal life, determination of economic life of the project and capital budgeting for the projects.	8

Note: Case study falling in the below mentioned area should be considered

Hydro-electric project, Thermal Power Project, Irrigation Ports, Urban, Waste Management, Telecom sector, National Highways, Promoting world class school, Franchise mode of Business, Essence of Detailed Project Report

EVALUATION:

Weight age A (C.S.C.) B (I.A.) C

	Component	Weightage
A	Continuous Evaluation Component (Project report preparation or analysis, comparative analysis of report of similar projects, preparation of project appraisal report or presentation/ assignment/ Quizzes / Class Participation etc)	20%
B	Internal Assessment	30%
C	End-Semester Examination (External Assessment)	50%

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Prasana Chandra	Projects: Planning, Analysis, Selection, Financing, Implementation & Review	Tata Mc Grawhill Publishing house	9th edition, 2019
T-02	Sitangshu Khatua	Project Management and Appraisal	Oxford	1 st edition, 2011
T-03	Stefano, Gatti.	Project finance in theory and practice – Designing structuring and financing private and public projects.	Academic Press - An imprint of Elsevier	1st edition, 2007

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Esty, Benjamin.	Modern Project Finance: A Casebook	John Wiley & Sons, Inc	3 rd edition, 2006
R-02	B.B. Goel	Project Management: A Development Perspective	Deep and Deep Publications, New Delhi	2 nd edition, 2002
R-03	Nevitt, Peter K / Fabozzi, Frank J.	Project Financing	Euromoney Book	7 th edition, 2000

PROGRAM	Master of Business Administration
SEMESTER	4
COURSE TITLE	Behavioral Finance
COURSE CODE	04MB0406
COURSE CREDITS	03
COURSE DURATION	42 Hours (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- * Inferring the basic tenets of Rational finance vs. Behavioral finance.
- * Evaluating the foundations of rational finance with its limitation
- * Evaluate the impact of behavioral biases on financial decision making
- * Explain the impact of emotional and social force in Investment
- * Examine value investing and central tenets.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to traditional / rational finance: Basic tenets, evolution, history, requirements for rational choices, Versions of EMH, perfect capital market, implications, etc, Challenge posted by behavioral aspects to rational finance	4
II	Foundations of rational finance: Expected Utility theory, Modern portfolio theory, Capital Asset pricing model (CAPM), Efficiency market hypothesis, Challenges to Efficient Market Hypothesis, Arbitrage: Limits to arbitrage, fundamental risk, Noise Trader Risk, Influence of psychology	8
III	Foundations of Behavioral Finance: Heuristic & Biases, Self-deception, overconfidence, Beliefs – expert judgement, narratives, superstitious, The Availability Heuristic, Prospect theory, Anchoring, Framing, mental accounting, herd behavior, disposition effect, endowment effect.	8
IV	Emotional and social forces: Investor behavior, Implications of biases for financial decision making, Behavioral portfolio theory, Psychographic models, Sound investment philosophy, Guidelines for overcoming psychological biases	10
V	The Aggregate stock market: Puzzles and behavioral explanations, Value Investing, Central tenets, Evidence and prospectus, Strategies of well-known value investors, Contemporary issues relating to value investing, Neurofinance and its simple applications.	10

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments/ Quizzes / Class Participation etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)

C	End-Semester Examination	50% (External Assessment)
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SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Prasanna Chandra	Behavioral Finance	McGraw Hill	First Edition 2016
T-02	Suyash Bhatt	Value Investing and Behavioral Finance	Packt Publisher	First Edition 2014
T-03	M M Sulphery	Behavioral Finance	PHI Learning	First Edition 2014

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Kahneman, Daniel & Tversky, Amos. (2000).	Choices, Values and Frames	Cambridge University Press	Third, 2016
R-02	William Forbs	Behavioral Finance	Wiley publication	Second, 2017
R-03	Lucy Ackert Richard Deaves	Behavioral Finance: Psychology, Decision-Making, and Markets	Cengage Learning	Fourth, 2014

PROGRAM	Master of Business Administration
SEMESTER	4
COURSE TITLE	Supply Chain Management
COURSE CODE	04MB0407
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

Course Outcomes

- ❖ Understand how the supply process with end-to-end solutions
- ❖ Gain in depth knowledge about how the drivers affect the supply chain business strategies.
- ❖ Will be able to develop a critical skill set thinking which helps to take decisions related to supply problems.
- ❖ Learn supply chains with the appropriate levels of risk involved in managing supply networks.
- ❖ Apply information systems to develop and support visibility in the supply chain.

Course Contents:

Unit No	Unit/Sub-unit	Sessions
Unit I	INTRODUCTION TO SUPPLY CHAIN MANAGEMENT: Evolution, Importance, Supply Chain Performance Enablers, Performance Measures: Customer Service & Cost Trade-off, Supply Chain Benchmarking, Supply Chain and Business Performance, Enhancing Supply Chain Performance Outsourcing: Make-Vs-Buy - Core Process, Market versus Hierarchy, Portfolio Approach, Impact of Internet on Sourcing Strategy, case study	09
Unit II	MANAGING MATERIAL FLOW: Inventory Management: Types - Cycle Stock, Safety Stock, Seasonal Stock, Inventory Costs Transportation: Drivers, Mode of Transportation - Choice & Performance, Transportation for E-Retailers Facility Location: Factors affecting location decision, Role of location in network. case study	08
Unit III	MANAGING INFORMATION FLOW Demand Forecasting: Role of Forecasting, Qualitative Forecasting, Quantitative Forecasting, Behavioral Issues in Forecasting Information Technology in Supply Chain Management: Transaction Execution, Collaboration and Coordination, Decision Support, Measurement and Reporting, case study	08

Unit IV	SUPPLY CHAIN INNOVATIONS: Supply Chain Integration - Internal Integration, External Integration, Building Partnership and Trust in a Supply Chain. Vendor Managed Inventory, Efficient Customer Response System Supply Chain Restriction - Mapping, Process Restructuring, Point of Differentiation, Shape of Value-addition Curve, Advancing customer ordering point, case study	10
Unit V	MANAGING SUPPLY CHAIN DISRUPTIONS: Agile Supply Chains - High Demand Uncertainty Environment, Responsive Supply Chain Approach, Supply Chain Disruptions and its impact on Business, Methods of Handling Disruptions Supply Chain Cases.	07

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
1	Janat Shah	Supply Chain Text and Cases	Pearson Education	2nd Edition
2	Sunil Chopra	Supply Chain Management	Pearson Education	6th Edition
3	Amit Sinha	Supply Chain Management- A Managerial Approach	McGraw-Hill	1 st Edition
4	Dobler and Burt	Purchasing and Supply Management	McGraw-Hill	6th Edition
5	Lee J. Krajewski , Manoj K. Malhotra, Larry P. Ritzman	Operations Management: Processes and Supply Chains	Pearson Education	11th Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
1	Yann Bouchery Charles J. Corbett Jan C. Fransoo Tarkan Tan	Sustainable Supply Chains	Springer International Publishing	1ST Edition
2	Anna Nagurney Dong Li	Competing on Supply Chain Quality	Springer International Publishing	2nd edition
3	Yacob Khojasteh	Supply Chain Risk Management -Advanced Tools, Models, and Developments	Springer Singapore	1ST Edition
4	Wolfgang Lehmacher	Globale Supply Chain	Gabler Verlag	1ST Edition
5	Michael Roe, Wei Xu and Dongping Song	Optimizing Supply Chain Performance	Palgrave Macmillan UK	1ST Edition

PROGRAM	Master of Business Administration
SEMESTER	4
COURSE TITLE	Sales and Distribution Management
COURSE CODE	04MB0409
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

Course Outcomes:

- * Understand Sales Management and its importance in marketing
- * Describe the significant Sales Strategies and Sales Management responsibilities that a salesperson/Manager faces as the point of contact representing a specific company or service within the marketplace.
- * Able to Manage and enhance the sales force productivity and performance
- * Evaluate the role of Sales manager and their responsibilities in recruiting, motivating, managing and leading sales team
- * Able to Design and implement distribution channel strategy and know how to manage the Channels efficiently and effectively

Course Contents:

Unit No	Unit / Sub Unit	Sessions
Unit I	Objective of Sales Management; Business Environment & Sales practices; concept of sales force in marketing; Theories in Sales management; Personal Selling process – Stages & Sales strategies; Case Study in Sales.	07
Unit II	Understanding Sales Analysis and Sales Forecasting; Sales Budget – Methods, Precautions, Advantages; Territory Management in Sales – Concept; Criteria's of territory formation; Methods; Quotas in Sales – Types, Methods, Characteristics, Limitations; Designing; Case Study.	12
Unit III	Directing Sales force - Responsibilities of Sales force; Recruitment & Training in Sales – Sources of Recruitment, Selection Process, Methods of selection process; Sales Compensation- Types; Case Study	07
Unit IV	Marketing Channels – Functions & Importance in Logistics Management, Technology in Logistics, Local & Global Challenges in Logistics; Evolution of Marketing Channels; Roles & Functions of	08

	Channel members; Designing Channels & Channel Structure; Channel Integration – VMS, HMS, Hybrid Channel; Case Study	
Unit V	Channel Management; Channel Performance; Channel Conflict; Channel Information System; Wholesaling – Types, Features, Strategic Issues, Challenges, Trends; Retailing – Importance, Evolution, Wheel of Retailing, Classification, Strategic Issues, Trends, Scope of Logistics – Introduction, Types, Supply Chain Management; Inventory Management – Warehousing, Transportation; Distribution management in International markets; Case Study	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Particulars	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

Text Books:

Sr. No.	Author/s	Name of the Book	Publisher	Edition & year of publication
T-01	Krishna Havaladar & Vasant M. Cavale	Sales & Distribution Management	Tata McGraw-Hill Education	2006

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Richard R. Still	Sales Management : Decision Strategy and Cases	Prentice Hall of India,	1987
R-02	Pingali Venugopal	Sales & Distribution Management – An Indian Perspective	Sage Publications India Pvt Ltd.	Latest

PROGRAM	Master of Business Administration
SEMESTER	4
COURSE TITLE	Industrial Marketing
COURSE CODE	04MB0410
COURSE CREDITS	03
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES (COs)

- ❖ Understand the concepts of B2B marketing and its distinguishing features.
- ❖ Explain organizational buying behaviour and analyze customer relationship management.
- ❖ Assess business market opportunities i.e. market segmentation and demand analysis, including sales forecasting.
- ❖ Design business market planning and strategy.
- ❖ Identify the drivers of marketing strategy performance and evaluate the critical area of strategy implementation of a business marketing firm.

Course Contents:

Unit No	Unit/Sub-unit	Sessions
Unit I	<p>B2B definition (b) Classification of business products- Foundation, entering & facilitating. (c) Type of business customers, Commercial. Government & institutional (d) Differences between consumer and business marketing.</p> <ul style="list-style-type: none"> ● Market structure difference. <p>Marketing Approach difference. A business Marketing Perspective</p> <p>Business Marketing Business Market Customers Customers: Government, Institutions Business Marketing management B2B Top Performers</p> <p>Classification of Goods for the Business Markets, case study</p>	09
Unit II	<p>ORGANIZATIONAL BUYING PROCESS-1</p> <p>(a) Robinson, Faris & Wind Models (i) Buy- phase model (ii) Buy Class model (iii) Buy grid model</p> <p>(b) Marketing implications of buy phase model- (i) Salesman role @ different stages of buying process(c) Marketing Implications of buy class models-</p> <p>(i) Marketing approach of in supplier's vs out suppliers. ORGANIZATION BUYING PROCESS-2</p> <p>(a) Webster & Wind model (b) Buying Centre roles (c) How buying center composition changes with buying situation (d) Decision making in Buying Centre</p> <ul style="list-style-type: none"> ● Varying Individual preference & their relation to organizational function <p>Varying patterns of interaction & group choice CUSTOMER RELATIONSHIP MANAGEMENT</p> <p>STRATEGIES FOR BUSINESS MARKETS</p> <ul style="list-style-type: none"> ● Relationship Marketing-Process 	09



	<ul style="list-style-type: none"> ● Managing Buyer-Seller Relationships ● Measuring Customer Profitability ● Customer Relationship Management (CRM) <p>B2B RELATIONSHIP & RELATIONSHIP MANAGEMENT STRATEGIES</p> <p>(a) Types of relationship & relationship spectrum & Industry Bandwidth</p> <p>(b) Understanding customer profitability using whale curve & Net margin/cost to serve matrix</p> <p>(c) Strategy guidelines for creating collaborative relationships</p> <p>(i) Customer coverage-Enterprise to enterprise bonding (ii) Growing Business-Going up business share ladder (iii) Retaining business – JIT & Operational & Design Partnering strategies</p> <p>(d) Switching costs</p> <p>case study</p>	
Unit III	<p>Segmentation and Targeting in Business Markets -I</p> <p>Macro-segmentation variables</p> <p>(i) Geography, industry, size, end use, Application</p> <p>Micro-segmentation variables</p> <p>(i) Buyer –seller relationship, key criteria, structure of buying center, organizational innovativeness. Segmentation and Targeting in Business Markets -II</p> <p>(a) Criteria for targeting segments</p> <p>(i) Company criteria-objective, capability</p> <p>(ii) Segment criteria- segment volume, segment profitability, & segment competition</p> <p>(b) Types of targeting strategies</p> <p>Full market coverage, single segment coverage, product specialist, Market specialist, selective specialization. Demand forecasting & sales planning</p> <p>(a) Demand forecasting-Sales force opinion/composite method</p> <p>(b) Demand forecasting-Survey of buyer intention method</p> <p>(c) Demand forecasting-Growth rate method</p> <p>(d) Demand forecasting-End use method</p> <p>(e) Sales planning using market share method</p> <p>(f) Customer wise sales planning using business share method</p> <p>(g) Marketing risk concept</p> <p>case study</p>	08
Unit IV	<p>BUSINESS MARKETING PLANNING: STRATEGIC PERSPECTIVE</p> <p>Marketing's Strategic Role</p> <p>Cross Functional Relationships</p> <p>The Components of a Business Model</p> <p>Core Strategy</p> <p>The Value network</p> <p>Strategic positioning, BUSINESS MARKETING STRATEGIES GLOBAL MARKETS</p> <p>Capturing Global Advantage</p> <p>Network Coordination</p> <p>Global Market Entry-Options</p> <p>Global Strategy. MANAGING PRODUCTS FOR BUSINESS MARKETS</p> <p>Building a strong B2B Brand</p> <p>Brand Strategy</p> <p>Product- 9 dimensions of product differentiation</p>	08

	Product Positioning case study	
Unit V	<p>MARKETING PERFORMANCE MEASUREMENT</p> <p>A Strategy Map</p> <p>Developing Strategy</p> <p>Allocation of Resources</p> <p>The Marketing Control Process. KEY ACCOUNT MANAGEMENT</p> <p>(a) Field Sales force organization structure – Geographic, Product and market centered</p> <p>(b) Key account management sales force structure</p> <p>(c) Criteria for selecting key accounts</p> <p>(d) Role of KAM</p> <p>(i) Creating a special offering</p> <p>(ii) Relationship building</p> <p>(iii) Relationship facilitator</p> <p>(iv) Problem solving/coordination. B2B Marketing Channels</p> <p>(a) Example of multiple channel using company sale force & industrial distributors</p> <p>(b) Situations where sales force is used & situations where industrial distributors are used.</p> <p>B2B Marketing Channels</p> <p>(a) Example of multiple channel using company sale force & industrial distributors</p> <p>(b) Situations where sales force is used & situations where industrial distributors are used</p> <p>(c) Industrial Distributors</p> <p>(i) Activities performed for company</p> <p>(ii) Services offered to customers- fulfilment & value added services</p> <p>(d) Types of industrial Distributors</p> <p>(i) General Line distributors</p> <p>(ii) Specialty Distributors</p> <p>(iii) Value added resellers – VAR</p> <p>(e) Manufacturer representative & their activities</p> <p>case study</p>	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

		Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Michael D. Hutt, Dheeraj Sharma and Thomas W.	B2B Marketing: A South-Asian Perspective	Cengage	Edition: 11 th ISBN-13:



	Speh, Cengage		9788131520796
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Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R01	Kotler and Keller	Marketing Management	Pearson Prentice Hall	(15th Edition)
R02	by Arch G. Woodside (Editor), Jagdish N. Sheth (Editor), Peter D. Bennett (Editor)	Consumer and Industrial Buying Behavior	Elsevier Science Ltd (June 1, 1977)	<ul style="list-style-type: none"> ● ISBN-10 : 0444002308 ● ISBN-13 : 978-0444002303
R03	Krishna K. Havaladar	Industrial Marketing	Tata McGraw-Hill Education, 2005	2009 2ND EDITION
R04	Richard M. Hill, Ralph S. Alexander and James S. Cross	Industrial Marketing	Homewood, Ill. : Richard D. Irwin	4. ed., 6. prin
R05	Brennan, Canning & McDowell	Business – to – Business Marketing	SAGE Publication	5th ed.2020
R06	Nirmalya Kumar	Marketing (chapter on Solution Selling)	Harvard Business Review Press	2n 2018

PROGRAM	Master of Business Administration
SEMESTER	4
COURSE TITLE	Rural Marketing
COURSE CODE	04MB0411
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- * To make students understand rural economy and experiences of the industry and make them identify the rural marketing opportunities.
- * To make students understand thoroughly the behaviour of rural consumers and process of identifying the right markets.
- * To make students identify the right marketing mix for rural markets and will be able to prepare suitable strategies for the rural markets.
- * To make students apply the right marketing strategies for the success of rural market.
- * To make students able to predict the future for rural marketing.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	OVERVIEW OF RURAL MARKETS AND RURAL MARKETING Rural economy — size and nature, Rural marketing — definition and scope, Characteristics of Rural markets Taxonomy of Rural markets, Changing patterns, Attractiveness of Rural markets, problems and constraints in rural marketing	08
II	THE RURAL CONSUMER Classification of Rural consumers, classification and characteristics of rural consumers, Rural consumer behavior — decision process, brand loyalty, Innovation Adoption, Factors influencing rural consumer behavior, consumer buying process — opinion leadership process — rural shopping habits, growing consumerism - Concepts and process of Rural market Segmentation — bases, Targeting, Positioning	10
III	PRODUCT STRATEGY AND PRICING IN RURAL MARKETS Product Strategy — Scope and significance, Product mix decisions, Product personality, Rural Branding, Product Life Cycle Rural Pricing — Pricing in Rural Markets, Objectives, policies and Strategies,	09
IV	PROMOTION AND DISTRIBUTION IN RURAL MARKETS Promotion — Role of Media in rural market, Conventional Media, Rural communication mix, Media and Creative Strategies, Personal selling — Role and management of rural sales force Rural Distribution —Type of Channels, Distribution Strategies, Promotion	08
V	FUTURE OF RURAL MARKETS <ul style="list-style-type: none"> ● Role of Government and NGO ● Role of ICT Tools ● Innovations and Opportunities ● Case study Discussion 	07

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Pradeep Kashyap, Siddhartha Raut	The Rural Marketing Book	Dreamtech Press, 2005	Revised
T-02	Balram Dogra	Rural Marketing	Tata McGraw-Hill Education, 2010	Revised
T-03	C.S.G. Krishnamacharyulu	Rural Marketing: Text and Cases	Pearson Education India, 2011	Revised

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Gopaldaswamy T P	Rural Marketing	Vikas	Latest Edition
R-02	Sawalia Bihari Verma, M. Narayan, P. Thyambakam	Rural Marketing	Scientific Publishers, 2014	Revised
R-03	Ramkishan Y	New Perspectives in Rural & Agricultural Marketing	Jaico Publishing House, Mumbai	Latest Edition

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Strategic Human Resource Management
COURSE CODE	04MB0412
COURSE CREDITS	03
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

Course Outcomes:

- * To understand the transformation in the role of Strategic Human Resource Management
- * To identify the linkages between SHRM functions and operations and organizational strategies, structures, and culture.
- * To understand the factors of change in the political, social, environmental and the economical scenarios that have transformed the role of HR functions from being a support function to strategic function.
- * To reflect and comment in a way that demonstrates awareness of the different contexts that impact on the operation of SHRM.
- * To identify the role of HRM in a global perspective.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Strategic management of Human resources: An introduction, The Evolving strategic role of HRM, Strategic HR Vs Traditional HR, Barriers to strategic HR, Models of SHRM, Business strategy- An introduction to market driven strategy, Resource driven strategy, Strategic Human resource system- its macro and micro dimensions. Case Studies.	08
II	Strategic Planning, Recruitment & Selection: Strategic HRP - Activities related to Strategic HR planning, Integration of HR plan & Business Plan, Strategies for managing employee shortage and Surpluses Strategic approach to recruitment and selection(Online recruitment; Employee referrals; Recruitment process outsourcing, Head hunting; Flexi timing; Telecommuting, Quality of work life; Methods of recruiting. Selection - Selection Process, Interviewing, Types of selection test, Strategic Outsourcing. Case Studies	08
III	Strategic Training and Development: Strategic Training, Meaning, Process and Methods Strategic development of human resources: Management Development – Meaning, Methods, Differences between Training and Development Strategic management of performance: Meaning, Need and Process, Performance Appraisal Methods, Case Studies	08
IV	Strategic Compensation & Reward Management: Performance based pay; Skill based pay; Team based pay, Broad banding; Profit sharing; Executive Compensation; Variable pay, Strategic Reward & Recognition. Strategic Industrial Relations & Collective Bargaining. Case Studies	08

V	Organization Culture and Strategic Global HRM: Managing Strategic Change, Organizational Culture, Role of HR In Knowledge Management and Learning Organization, Strategic Leadership, Work - life balance, Talent Management, Glass ceiling and Gender Equality, HR In Global Perspective. Case Studies	08
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Evaluation:

The students will be evaluated on a continuous basis and broadly the scheme given below will be followed:

	Particulars	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Pulak Das	Strategic HRM	Cengage Learning	Latest
T-02	Jeffery Mello	Strategic HRM	Thompson publication, New Delhi	5 TH Edition
T-03	Charles Greer	Strategic HRM	Pearson education Asia, New Delhi	2 nd Edition
T-04	Michael Armstrong	Strategic HRM	Kogan page, London,	2 nd Edition

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Tanuja Agarwala	Strategic Human Resource Management	Oxford University Press , Latest publication	4 th Edition
R-02	S.K. Bhatia	Strategic Human Resource Management: Winning Through People: Concepts, Practices And Emerging Trends	Deep & Deep Publications, New Delhi, Latest publication	2 nd Edition
R-03	Dhar Ravishankar	HRD Skills For Organizational Excellence,	Excel (Publications),	1 st Edition

PROGRAM	Master of Business Administration
SEMESTER	3
COURSE TITLE	Human Resource Development
COURSE CODE	04MB0413
COURSE CREDITS	03
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

Course Outcomes:

- * To explain the concept of HRD and its significance.
- * To develop skills in identifying HRD needs and in designing, implementing, and evaluating HRD programs.
- * To analyse the HRD culture and its role in employee development.
- * To explain the strategic importance of HRD in the success of organizations within the context of social and environmental pressure.
- * Critically analyse and evaluate international perspective of HRD practices.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to HRD: Concept, relationship between HRM and HRD, HRD Philosophy, HRD policies, HRD Strategy, HRD mechanisms, HRD matrix, HRD interventions, Roles, and competencies of HRD professionals, Challenges in HRD.	8
II	HRD Process: Assessing need for HRD, designing, and developing effective HRD programs, Implementing HRD programs, Evaluating effectiveness of HRD Programs.	8
III	HRD Culture & Employee Development Activities – HRD Culture- OCTAPACE, Role of top management in building HRD culture, Approaches to employee development, leadership development, action learning, assessment and development centres, Employee engagement.	8
IV	HRD Applications and Trends: Coaching and Mentoring; Career management and development; Employee counselling; Talent Management, Competency mapping; PCMM (People Capability Maturity Model), Balanced Scorecard, Appreciative inquiry; Integrating HRD with technology and Employer branding.	8
V	HRD in Organisations: International and Cross-cultural perspective of HRD, Virtual HRD, Green HRD, HRD overview in Government, manufacturing and service industries, HRD mechanisms in SMEs, Ethics in HRD, Corporate Social Responsibility & HRD.	8

Evaluation:

The students will be evaluated on a continuous basis and broadly the scheme given below will be followed:

	Particulars	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20%
B	Internal Assessment	30%
C	End-Semester Examination	50%



SUGGESTED READINGS:

Textbooks:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Mankin, David	Human resource development	Oxford University Press India	2nd edition
T-02	Neal F. Chalofsky	Handbook of Human Resource Development	Wiley Publication	1st Edition
T-03	Werner J. M., DeSimone, R.L.	Human Resource Development	South Western	7th Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition / Year of Publication
R-01	Thomas Garavan, Alma McCarthy, Ronan Carbery	Handbook of International Human Resource Development: Context, Processes and People	Edward Elgar Publishing	2nd Edition
R-02	HRD Score Card 2500: Based on HRD audit	Rao, T.V.	SAGE Publications.	2nd Edition
R-03	Future of HRD	Rao, T.V.	Macmillan Publishers India.	4th Edition
R-04	Hurconomics for talent management: Making the HRD missionary business driven	Rao, T.V.	Pearson Education	1st Edition

PROGRAM	Master of Business Administration
SEMESTER	4
COURSE TITLE	Strategic Performance Management
COURSE CODE	04MB0414
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

Learning Outcomes: This course aims,

- * To explain the attributes of a well-designed performance management system
- * To compare and contrast various organizational performance management programs
- * To recommend appropriate performance appraisal methods and tools
- * To develop and implement an effective performance management system
- * To design a Performance Management linked Reward and Compensation System

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Performance Management: Performance Management: Concept and Definition - Performance Appraisal Vs Performance Management- Objectives and Importance of Performance Management, Determinants of Job Performance- Process of Performance Management- Performance Management Cycle - Linking PMS with other HR functions.	8
II	Performance Management System: Model of Performance Management System, Objectives and Functions of Performance Management System, Characteristics of Effective Performance Management System, Competency Based Performance Management System- Performance Planning- Competency Mapping and its linkage to Performance Planning, Counselling and Monitoring of Performance for High Job Performance	10
III	Implementation of Performance Management System: Balance Scorecard Approach to Performance Management System- Strategies for Effective Implementation of Performance Management- Operationalizing Change through Performance Management- Concept of High Performance Teams- Organizational Culture and Performance Management, Role of HR Professionals in improving Organizational Performance	9
IV	Performance Management Linked Reward system: Performance Analysis Process and Methods of Performance Appraisal- Performance Review- Relationship of Job Performance with Job Satisfaction- Objectives and Components of Reward System- Linkage of Performance Management to Reward and Compensation System- Implication of Performance management on Organizational Reward System.	8
V	Current trends in Performance Management: Potential Appraisal, Challenges & Ethics in Performance Management, Benchmarking, Six Sigma, Pygmalion effect, Performance Management Strategic Planning, Appraisal and Management Practices in Indian Organizations.	7

EVALUATION:

The students will be evaluated on a continuous basis and broadly the scheme given below will be followed:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Quizzes / Class Participation etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Prem Chadha	Performance Management	Macmillan	Latest
T-02	Michael Armstrong	Performance Management	Kogan Page.	Latest
T-03	T.V.Rao	Performance Management & Appraisal System	Sage	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	A.M. Sharma,	Performance Management System	HPH	Latest
R-02	M Armstrong,	Performance Management & Development	Jaico	Latest
R-03	Joe Willmore,	Performance Basics	ASTD Press	Latest
R-04	A S Kohli, T.DeB,	Performance Management	Oxford Higher Education	Latest
R-05	S.K.Bhatia.	Performance Management	Deep and Deep Publication	Latest

PROGRAM	Master of Business Administration
SEMESTER	4
COURSE TITLE	Talent Management and Employee Engagement
COURSE CODE	04MB0415
COURSE CREDITS	3
COURSE DURATION	40 hours (40 sessions of 60 minutes each)

Course Outcomes:

- * To discuss the process of linking talent management to organizational strategy and other HR practices.
- * To create the process for identifying high potential talent and developing a pipeline of talent to serve organizational present and future needs.
- * To design the strategies for talent development and succession planning.
- * To evaluate the effectiveness of a Talent Management System
- * To identify the issues associated with employee engagement and develop a strategy for employee engagement success.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Talent Management: Meaning, History, Scope, Need of Talent Management- Benefits and Limitations of Talent Management-Principles of Talent Management-Sources of Talent Management- Talent Gap: Meaning, Strategies to Fill Gaps- The Talent Value Chain- Role of HR in Talent Management- Role of Talent Management in Building Sustainable Competitive Advantage to an Organization	8
II	Talent Management System: Introduction, Key Elements of TMS -Critical Success Factors to Create TMS- Building Blocks of Effective TMS- Life Cycle of Talent Management – Steps in Talent Management Process, Importance, Essentials of Talent Management Process- Approaches to Talent Management- Developing a Talent Management Strategy, Mapping Business Strategies and Talent Management Strategies- Talent Management and Succession Planning.	10
III	Competency Management and Competency Mapping: Concept of Competency and Competence- Types of Competencies, Benefits and Limitations of Implementing Competencies- Iceberg Model of Competency- Competency Management – Meaning, Features, Objectives, Benefits and Challenges- Competency Development: Meaning and Process- Competency Mapping: Meaning, Features, Need and Importance- Methods of Competency Mapping-Steps in Competency Mapping	9
IV	Contemporary Issues and Current Trends in Talent Management: Talent Management Information System- Contemporary Talent Management Issues and Challenges- Current Trends in Talent Management- Best Practices of Talent Management- Ethical and Legal Obligations Associated with Talent Management- Talent Management in India- Role of Information Technology in Talent Management Systems- HR Analytics for Talent Management Processes	8
V	Talent Engagement and Retention: Introduction, Concept of Talent Engagement, Retention, the Race for Talent: Retaining and Engaging Workers, Best Practices for Talent Engagement, Improving Employee Retention, Strategic Compensation plan for Talent Engagement, Talent management and Corporate restructuring.	7



EVALUATION:

The students will be evaluated on a continuous basis and broadly the scheme given below will be followed:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Quizzes / Class Participation etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Swathi Padoshi	Talent and Competency Management	Himalaya Publishing House	1st
T-02	Lance A Berger, Dorothy R Berger	Talent Management Hand Book	Mcgraw Hill	13th
T-03	Hasan, M., Singh, A. K., Dhamija	Talent management in India: Challenges and opportunities	Atlantic Publication	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Dessler Gary	A Framework for Human Resource Management	Pearson	7th
R-02	Armstrong, Michael	A Handbook of Human Resource Management Practice	Kogan Page Publication	Latest
R-03	Pattanayak Biswajeet	Human Resource Management	PHI Learning Pvt. Ltd.	Latest

PROGRAM	Master of Business Administration
SEMESTER	4
COURSE TITLE	INTERNATIONAL RISK COMMUNICATION
COURSE CODE	04MB0416
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES

- * Relate the academic part of risk communication in their respective professional carriers.
- * Understand the relationship between the terms reducing the risk and relative risk.
- * Analysis how consumers react to risk and during the pre and post stage of the risk crisis.
- * Plan and communicate the risk in a very systematic and efficient manner and will be in position to analyse the audience response during the crisis.
- * Develop and write risk and crisis communication plans.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
Unit I	DECISION TO INTERNATIONALISE Risk Communication process, audiences, Situations and Process, Mental Models Approach, Crisis Communication approach, hazard Plus Outrage Approach, Mental Noise Approach, Laws in India that mandate risk communication basic acts and introduction only, constraints to effective risk communication, Principles of risk communication.	08
Unit II	PLANNING THE RISK COMMUNICATION EFFORTS Research, Determine purpose and objectives, analyse your audience, Develop your message, Determine the appropriate methods, set a schedule, develop a communication plan.	08
Unit III	RISK COMMUNICATION INTO ACTION Information materials, Visual representation of risks, Face to Face Communication, Working with the news media. Stakeholder Participation, Technology-assisted Communication and social media.	08
Unit IV	EVALUATING RISK COMMUNICATION EFFORTS. Why Evaluate Risk Communication Efforts, Emergency risk communication. International risk communication, Look for "Your" Risk in Other Countries, Plan for Cross-Country Communication, Checklist for International Risk Communication	08
Unit V	PUBLIC HEALTH CAMPAIGNS . Understand the goals, use research to design Campaigns, use multiple methods to reach people, using other media. Case study	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

		Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
1	Regina E. Lundgren Andrea H. McMakin	RISK COMMUNICATION A Handbook for Communicating Environmental, Safety, and Health Risks	Wiley-IEEE Press.	5 th Edition.
2	Timothy L. Sellnow • Robert R. Ulmer • Matthew W. Seeger • Robert S. Littlefield	Effective Risk Communication A Message-Centered Approach	Springer publication	1 st Edition
3	Hyunyi Cho, Torsten Reimer, Katherine A. McComas	The SAGE Handbook of Risk Communication	SAGE Publications	1 th Edition
4	Jonathan Crichton Christopher N. Candlin Arthur S. Firkins	Communicating Risk	Palgrave Macmillan UK	1 th Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition
R-01	Philip Linsley Philip Shrives Monika Wiczorek-Kosmala	Multiple Perspectives in Risk and Risk Management	Springer International Publishing	1 st Edition
R-02	Josephine Adekola	Power and Risk in Policymaking	Palgrave Pivot Springer International	1 st Edition
R-03	• Pamela (Ferrante) Walaski	Risk and Crisis Communications: Methods and Messages	Wiley Publications	1 st Edition
R-04	Rob Weinhold, Kevin Cowherd	The Art of Crisis Leadership: Save Time, Money, Customers and Ultimately, Your Career	Apprentice House	1 st Edition

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R-05	Michael J. Fagel, Jennifer Hesterman.	Soft Targets and Crisis Management: What Emergency Planners and Security Professionals Need to Know	Routledge Publication	1 st Edition
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Research Paper:-

The below mention research papers students are advised to read during the academic duration for having clear understanding.

1. Boroush, M. (1998). Understanding risk analysis: A short guide for health, safety, and environmental policy making (internet ed.). Washington, DC: American Chemical Society.
2. Grahm, J. D., & Rhomberg, L. (1996). How risks are identified and assessed. The Annals of the American Academy, 545, 15-24.
3. Milroy, S. J. (2001). Lesson 7: Big numbers mean big lies. In Junk science judo: Self-defense against health scares and scams (pp. 115-118). Washington, DC: Cato Institute.
4. Ropeik, D., & Gray, G. (2002). Tobacco. In Risk! A practical guide for deciding what's really safe and what's really dangerous in the world around you (pp. 139-148). New York: Houghton Mifflin.
5. Sjöberg, L. Factors in risk perception. (2000). Risk Analysis, 20, 1-11.
- Sjöberg, L., & Wåhlberg, A. A. (2002). Risk perception and new age beliefs. Risk Analysis, 22, 751-764.
6. Sandman, P. M. (1993). Risk = Hazard + Outrage. In Responding to community outrage: Strategies for effective risk communication (pp. 1-10). Fairfax, VA: American Industrial Hygiene Association.
7. Sandman, P. M. (1993). Components of Outrage. In Responding to community outrage: Strategies for effective risk communication (pp. 11-57). Fairfax, VA: American Industrial Hygiene Association.
8. Leiss, W. (1996). Three phases in the evolution of risk communication practice. The Annals of the American Academy, 545, 85-94.
9. Lundgren & McMakin – Chapters 2 “Approaches to Risk Communication” and 4 “Constraints for Risk Communication”
10. Lundgren & McMakin – Part two “Planning the Risk Communication Effort” & Part three “Putting Risk Communication into Action”
11. Fearn-Banks, K. (2002). The crisis communications plan. In Crisis communications: A casebook approach (2nd ed.) (pp. 22-40). Mahwah, NJ: Lawrence Erlbaum Associates.
12. Fiorino, D. J. (1990). Citizen participation and environmental risk: A survey of institutional mechanisms. Science, Technology, and Human Values, 15, 226-243.
13. Arvai, J. L. (2003). Using risk communication to disclose the outcome of a participatory decision-making process: Effects on the perceived acceptability of risk-polity decisions. Risk Analysis, 23, 281-289.
14. McComas, K. A. (2003). Citizen satisfaction with public meetings used for risk communication. Journal for Applied Communication Research, 31, 164-184.
15. Lundgren & McMakin –6 “Principles of Risk Communication”
16. Chess, C. (2001). Organizational theory and the stages of risk communication. Risk Analysis, 21, 188-179.
17. Neuwirth, K., Dunwoody, S., & Griffin, R. J. (2000). Protection motivation and risk communication. Risk Analysis, 20, 188-179.
18. Scherer, C., & Cho, H. (2003). A social network contagion theory of risk perception. Risk Analysis, 23, 261-267.

PROGRAM	Master of Business Administration
SEMESTER	4
COURSE TITLE	International Supply Chain Management
COURSE CODE	04MB0417
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES

- * Get a comprehensive knowledgebase of international supply chain management.
- * Examines foundational international supply chain concepts, strategic implementations, and operational techniques which will develop critical thinking.
- * Formulate and implement various techniques which can be used for warehouse management.
- * To deal with issues related to forecasting, inventory management, distribution, dealing with uncertainty, and reverse logistics.
- * Cover dynamics, evolving issues pertaining to the international supply chain which affects the stakeholders across global level.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
Unit I	Foundation of International supply chain Drivers of supply chain, Stock Valuation & verification. Disposal of obsolete and scrap items. Vendor rating. Right time of buying, method of materials handling, case study	09
Unit-II	Transportation Infrastructure Ports, Canals & waterways, Airport, rails & Structures. Road & warehousing Different communication infrastructures Utilities infrastructure. Service, Legal & regulatory infrastructure, case study	09
Unit III	Enter International Markets Different ways to international Methods of entry Indirect ways, active exporting production abroad, parallel imports, Counterfeit goods. Case study	09
Unit IV	Types of Contracts International Contracts, Incoterms, & terms of payments International Insurance and documentation & paper works Air water, land & Multimodal transportations, packaging & Custom clearance case study	09
Unit V	Pricing strategy in international supply chain management, Dumping, price distortion, case study Practical module Which will be done by individual students as such which will have a presentation on paper works required for the customs clearance either students have to go to the offices or have to visit the dock for the business purpose	06

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

		Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
01	Pierre A. David	International Logistics: The Management of International Trade Operations 5th	Cicero Books	05 th Edition
02	Kenneth Lysons, Brian Farrington	Purchasing and Supply Chain Management	Pearson Publications	07 th Edition
03	Janat Shah	Supply Chain Management: Text and Cases	Pearson Publications	02 nd Edition
04	H Badenhorst-Weiss, J Strydom, S Heckroodt, J Howell, & Gavin Cook	Introduction to Supply Chain Management - A Logistics Approach	Oxford University Press	01 st Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
01	Edmund Prater & Kim Whitehead	An Introduction to Supply Chain Management: A Global Supply Chain Support Perspective	Tata McGraw-Hill Publishing	03 rd Edition.
02	Martin Christopher	Logistics & Supply Chain Management	Financial Times Prentice Hall.	01 st Edition.
03	Nada R. Sanders	Supply Chain Management: A Global Perspective, 3rd Edition	Wiley Publication	Edition.

04	Frank Straube Shihua Ma Michael Bohn	Internationalization of Logistics Systems	Springer-Verlag Berlin Heidelberg	01 st Edition
05	Jan Dethloff Hans-Dietrich Haasis Herbert Kopfer Herbert Kotzab Jörn Schönberger	Logistics Management	Springer International Publishing	01 st Edition

PROGRAM	Master of Business Administration
SEMESTER	4
COURSE TITLE	India: International Relations
COURSE CODE	04MB0418
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES

- * Develop an understanding of central geopolitical perspectives and dimensions in humanitarian disaster situations;
- * An ability to use key concepts related to geopolitics for the analysis of the social and political dimensions of disaster situations;
- * An ability to formulate critical questions and problems in the geopolitical analysis of disaster situations
- * Become familiar with the major approaches in political geography for examining territorial forms, structures, and change; and
- * Develop critical reading and analytical skills to aid in better understanding contemporary global, regional, and national debates and issues of geopolitical importance.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
Unit I	EMERGING MARKETS CHALLENGES India and India's Foreign Trade Policy International Economic Institutions, Trade with Emerging Economies, India and South-South Trade Co-operation, SAFTA and ASEAN emerging challenges like Immigration/migration Trafficking, India and Climate Change debates Technology and Energy. - World Bank, IMF and WTO, case study.	10
Unit II	INDIA INTERNATIONAL RELATIONS. India and South Asia, Pakistan and Afghanistan, Myanmar and North east Region. Bangladesh, Sri Lanka, Nepal and Bhutan, Japan, Tibet and China and USA.case study	08
Unit III	STRATEGIC ASPECTS IN INDIAN FOREIGN POLICY. Indian Ocean and Expansion of maritime forces, piracy, unregulated migration, string of pearls china, India's involvement in global energy groups, Defence Policy of India and Indian Economic Policy, case study	08
Unit IV	ANALYSIS AND INFLUENCE OF GLOBALIZATION. The New Revolution in Military Affairs, Battlefield Internet, How Artificial Intelligence Will Reshape the Global Order, The Age of Transparency. Impact of corruption on international section and stability. Case study	08
Unit V	Bilateral treaties, India's bilateral treaties with underdeveloped, developing and developed, its significance with foreign trade. case study	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

		Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
1	Rajiv Sikri	Challenge and Strategy Rethinking India's Foreign Policy.	Sage Publication.	1st Edition.
2	Shivshankar Menon	India and Asian Geopolitics The Past, Present	Brookings Institution Press.	1 rd Edition
3	Colin Flint	Introduction to Geopolitics	Routledge Publications	1 th Edition
4	Keegan,W.J. and Green, M	Global Marketing	Pearson Publication	7 th Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition
R-01	Dr.Wajid Ali	India & The Non-Aligned Movement	Adam Publishers & Distributors,	1 rd Edition
R-02	William H. Thornton - Songok Han Thornton.	Toward a Geopolitics of Hope	Sage Publication	1 st Edition
R-03	Pamela (Ferrante) Walaski.	Conflict and Cooperation in the Indo-Pacific New Geopolitical Realities	Routledge Publications	1 st Edition
R-04	Ash Rossiter, Brendon J. Cannon.	Women, Politics, and Power A Global Perspective	Sage Publication	3 st Edition
R-05	James Ash - Rob Kitchin - Agnieszka Leszczynski.	Digital Geographies	Sage Publication	1 st Edition

Research Papers:-

The below mention research papers students are advised to read during the academic duration for having clear understanding.

- Barter P, 2006. Multiple dimensions in negotiating the cross-border transport links that connect and divide Singapore and Johor, Malaysia. *Asia Pacific Viewpoint*, 47(2): 287–303.
- Bellamy A J, Williams P D, 2011. The new politics of protection? Cote d'Ivoire, Libya and the responsibility to protect. *International Affairs*, 87(4): 825–850.
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- C. Raja Mohan, "India's Regional Security Cooperation: The Nehru Raj Legacy," *ISAS Working Paper* 168 (2013): 3-4.

COURSE	Master of Business Management
SEMESTER	IV
TITLE OF THE SUBJECT	International Trade Operations and Documentation.
COURSE CODE	04MB0419
DURATION	42
COURSE CREDIT	3

COURSE OUTCOMES

- ❖ To make student aware about the foreign trade policy
- ❖ To relate the promotional measures to merchandise and service exports under foreign trade policy.
- ❖ To categorize different duty expectation schemes Under the foreign trade policies.
- ❖ To Prioritize the importance of deemed exports In India.
- ❖ To lead the documentation process required for import and exports.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO FOREIGN TRADE POLICY Niryat Bandhu - hand holding scheme for new export / import entrepreneurs, Importer and exporter profile, 24 x 7 customs clearance, single window in customs, case study	09
Unit II	MAJOR PROVISIONS Promotional Measures-Merchandise Exports-Service Exports-Quality Complaints & Trade Disputes, case study	09
Unit III	DUTY EXEMPTION & REMISSION SCHEME Objectives-Advance Authorization-Duty Drawback-Value Addition-Export obligation-DFIA (Duty Free Import Authorization). case study	09
Unit IV	EOU (EXPORT ORIENTED UNITS) Objectives-EOU-SEZ-EHTP-STP & BTP-Deemed Exports. Only the introduction and meaning. case study	09
Unit V	NEGOTIATION AND CULTURES DOCUMENTATIONS AND PAPERWORK Only the introduction and meaning of: Bill of lading, Certificate of Origin, Commercial Invoice, Dock receipts, Inspection Certificate, Insurance Certificate, Packaging list. case study	06

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

		Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)



SUGGESTED READINGS:
Textbooks:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
1	Ministry of Commerce	Foreign Trade policy of India	Ministry Government of India	2015 to 2020.
2	Abhishek A. Rastogi	Handbook On Foreign Trade Policy 2015-2020 Paperback –	Lexis Nexis	1 st Edition.
3	R. K. Jain	Foreign Trade Policy & Handbook of Procedures	CENTAX Law Publications Pvt. Ltd.	1 st Edition
4	Vibha Mathur	Foreign Trade, Export-Import Policy and Regional Trade Agreements of India	Ingram Publications	1 st Edition.

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition
R-01	Madhusudana H.S.	Foreign Trade and Export-Import Policy of India	Lexis Nexis Publications	1 st Edition
R-02	V.S. Datey	Customs Law & Foreign Trade Policy- 2020	Taxmann's book	22nd Edition
R-03	Kaza Subrahmanyam & T.N.C. Rajagopalan	Centax Publication's Export - Imports and Deemed Exports under GST 2019	Centax Publications	1 st Edition
R-04	Rakesh Garg, and Sandeep Garg	Handbook of GST – Procedure, Commentary and Rates	Brooks & Taylor Publications	1 st Edition
R-05	Ashok Batra	GST Acts, Rules & Forms with Referencer	Brooks & Taylor	05 th Edition

PROGRAM	Master of Business Administration
SEMESTER	IV
COURSE TITLE	Managing Corporate Entrepreneurship
COURSE CODE	04MB0420
COURSE CREDITS	3
COURSE DURATION	42 hours

COURSE OUTCOMES:

- Identify, examine, and clarify the differences between independent entrepreneurship and corporate entrepreneurship.
- Understand different forms of Corporate Entrepreneurship.
- Discover how creativity leads to innovation in companies and how entrepreneurship drives the innovation process.
- Analyze the scope and complexity of the issues related to corporate entrepreneurship.
- Develop strategies for corporate entrepreneurship.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Corporate Entrepreneurship: Introduction to Corporate Entrepreneurship- Why companies lose their entrepreneurial way: The organizational life cycle - A model of Corporate Entrepreneurship- How Corporate Entrepreneurship differs- Where to find entrepreneurship within a company- General framework for understanding Corporate Entrepreneurship	7
II	The forms of Corporate Entrepreneurship- Corporate venturing- Strategic entrepreneurship- The business model as vehicle for corporate entrepreneurship-The open innovation revolution- Applying Entrepreneurial Concepts to the Nonprofit and Public sectors- Exploring Entrepreneurship in Nonprofit and Government Organizations- How Public sector managers view Entrepreneurship- Toward Entrepreneurial Government	8
III	Creating the Entrepreneurial Organization: The creative individual in a company, The Creative process, The Creative blocks- Creativity Techniques and Creative Quality- The Entrepreneurial Personality- Motivating Entrepreneurial Behavior-Are corporate Entrepreneurs different? - Categories of Entrepreneurs- Critical roles incorporate entrepreneurship- Myths about Corporate Entrepreneurs	9
IV	Corporate Strategy and Entrepreneurship: The changing landscape, The Role of Strategic Management and Corporate Strategy, Integrating Entrepreneurship with Strategy- Managing innovation Strategically: A Portfolio Approach- Technology, Entrepreneurship and Strategy- Key Strategic Concept: Entrepreneurship as the Driver- Entrepreneurial Strategy- Some contributing Factors- Implementation Issues	8
V	Structuring the Company for Entrepreneurship: Types of structures: Links to an entrepreneurial strategy- An entrepreneurial and the concept of cycling- Structure to support New Product/ Service Development Projects- Entrepreneurial projects: Structures within structures- Structuring relationship between Entrepreneurial Initiatives and the cooperation: Some organizational design Alternatives- Developing an Entrepreneurial Culture: Nature, pieces and parts of Culture- Generic culture types-A culture with a different view of failure- Leadership and Culture	10

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Quizzes / Class Participation etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Michael H. Morris, Donald F. Kuratko, Jeffrey G. Covin	Corporate Entrepreneurship and Innovation	Cengage Learning	Third, 2011
T-02	Paul Burns	Corporate Entrepreneurship	Palgrave Macmillan	Third, 2013
T-03	Robert D. Hisrich & Klaudine Kearney	Corporate Entrepreneurship	Mcgraw-Hill	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Kevin C. Desouza	Intrapreneurship	University of Toronto Press	Latest
R-02	Vijay Sathe	Corporate Entrepreneurship	Cambridge University Press	Latest

PROGRAM	Master of Business Administration
SEMESTER	IV
COURSE TITLE	Succession Planning for Family Business
COURSE CODE	04MB0421
COURSE CREDITS	3
COURSE DURATION	42

COURSE OUTCOMES:

- Understand the value of succession planning for successful businesses.
- Identify competencies and plan competency based succession
- Create and discuss aspects of a succession plan.
- Discuss the elements of a succession plan in terms of roles, responsibility, function, scope, and evaluation.
- Assess alternative internal and external successors
- Develop a program for succession planning

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO SUCCESSION PLANNING -Career planning and succession management: -Definitions, concept and Need for career and succession planning -Self Assessment for Career planning -The Six Ps of Career Management, -The six stages of modern career development (Assessment • Investigation • Preparation • Commitment • Retention • Transition.); -Integrating Career planning with Succession planning -Integrating HR planning with Succession Planning -Succession management process; - challenges of succession management, -Trends Influencing Succession Planning and Management - Succession Planning benefit to employees and organisation	8
II	COMPETENCY MAPPING AND INTERNAL MOBILITY METRICS - Competency Identification, Values Clarification, and Ethics - Conducting Competency Identification Studies - Using Competency Models - Internal Mobility Metrics: Career Progression Indices - Promotion index, Rotation index, Career path index, Level wise succession readiness index. Replacement analysis - New Developments in Competency Identification, Modeling, and Assessment - Competency Driven Career and Culture: Role of Competency in Career Progression - Transactional Competency, Tradition Competency and Transformational Competency, Evaluation of Career through KSA (Knowledge, Skill and Attitude) -Competency based Succession and Career planning, Corporate Competency driven Culture.	8
III	INTERNAL SUCCESSORS FRAMEWORK -Assessing Present Work Requirements and Individual Job Performance - Assessing Future Work Requirements and Individual Potential	8



	<ul style="list-style-type: none"> -Identifying Key Positions Job rotation as a tool to map competency -Three Approaches to Determining Work Requirements in Key Positions -Using Full-Circle, Multi Rater Assessments -Appraising Performance and Applying Performance Management -Developing Internal Successors -Assessing Alternatives to Internal Development -Integrating Recruitment with Succession Planning - Integrating Retention with Succession Planning - External versus Internal Successors -Creating Talent Pools: Techniques and Approaches -The Future of Succession Planning and Management 	
IV	<p>DEVELOPMENT PROGRAMS FOR SUCCESSION PLANNING</p> <ul style="list-style-type: none"> -Skill gap approach and assessment systems -Methods of Development Program, Employee Development - Management Development -“Nine-Box” Succession Planning Grid -Formulating Internal Promotion Policy -Preparing Individual Development Plans -Developing Successors Internally -The Role of Leadership Development Programs -The Role of Coaching and Mentoring -Evaluating Succession Planning and Management Programs -Auditing MDP’s management development method -Criteria for Evaluating Leadership Development Initiatives 	8
V	<p>SUCCESSION PLANNING IN FAMILY BUSINESS+B11</p> <ul style="list-style-type: none"> -Family vs. Non-Family Managers - CEO and Senior Management Succession - -Family culture and impact on business -Managing successor development strategy -Profile of successful successors - rewards and challenges for latter-generation family members - Desirable next-generation attributes - Crafting the next generation career plan – Vision plan - Sibling and cousin teams - Handling disagreements & managing conflict - Importance of a Formal Senior Management Succession Plan - Steps of a Formal CEO Succession Plan - Measuring performance of family firms 	8

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

		Weight age
A	Continuous Evaluation Component (Assignments / Quizzes /Class Participation etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	William J. Rothwell, Robert D. Jackson, Cami L. Ressler, Meg Brower, Maureen Connelly Jones	Career Planning and Succession Management: Developing Your Organization's Talent—for Today and Tomorrow,	Praege ABC-CLIO	2nd Edition (2015)
T-02	Rothwell, W. J.	Effective succession planning: Ensuring leadership continuity and building talent from within	American Management Association. New York	(5th ed.) (2016).
T-03	Berke, D.	Succession planning and management: A guide to organizational systems and practices.	Greensboro, NC: Center for Creative Leadership	(2005).
T-04	Mark Fischetti	The Family Business Succession Handbook	Family Business Publishing Co.	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Pamela A. Gordon Julie A. Overbey	Succession Planning Promoting Organizational Sustainability	Palgrave Macmillan, Cham	2018
R-02	Aronoff, Craig E., Stephen L. McClure and John L. Ward.	Family Business Succession: The Final Test of Greatness.	New York: Palgrave Macmillan,	2nd ed. 2010. Print.
R-03	Mark R. Sobol, Phil Harkins, Terence Conley	Linkage Inc.'s Best Practices in Succession Planning	Pfeiffer	July 2007
R-04	Seema Sanghi,	The handbook of Competency Mapping: Understanding, Designing and Implementing Competency Models in Organizations	Sage Publication Inc	

PROGRAM	Master of Business Administration
SEMESTER	IV
COURSE TITLE	Innovation Management and Technology Appreciation
COURSE CODE	04MB0422
COURSE CREDITS	3
COURSE DURATION	42 Hrs

COURSE OUTCOMES:

- Describe ideas and approaches to technology and innovation management.
- Critically understand the nature of the "knowledge landscape" - that is, what is established knowledge; where the open questions are; where the active research front currently is; and what analytical perspectives are available.
- Demonstrate a critical appreciation about how technology relates to different disciplines; and be able to show creativity in identifying insights for application in innovation management contexts.
- Apply concepts and approaches from technology and innovation in determining organizational circumstances, critically reviewing specific topics, and making informed judgments about their applicability in uncertain situations.
- Develop the ability for identifying issues, applying critical analysis, and developing creative responses to innovation challenges effectively presented in persuasive reports and presentations.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Innovations in Technology: Modern organizations – role of internet - Innovation Theory - Innovation Impact - Types of Business Innovations with IT - Management Issues: Challenges for Managers	9
II	Technology for decisions and IT strategy: Data and Information - Information in Organizational Functions - Types of Information Technology and Information Systems - Decision Making with MIS - Communication in Organizations - IT Strategy and Digital Goods - The Competitive Environment of Business - Using IT for Competing - Information Goods - Information Systems and Competitive Strategy	10
III	Electronic Commerce, Electronic Business: E-Commerce Technology - HTML and Email - Doing Business over the Internet -E-Business -Challenges of Managing the IT Function - Vendor Management	8
IV	Managing outside innovation: Crowd-sourcing software - Managing open source innovation - Managing outside innovation - Case study on managing outside innovation	7
V	Managing ethical and social issues: Managing ethical issues - Managing social issues - Innovating to stay green - ICT for development	8

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignment/ Quiz/ Class participation/ presentation/ etc.,	20%(C.E.C)
B	Internal assessment	30%(I.A)
C	End- Semester Examination	50% (External assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Rahul De	MIS: Managing Information Systems in Business, Government and Society	Wiley India	Latest
T-02	Rastogi, P.N.	Management of technology and innovation: competing through technological excellence.	Sage Publications India	Latest
T-03	White, Ronald V.	The ELT curriculum: Design, innovation and management (Vol.	Oxford: Blackwell.	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Ziman. J	Technological Innovation as an Evolutionary Process	Cambridge University Press, Cambridge	Latest
R-02	Tarek Khalil	Management of Technology	McGraw Hill International	Latest
R-03	Shlomo Maital D. V. R. Seshadri	Innovation Management Strategies, Concepts and Tools for Growth and Profit	Sage Publications	Latest

PROGRAM	Master of Business Administration
SEMESTER	IV
COURSE TITLE	Legal Aspects of Start Ups and IPR
COURSE CODE	04MB0423
COURSE CREDITS	3
COURSE DURATION	42 Hrs

COURSE OUTCOMES:

- Understand the major types of IP (patents, copyrights, trademarks, and trade secrets), what rights they include, how to obtain those rights, and how to avoid unnecessarily losing those rights.
- Apply IP to protect a competitive advantage in a target market.
- Identify and address risks related to IP infringement.
- Assessing how to avoid common IP stumbling blocks for startups, including: selecting name, securing ownership of IP; the dangers associated with employment.
- Understand the basic aspects of major legal milestones for an early-stage technology venture, such as incorporation and financing.
- Gaining knowledge about the international treaties.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Startups – Legal compliances : Introduction – Location of business – Regulatory and Tax considerations - Rules applicable for foreign investments in Indian companies - Company incorporation in India – Types of Companies, Documents, Incorporation steps – Financing - Venture capital, Angel Investments – Employee laws – The IT Act	9
II	Leveraging IP: Intellectual Property Rights – Types – Acts - Patents – Patentability criteria – Patenting Process – Claims – Infringements – Copyright Basics - Terms of Copyright - Copyright in Literary, Dramatic and Musical ,Works, Sound Recording, Cinematograph Films, Copyright in Computer Programme, Author Special Rights, Right of Broadcasting and performers – Copyright Registration - Copyright Infringement.	9
III	Trademarks: Trademarks – Kinds of trademark - Registration of trademark - Infringement of trademark - Remedies for infringement and passing off – Trade secrets – Industrial Design Protection – kind of protection	8
IV	Geographical Indications: Types – Need for GI protection – Indian GI Act – Case studies. Traditional Knowledge: Indigenous, medicinal, bio prospecting knowledge Examples. Need for protection, positive protection, defensive protection.	8
V	International Treaties: International Treaties for Patent - Paris Convention , Patent Cooperation Treaty (PCT) - Multilateral Agreements - Budapest Treaty , Madrid protocol , Hague Agreement, Convention of Biodiversity	8

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignment/ Quiz/ Class participation/ presentation/ etc.,	20%(C.E.C)
B	Internal assessment	30%(I.A)
C	End- Semester Examination	50% (External assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	N.S. Gopalakrishnan & T.G. Agitha	Principles of Intellectual Property	Eastern Book Company, Lucknow	Latest
T-02	P. Narayanan	Intellectual Property Law	Eastern Law House	Latest
T-03	Watal, Jayashree	Intellectual Property Rights in the WTO and Developing Countries	Oxford University Press	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Deborah, E. Bouchoux	Intellectual Property Rights	Cengage Learning	Latest
R-02	Department for Promotion of Industry and Internal Trade.	The Startup Guidebook The ultimate guide to starting a business in India	Startup India Hub https://www.startupindia.gov.in/content/sih/en/reources/knowledge-bank.html	2021
R-03	William Cornish.	Cases and Materials on Intellectual Property	Eastern Book Co.	Latest

PROGRAM	Master of Business Administration
SEMESTER	IV
COURSE TITLE	Economics Of Insurance
COURSE CODE	04MB0424
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- Demonstrate a working knowledge of the procedure associated with various aspects of the risk evaluation
- Ability to apply theories of risk and insurance to perform risk management review for individuals and organizations.
- Ability to comprehend the shift in risk perceptions and risk management, across cultures.
- Identify and translate the high degree of ethical responsibility which accompanies insurance management.
- Listen, interpret and communicate ideas and solutions in a logical and professional manner.
- Learn collaboration for need assessment and for providing solutions.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Economic Foundations Expected utility, St. Petersburg paradox, Bernoulli's solution, Von Neumann Morgenstern Expected utility theorem, Risk preference, Demand for full insurance, maximum premium, Insurance at Fair Odds, Partial Insurance, Insurance Market-State Space Approach, contingent commodities, zero profit constraint, odd price ratio,	7
II	Asymmetric Information and Insurance Moral Hazard and Insurance, Insurance and Selection Problems, single Crossing Property; Imperfect information: pooling, contract, separate insurance, self selection constraint, separating equilibrium,	7
III	Experience Rating and Credibility Theory Experience or merit rating, risk classification, Bonus Malus System; Credibility theorem-Empirical Bayes approach to credibility theory, credibility premium formulae and standard elementary models, credibility premiums, full and partial credibility; the aggregate claim distribution for short term insurance contracts, aggregate claim distribution and application of binomial, Poisson, negative binomial distribution and normal distribution	8
IV	Insurance Pricing	8

	Fundamentals – fair premium; fair profit loading; Actuarial Science pricing techniques- individual risk theory and collective risk theory; financial pricing of Insurance-insurance capital asset pricing model; present value model and option pricing model;	
V	Estimating Unpaid Claims Using Basic Techniques Development Techniques- Expected claims Techniques-Bornhuetter Ferguson Techniques- Cape Cod Techniques – Frequency Severity Techniques- Case Outstanding Development Techniques – Berquist Sherman TechniquesRecoveries: Salvage and subrogation and Reinsurance- Evaluation of Techniques.	12

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	George E. Rejda & Michael McNamara	Principles of Risk Management & Insurance	Pearson	13 th Edition
T-02	Harrington and G. Niehaus	Risk Management and Risk	Tata McGraw-Hill	2 nd Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Brian Hiller	Economics of Asymmetric Information	Palgrave Macmillian	1997
R-02	Hun Seog S.	Economics of Risk and Insurance	Wiley-Blackwell	1 st Edition
R-03	Walter Nicholson & Cheistopher Snyder	Microeconomic Theory (8th Edition)	CENGAGE Learning	11 th Edition

R-04	Hans U. Gerber	Life Insurance Mathematics,	Springer	3 rd Edition
R-05	Black, K. and H. Skipper	Life and Health Insurance,	Pearson Education	13 th edition, 2004



PROGRAM	MBA
SEMESTER	IV
COURSE TITLE	Wealth Management
COURSE CODE	04MB0425
COURSE CREDITS	3
COURSE DURATION	42 hours

COURSE OUTCOMES:

- To apply the financial statement analysis in preparing the financial plan of a client
- To do appropriate client profiling by using the skills required for effective wealth management
- To Formulate the Ideal asset allocation strategy by knowing risk-return-tax aspects of different investment avenues and asset classes
- To design strategies for effective Insurance Planning, Tax Planning, Retirement Planning & Estate Planning with the help of Wealth planning templates and tools
- To create/modify the asset allocation by doing portfolio performance attribution analysis

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to wealth management & Financial Statement Analysis: How is wealth management different from personal financial planning? Key drivers of wealth management, Indian perspective of wealth management, Wealth management process, wealth management market in India, Importance of Financial Statements Analysis in Financial Planning Comparative-Common Size-Trend analysis (With the use of MS Excel): Income and Expenditure Statement, Balance Sheet, Financial Ratio Analysis, Cash Flow Analysis	6
II	Client Profiling & Behavioral Skills required for Wealth Management: Client Profiling (With the use of cash study): Know Your Customer / Client, Financial Planning Horizon, Reevaluating Customer Needs, Clients Goals setting, types of goals, goal prioritization, time dimension of goals, data gathering Constraints and Objectives, Strategies for Complete Financial Plan Skills required for Wealth Management: Time Management, Negotiation Skills, Convincing Skills, Etiquettes and Manners when especially dealing with personal confidential data of clients, ethical behavior, client objection handling, Closing a deal, Marketing Skills: Relationship Management, Selling in an competitive environment, relationship management process, personal selling skills	8
III	Investment Products & Asset Allocation: Investment Products: Investment constraints, investors categorization, investment styles and factor impacting investment behavior, Investment products - fixed income financial instruments, money market instruments, equity, mutual funds, derivatives, credit cards, Systematic	10

	<p>Investment Planning (SIP) Risk analysis of various investment products, Art, Gold, Antiques, Commodities, Real Estate, Real Estate Investment Trust Security (REITS), Real Estate Related Mutual Funds</p> <p>Asset Allocation :</p> <p>risk associated with the various asset classes, Asset allocation process, strategic asset allocation strategies, tactical asset allocation strategies</p>	
IV	<p>Insurance Planning, Tax Planning, Retirement Planning & Estate Planning (With the help of Wealth planning templates and tools):</p> <p>Insurance Planning: Life Cycle Stages of Individual and Concept of Life Insurance, Insurance products, Insurance Planning Strategies Concepts of Risks and Classification of Risks</p> <p>Tax Planning: Basic Concepts of Income Tax, Ethical Considerations in Tax Planning, Tax Planning Strategies</p> <p>Retirement Planning: Process of Retirement Planning, Type of Retirement Plans available</p> <p>Estate Planning: Need for Estate Planning, Process of Estate Planning, Creation of will and Administration, Estate Management</p>	10
V	<p>Portfolio Performance Attribution analysis & Wealth Management Strategies (With the help of MS Excel):</p> <p>Portfolio Construction, introduction to portfolio management services, portfolio management process, tracking of portfolio performance – Sharpe’s Ratio, Treynor’s Ratio, Jensen’s Ratio, Information Ratio, Drawdown, Sortino Ratio, Brinson Model</p> <p>Wealth Management Strategies (A Financial Plan is expected to be prepared by each student): Dropping the Non Wealthy habits, Philosophy of Wealth Creation and Management, Strategies for wealth management</p>	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)- Practical Assessment

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of

				Publication
T-01	Lawrence J. Gitman	Personal Financial Planning	Cengage	13 th Edition - 2014
T-02	Joydeep Sen	Financial Planning & Wealth Management: Concepts and Practice	SPD	1 st Edition - 2020

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Dun & Bradstreet	WEALTH MANAGEMENT	TMH Publications	2 nd Edition-2017
R-02	Madhu Sinha	Financial Planning: A Ready Reckoner	TMH Publications	2 nd Edition-2016

PROGRAM	Master of Business Administration
SEMESTER	IV
COURSE TITLE	Microfinance and Rural Banking
COURSE CODE	04MB0426
COURSE CREDITS	3
COURSE DURATION	42 sessions

COURSE OUTCOMES:

- To understand rural India and its initiatives for rural development.
- To learn the different models of Micro finance.
- To provide Knowledge about the development of microfinance products.
- To acquire information about micro finance and its importance in developing rural wealth.
- Expose students to get ideas about Microfinance organizations.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION RURAL BANKING TO MICRO FINANCE. Microfinance – An Introduction ,Demand and Supply of Microfinance , A Development Strategy and an Industry Role of Grameen Banks in Microfinance ,Microfinance Innovative Concepts, Approaches and Financial Inclusion. Introduction to rural banking - Role of Banks in rural credit, Present structure of Rural Banking- Co-operatives, Commercial Banks, RRBs and other institutional agencies. Evolution of Co-operatives, short-term & long term credit structure, Role of Commercial Banks in rural credit	6
II	NEED OF SETTING UP OF REGIONAL RURAL BANKS : Salient provision of Regional Rural Banks Act, 1976, Management and functioning of RRBs, Organizational structure of RRBs, Performance of RRBs, Merger of RRBs, Present status. Role of Government, RBI and NABARD in monitoring Rural Credit, refinance and other supports, New initiatives in rural banking: financial inclusion, BC/ BF model, mobile banking etc., Financing for non-farm activities and other matters- Credit to small and micro enterprises in rural areas, indirect advances to agriculture, artisans credit cards, financing under Govt. sponsored schemes – PMEGP, NRLM, Linking SHGs with bank credit, Financing Joint Liability Groups, Various types of Loan Securities, Loan documentation, financial inclusion, financial literacy and credit counselling, role of farmers' club.	9
III	FINANCIAL AND OPERATIONAL EVALUATION AND MODELS : Conventional Models, Direct Method; Indirect Method; – Business Facilitator/Business Correspondent Model,- Engagement of Business Facilitators/Correspondents: Concerns and Safeguards; Policy for identification and Acceptance – Bank-MFI Bulk Lending Model – Partnership Model, Promoting Bank-MFI Partnership Model. Analyzing and Managing Financial Statements of MFIs/RRBs	9

IV	Development of Microfinance in India: Types of Products – Savings, Objectives – Micro insurance, Regulation of micro insurance; Insurer-MFI Partnership Model – Securitization, Need for Securitization in India – ICICI Bank Lending Products. Sustainable Development Issues: Why Self-Help Groups? – Objectives – Promotion, SHG Issues, What are the Important Steps for Sustainable Development of SHGs? What are the Skills needed for Managing Successful SHGs? – Promotion of Micro Enterprises, Micro Enterprises-Opportunities and Challenges; Characteristics of Micro Enterprises; Micro Enterprise Promotion-Critical Gaps; Cluster Approach for Micro Enterprise Promotion; Types of Clusters; Challenges for Cluster Micro Enterprises – Capacity Building – Assessment of MFIs, Rating of Microfinance Institutions; Non-financial Parameters; Financial Parameters; Approach for MFI Evaluation – CRISIL Model, CRISIL’s Criteria for MFI Evaluation.	10
V	Issues, Trends and Frontiers of Microfinance: Emerging Issues in Microfinance, Gender Issues in Microfinance, Role of Technology in Microfinance ,Micro Credit as Priority Sector Advance, Impact of Microfinance on Empowerment of Women Regulatory Framework- Recommendations of Expert Groups,; Interest Rates; Savings; Regulations on Investment; Response to Primary Concerns: Bridging the Gap with Safeguards; Rate of Interest; Vepa Kamesam Group Recommendations – Microfinance Risk Scenario – Political Risk; Economic Risk; Currency Risk; Geographical Risk; Saturation and Unhealthy Competition; Institutional Risk.	8

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignment/ Presentations/ Quizzes/ Class Participations/ etc.)	20% (CEC)
B	Internal Assessment	30% (IA)
C	End Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	O.C. Rama, Hem Raj	Microfinance	Himalaya Publishing House Pvt. Ltd	1st Ed, , 2016
T-02	Rais Ahmad	Agriculture, Rural Banking & Micro Finance in India	New Century Publications	1st Ed, 2012
T-02	Indian Institute of Banking & Finance	Rural Banking	Macmillan Publishers India	2nd Ed, 2018
T-03	K G Karmakar	Microfinance in India	Sage Publications	1 st Ed, Aug, 2008

T-04	Indian Institute of Banking & Finance	MICRO – FINANCE Perspectives and Operations (IIBF)	Macmillan Publishers India	2nd Edition, Reprinted 2017
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Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Katuri Nageswara Rao	Rural banking Micro finance	ICFAI UNIVERSITY	1 st Ed, 2006
R-02	Vasant Desai	Rural Development in India	Himalaya Publishing House	5th Ed, 2019
R-03	Sinha, Tanka &	Microfinance and Self Help Groups in India: Living Up to Their Promise?	Reddy Practical Action	1st Ed, 2009
R-04	Dr Kamal Taori	Panchayat Raj and Corporate Sector and Challenges of our Time	CFIETRA, Kanpur	1 st Ed, 2006

PROGRAM	Master of Business Administration
SEMESTER	4
COURSE TITLE	Insurance and Risk Management
COURSE CODE	04MB0427
COURSE CREDITS	3
COURSE DURATION	42 Sessions

COURSE OUTCOMES:

- Analyze the concept of Risk and role of insurance in Risk management.
- Appraise the role of Health insurance and fire insurance in providing financial protection under catastrophic risk.
- Evaluate the role of Marine insurance in enhancing international trade and risk management.
- Determine the risk associated with vehicle ownership and role of Automobile insurance.
- Identify the role of Reinsurance in risk transfer.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Risk Management Concept of Risk and Uncertainty, Peril, Hazard, Classification of risk – Pure and speculative risk, Diversifiable risk and non-diversifiable risk, Enterprise risk, Systemic risk, Technique of risk management. Insurance and Risk – Definition and characteristics of insurance, Insurance and Gambling, Insurance and Hedging, Type of insurance, Benefit, and cost of insurance. Introduction to Risk Management – Meaning and Objective of risk management, steps in the risk management, personal risk management, benefit of risk management. Enterprise risk management – Meaning, Insurance market dynamism, introduction to loss forecasting, Risk management tools	10
II	Non-Life Insurance - I Health Insurance - Meaning, Current scenario, Health insurance plans schemes, Micro health insurance. Fire insurance – Fire insurance contract, proposal and coverage, special coverage, Progress of fire insurance.	8
III	Non-Life Insurance – II Marine Insurance – Definition, history of marine insurance, Marine insurance contract, marine insurance policies, policy condition, special marine cover, marine cargo loss and fraud. Automobile Insurance – losses associated with automobile ownership and usage, need of automobile insurance, type of policies, factors considered in premium rating.	8
IV	Underwriting and Claim Management Underwriting – Philosophy of underwriting, objective, and principles of underwriting, underwriting of life and non-life insurance. Claims Management – Introduction, claim settlement in general insurance, claim management in life insurance, repudiation of claims.	8
V	Reinsurance and Financial Aspect of Insurance Companies Reinsurance – Introduction, role of reinsurance, techniques of reinsurance, nature of reinsurance, reinsurance in India, Global reinsurance market, reinsurance trading. Financial Aspect of Insurance companies – Financial objective of an Insurance companies, role of financial manager,	8

	performance measurement of Insurance companies, Asset Liability management, ratio analysis in insurance companies	
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EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	P.K. Gupta	Essentials of Insurance and Risk Management	Himalaya	1 st Edition, 2016
T-02	George E Rajeda & Michale J. McNamara	Principles of Risk Management and Insurance	Pearson	13 th , Edition, 2016
T-03	Scott E Harrington, Gregory R. Niehaus	Risk Management and Insurance	McGraw Hill	2 nd , Edition 2013

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	S. Arunajatesan & T. R. Viswanathan	Risk Management and Insurance	Trinity Press	2 nd Edition, 2015
R-02	P.K. Gupta	Insurance and Risk management	Himalaya	2 nd Edition, 2018
R-03	Trieschmann, James S, Hoyt, Robert E., Sommer, David W.	Risk Management and Insurance	Cengage Learning India Pvt. Ltd.	12 th , Edition, 2004

PROGRAM	Master of Business Administration
SEMESTER	04
COURSE TITLE	Enterprise Resource Planning and Business Process Management
COURSE CODE	04MB0428
COURSE CREDITS	03
COURSE DURATION	42 hours

COURSE OUTCOMES:

After completing the syllabus students should be able to-

- Understand how ERP works and its relationship with SCM.
- Categorizing the steps in SCM process and how it can be applied in real world.
- Explaining the in-depth knowledge of MRP, ERP and SCM
- Reviewing of Various model of SCM and ERP
- Adapting the Application of ERP in SCM.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction: Evolution of ERP and SCM, MRP (material requirement planning, manufacturing resource planning, ERP-enterprise resource planning)	6
II	Case: SAP ERP, implementing business process with SAP ERP, ERP system implementation, Manufacturing systems	8
III	SCM- supply chain management, modeling intercompany business processes, SCOR model	10
IV	SCM data structures and advance planning, advanced SCM planning approaches, APS-Advanced planning and scheduling, planning inventory and orders.	10
V	SAP scm- SAP advanced planner and optimizer, CIF –core interface, SAP SCM modules	8

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation etc.)	30% (C.E.C)
B	Internal Assessment	20% (I. A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Kurbel, Karl E	Enterprise Resource Planning and Supply Chain Management	Springer	latest edition
T-02	Knolmayer, Gerhard F., Mertens, Peter, Zeier, Alexander	Supply Chain Management Based on SAP Systems	Springer	latest edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Bansal	Enterprise Resource Planning	Pearson	Latest edition
R-02	Rajesh ray	Enterprise Resource Planning	Mcgraw Hill	Latest edition
R-03	Garg	Enterprise Resource Planning: Concepts and Practice	PHI publisher	Latest edition

PROGRAM	Master of Business Administration
SEMESTER	IV
COURSE TITLE	Data Visualization and Analytics using Power BI
COURSE CODE	04MB0429
COURSE CREDITS	3
COURSE DURATION	42

COURSE OUTCOMES:

- Understand BI process and application of MS-Power BI in business analytics
- Apply the software knowledge to cleanse and transform data and build relational databases
- Analyze data through a variety of basic and advanced visualization tools available in Power BI
- Apply advanced data analysis tools such as DAX expressions
- Build Business Intelligence reports with cutting-edge visuals and analyses

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	<p>Introduction to Business Intelligence and Power BI Understanding the business intelligence (BI) process, BI and Power BI, Power BI parts and pieces, The Power BI architecture – Power BI Desktop, Power BI Service, Power BI Report Server, Power BI Mobile App, installation and overview of the interface</p> <p>Interacting with Power BI Desktop Opening a Power BI report/ preparing an Environment, working with single and multiple report items, altering a report (slicer, filter), navigating through Power BI reports</p>	8
II	<p>Building Data Models: Gathering data – Get data, Power BI connection types, Transforming data, The Power BI Query Editor, Shaping and Cleansing Data, Loading Transformed Data, Combining Datasets, creating intermediate tables, building relationships, creating a tabular model, formatting-hierarchies, groups and bins</p> <p>Creating Power BI Visuals-I: Basic visuals, Column chart, slicer, Tables and Matrix visualization, Cards and Multi-row cards, Pie, Donut, Treemap</p> <p>Basic formatting of visuals</p>	10
III	<p>Creating Power BI Visuals-II: Gauge chart (highlighting performance wrt set target) Exploring Interactivity with different types of slicer (horizontal-list, dropdown, range), Scatter plot (play-axis: chart in motion), Drill through feature, Geographic visualizations-bing map, filled map, shape map, Other visual elements (text boxes, images and shapes)</p> <p>Visual Formatting: page-specific and chart specific, advanced formatting (conditional formatting, data bars), visualization analytics tab, advanced interactivity and custom visualization-changing interactivity from highlights to filters in report settings, Synchronizing slicers, Bookmarks, Buttons</p>	10

IV	<p>Measures and Calculated Columns: Calculated Columns, Measures- default summarization, explicit measures, measures and context, time analytics, row-by-row calculations, the FILTER() function, DAX variables</p> <p>DAX Language Reference: Dax Operators-comparison operators, arithmetic operators, text operators, logical operators, Dax functions- Modifying Context, Time-valued functions, aggregate functions, DAX functions and time analytics, Parent/Child relationships, Additional DAX functions</p>	8
V	<p>Additional Power BI Desktop Features:</p> <p>Model features- Synonyms, linguistic schemas, display folder, What-if parameters</p> <p>Performance Analyzer- Capturing performance information, viewing the DAX Query</p> <p>Import and Export- Excel Workbook content, Power BI Templates</p>	6

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment (MCQ)	30% (I.A.)
C	End-Semester Practical Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Brian Larson	Data Analysis with Microsoft Power BI	McGraw-Hill Publications	1 st Edition, 2020
T-02	Devin Knight, Brian Knight, Mitchell Pearson, Manuel Quintana and Brett Powell	Microsoft Power BI Complete Reference	Packt Publishing	1 st Edition, 2018

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Greg Deckler	Learn Power BI: A beginner's guide to developing interactive business intelligence solutions using Microsoft Power BI	Packt Publishing	1 st Edition, 2019.
R-02	Mitchell Pearson	Microsoft Power BI Quick Start Guide: Build dashboards and visualizations to make your data come to life	Packt Publishing	1 st nd Edition, 2018.

PROGRAM	Master of Business Administration
SEMESTER	IV
COURSE TITLE	Business Analytics using Python Programing
COURSE CODE	04MB0430
COURSE CREDITS	3
COURSE DURATION	42

COURSE OUTCOMES:

- Apply knowledge of coding and write programs in Python
- Use python coding for string extraction, manipulation and data handling
- Apply different in-built modules such as math, random and Regular Expressions for computation and analysis purpose
- Apply different data analysis modules such as NumPy, Pandas for exploring and analyzing data
- Analyze data using various visual representations and descriptive measures

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Python Programming: History, Features, Installation of Anaconda platform, The Python Shell , Use of a text editor , Jupyter Notebook, Spyder, Executing Python scripts, Basic Syntax, Variables, Data Types, Operators Conditional Statements, Looping, Control Statements: Conditional Statements: if, elif, else Nested if-else, catching exceptions "try and except" Looping: For, While, Nested loops Control Statements: Break, Continue, Pass	8
II	File Handling: Opening files, Reading files, Searching through a file, Writing files String Manipulation: Accessing Strings, Basic Operations, String Slices, looping and counting, String Methods, Parsing strings Lists: Introduction, Accessing Lists, Operations, Working with Lists, Functions and Methods Dictionaries: Introduction, Accessing values in Dictionaries, Working with Dictionaries, Properties, Functions Tuples: Introduction, Accessing tuples, Operations, Working with Tuples, Functions and Methods	10
III	Functions: Built-in functions, Defining a function, Calling a function, Function Arguments Modules: Importing a Module, Math Module, Random Module, Regular Expression Module	6
IV	Programming with NumPy and Pandas Modules NumPy Ndarray-Creating Numpy arrays , types of data, the dtype option, intrinsic creation of an array, Operations on NumPy Arrays , arithmetic operators, the matrix product, increment	10

	and decrement operators, universal functions (ufunc), aggregate functions, indexing an array, Slicing arrays, iterating an array, shape manipulation, Array manipulation- splitting and joining arrays, Reading and writing array on data files. Pandas Introduction to Pandas data structures, Creating series, Creating DataFrames, Adding data , Saving DataFrames , Indexing methods , Slicing a DataFrame , Arithmetic methods with DataFrames, Reading and Writing Data, I/O API tools, CSV and Textual files, Reading Data in CSV or Text Files, Writing Data in CSV, Reading and Writing Data on MS-Excel Files	
V	Descriptive Analytics using Python Loading a dataset into Pandas DataFrame, Displaying records of the DataFrame, Value Counts and Cross Tabulations, Sorting values by columns, Creating New Columns, Filtering Records Based on Conditions, Summary measures Exploration of data using visualization (Using Matplotlib library), Bar chart, Histogram, Distribution or Density Plot, Box Plot, scatter plot, pair plot, correlation and heat map	8

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment (MCQ)	30% (I.A.)
C	End-Semester Practical Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Charles R Severance	Python for Everybody	Creative Commons (creativecommons.org)	2 nd Edition, 2016
T-02	Fabio Nelli	Python Data Analytics: With Pandas, NumPy, and Matplotlib	APRESS	2 nd Edition, 2018

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Manoranjan Pradhan, U Dinesh Kumar	Machine Learning using Python	Wiley Publications	1 st Edition, 2019
R-02	Wes McKinney	Python for Data Analysis	O'Reilly Media, Inc.,	2nd Edition, 2017.
R-03	Martin C. Brown	The Complete Reference Python	McGraw Hill	1st Edition, 2018.

PROGRAM	Master of Business Administration
SEMESTER	IV
COURSE TITLE	Application of Cloud Management
COURSE CODE	04MB0431
COURSE CREDITS	03
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the management of cloud services
- Develop and implement cloud IT model
- Examining the Cloud Computing Fundamentals.
- Analyse how Cloud Platform using in Computer Network
- Reviewing the consciousness about cloud Services.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Cloud Technologies: Introduction to the Cloud Computing, History of cloud computing, Cloud service options, Cloud Deployment models, Business concerns in the cloud.	06
II	Virtualization and Cloud Platforms: Exploring virtualization, Load balancing, Hypervisors, Machine imaging, Cloud marketplace overview, Comparison of Cloud providers.	08
III	Management of Cloud Service: Reliability, availability and security of services deployed from the cloud. Performance and scalability of services, tools and technologies used to manage cloud services deployment; Cloud Economics:	10
IV	Cloud IT Model: Analysis of Case Studies when deciding to adopt cloud computing architecture. How to decide if the cloud is right for your requirements. Cloud based service, applications and development platform deployment so as to improve the total cost of ownership (TCO)..	12
V	Cloud Computing infrastructures available for implementing cloud-based services. Economics of choosing a Cloud platform for an organization, based on application requirements, economic constraints and business needs (e.g Amazon, Microsoft and Google, Salesforce.com, Ubuntu and Redhat)	06

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation etc.)	30% (C.E.C)
B	Internal Assessment	20% (I. A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T1	Toby Velte, Anthony Velte, Robert Elsenpeter	“Cloud Computing, A Practical Approach”	McGraw-Hill Osborne Media	1 edition 2009.
T2	Thomas Erl	Cloud Computing Design Patterns	Prentice Hall	2012

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Rajkumar Buyya	Cloud Computing: Principles and Paradigms	John Wiley & Sons	2016
R-02	Dimitris N. Chorafas	Cloud Computing Strategies	CRC Press	1 edition 2010.
R-03	Gautam Shroff	Enterprise Cloud Computing Technology Architecture Applications”	Cambridge University Press	1 edition, 2010

PROGRAM	Master of Business Administration (Business Analytics)
SEMESTER	IV
COURSE TITLE	Supply Chain Analytics
COURSE CODE	04MB0432
COURSE CREDITS	03
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the use of Analytics in the applications of Supply Chain, Logistics and Material Management for Business Competitive Advantages.
- Master and apply the Core Methodologies used in Supply Chain Analysis and Modeling, including Statistics, Regression, Optimization and Probability.
- Use analytical tools like R, and MS Excel efficiently in order to take Managerial Decisions more Effectively
- Ability to Analyze and understand real problems in order to develop realistic models and understand the strengths and weaknesses of various modelling approaches.
- Be able to perform practical Quantitative Analysis related to Operations and Supply Chain Management.

COURSE CONTENTS:

Module No.	Unit/ Sub Unit	Sessions
I	SC Analytics and Warehousing Decisions: Defining Supply Chain Analytics, Importance of SCA, Basics of Metrics and KPIs, Warehousing Decisions: Layout Planning, Mathematical Programming Models, P-Median Methods, Guided LP Approach, Balmer – Wolfe Method, Greedy Drop Heuristics, Dynamic Location Models, Space Determination and Layout Methods Big Box Retail example of Supply Chain Analytics Purchasing model using Supply Chain Analytics	8
II	Inventory Management and Materials Planning: Inventory aggregation Models, Dynamic Lot sizing Methods [EOQ/EPQ], Multi-Echelon Inventory models, Aggregate Inventory system and LIMIT, Materials Management, MRP Systems and Extensions [MRP I and MRP II] Operational Accounting example with SCA Sales and Operational planning model of SCA	10
III	Transportation Network Models: Notion of Graphs, Minimal Spanning Tree, Shortest Path Algorithms, Maximal Flow Problems, Multistage Transshipment and Transportation Problems, Set covering and Set Partitioning Problems, E-Commerce example in Supply Chain Analytics Project Management example of SCA	12

IV	Risk Analysis in Supply Chain and Applications: Risk in Supply Chain, Measuring Transit Risks, Supply Risks, Delivering Risks, Risk Pooling Strategies. AHP in Supply Chain, Data Envelopment Analysis, Example in Logistic models	12
V	Use of Third Party Logistics; Principle of Postponement, Beyond Supply Chain Optimization to Enterprise Optimization, Organizational Adaptation to Modelling Systems, Traveling Salesman Algorithms, Advanced Vehicle Routing Problem Heuristics, Scheduling Algorithms-Deficit Function Approach and Linking Algorithms Reverse Supply Chain Analytics	CEC

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

		Weight-age
A	Continuous Evaluation Component (Assignments / Quizzes /Class Participation etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
TEXT BOOKS:

SNo	Author/s	Name of the book	Publisher	Edition and Year
T-01	Gerard Blokdik	Supply Chain Analytics: Beginner's Guide	Createspace Independent Pub	2 nd .edition,2017
T-02	Sunil Chopra and Peter Meindle	Supply chain management	Pearson Education Limited	6 th edition,2015

REFERENCE BOOKS:

SNo	Author/s	Name of the book	Publisher	Edition and Year
R-01	D. Simchi-Levi, P. Kaminsky, E. Simchi-Levi, and Ravi Shankar	Designing and Managing the Supply Chain concepts, Strategies and Case studies	Tata McGraw Hill	3 rd Edition, 2008
R-02	G. Raghuram (I.I.M.A.)	Logics and Supply Chain Management	Macmillan	2000
R-03	Jeremy F. Shapiro	Modeling the Supply Chain	Thomson Brooks/Cole	2 nd , edition, 2007

PROGRAM	Master of Business Administration
SEMESTER	IV
COURSE TITLE	Management of Services
COURSE CODE	04MB0433
COURSE CREDITS	3
COURSE DURATION	42

COURSE OUTCOMES:

Students should be able to understand:

- Understand The role of services in an economy.
- Designing the service enterprise to support the competitive strategy.
- Illustrating the day-to-day operations in Management of Service.
- Assessing the Quantitative models for service management.
- Examining how management of forecasting demand for service can be done.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	The Role of Services in an Economy, The Nature of Services, Service Strategy, New Service Development	10
II	Technology in Services, Service Quality, Supporting Facility and Process Flows, Process Improvement	8
III	The Service Encounter, Service Facility Location, Managing Capacity and Demand, Managing Waiting Lines	8
IV	Service Supply Relationships, Globalization of Services, Managing Service Projects	8
V	Capacity Planning and Queuing Models, Forecasting Demand for Services, Managing Service Inventory.	8

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Quizzes / Class Participation etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	James A. Fitzsimmons Mona J. Fitzsimmons	Service Management	McGraw Hill	7 th Ed.
T-02	C. Haksever, Render B., Russel S. R. and Murdick R. G.	Service Management and Operations	Prentice Hall	2 nd Ed. 2007.

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	James A. Fitzsimmons Mona J. Fitzsimmons	Service Management	McGraw Hill	7 th Ed. 2010
R-02	Stickdorn, Marc and Schneider, Jakob	Service Design Thinking	Wiley	2012
R-03	C. Haksever, Render B., Russel S. R. and Murdick R. G.	Service Management and Operations	Prentice Hall	2 nd Ed., 2007.
R-04	Palmer, Adrian	Principles of services marketing	McGraw-Hill	2008

PROGRAM	Master of Business Administration
SEMESTER	IV
COURSE TITLE	Operations Strategy
COURSE CODE	04MB0434
COURSE CREDITS	3
COURSE DURATION	42

COURSE OUTCOMES:

Students must be able to understand:

- To Understand the requirements of the customers in correlation with strategies.
- To compare different types of strategy and express capacity strategy.
- To Apply different purchasing strategies in accordance with process technology strategy.
- To explain improvement strategy, product service development and organization.
- To Assess the process of operation strategy in accordance with practical implementation.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Operations strategy – developing resources and processes for strategic impact, Operations performance	10
II	Substitutes for strategy, Capacity strategy	8
III	Purchasing and supply strategy, Process technology strategy	8
IV	Improvement strategy, Product and service development and organization,	8
V	The process of operations strategy – formulation and implementation, The process of operations strategy – monitoring and control	8

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Quizzes / Class Participation etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Nigel Slack, Michael Lewis	Operation Strategy	Pearson	5 th Ed. 2017
T-02	Nigel Slack, Michael Lewis	Operation Strategy	Pearson	4 th Ed. 2015

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Nigel Slack, Michael Lewis	Operation Strategy	Pearson	3 th Ed. 2011
R-02	J.A. Van Mieghem	Operations Strategy: Principles and Practice	Dynamic Ideas, Charlestown, MA	2008
R-03	Nigel Slack, Michael Lewis	Operation Strategy	Pearson	2 nd Ed. 2008
R-04	Nigel Slack, Michael Lewis	Operation Strategy	Pearson	1 st Ed. 2002
R-05	Walters D.	Operations Strategy	Palgrave Macmillan	

PROGRAM	Master of Business Administration
SEMESTER	IV
COURSE TITLE	Lean Management
COURSE CODE	04MB0435
COURSE CREDITS	3
COURSE DURATION	42 hours

COURSE OUTCOMES:

- Understand the need for a Lean management System.
- Apply appropriate approaches to projects using Lean tools and techniques.
- Analyse the working concept of lean principles and implementation.
- Outline a typical Lean Model for product/service and ILLUSTRATE the linkages with Customer Issues, Logistic and Business Issues in a real- world context.
- Design and Develop a plan of Lean Management.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO LEAN MANAGEMENT AND LEAN ELEMENTS: Introduction to seven waste and their narration; Evolution of lean; Global competition, Lean Manufacturing, Value flow and Muda, Muri and Mura, Need for LM, Meeting the stakeholders requirement, Elements of LM.	6
II	LEAN TOOLS AND TECHNIQUES: Various tools of LM, Fundamental blocks of Lean, Impact of Seiri Seiton Seiso Seiketsu and Shitsuke, Need for TPM, Pillars of TPM, Implementation of TPM, Overall Equipment Effectiveness (OEE) and its computation.	8
III	LEAN SYSTEM: Lean systems: Features manufacturing and services, Workflow, Small lot sizes, Pull Method, Kanban, A3 problem solving, Just In Time.	8
IV	PROJECT SELECTION FOR LEAN: Resource and project selection, Selecting projects, Process mapping, Current and future value stream mapping, project suitable for lean initiatives.	10
V	LEAN MANAGEMENT AND IMPLEMENTATION: Standardized work, Continuous improvement. Lean projects: Training, selecting the members, preparing project plan, implementation, review. Productivity Improvement: Process, machinery Operator and equipment.	10

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Quizzes / Class Participation etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Charron, R., Harrington, H. J., Voehl, F., & Wiggin, H.	The lean management systems handbook	CRC Press	2014
T-02	Ronald G.Askin and Jeffrey B.Goldberg	Design and Analysis of Lean Production Systems,	John Wiley & Sons	2003
T-03	Liker, J. K., & Convis, G. L	The Toyota way to lean leadership	McGraw-Hill.	2012

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Feld, W. M.	Lean manufacturing: tools, techniques, and how to use them.	CRC Press	2000
R-02	Michael L. George	Lean Six Sigma	McGraw-Hill	2002
R-03	Pascal Dennis	Lean Production Simplified	Productivity Press	2007

PROGRAM	Master of Business Administration
SEMESTER	IV
COURSE TITLE	Shipping and Maritime Logistics Management
COURSE CODE	04MB0436
COURSE CREDITS	3
COURSE DURATION	42 Hours

COURSE OUTCOMES:

- Understand the International Trade works and how it is related to Shipping
- Categorizing the process of Ship Registration and how it can be applied in real world
- Examining the in depth knowledge of types of containers and documentation
- Explaining the knowledge of Marine Insurance and E-Commerce Shipping.
- Reviewing the concept of E-Commerce in Shipping & Maritime.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Unit-1-International Trade – Role of Shipping – Major Trade lanes, features & patterns of trade – Commodities traded – Major origins and destinations – Seasons & Effect of Weather on shipping — Major Maritime Nations – International Shipping organizations – Basic Shipping Terminology	8
II	UNIT-2 Ship registration Tonnage & Load lines –Description of various tonnage and types of Ships, cargo gears, Crude oil and Product tankers. The Dry Cargo Chartering market: Introduction –Chartering –various charter parties and description of charter parties.	8
III	UNIT-3Liners: Introduction –The Development of Tankers & the Tanker Market –Types of tankers –Tanker Charter Parties -Negotiating Charter, Brief History of Containerisation –Conferences & Freight Tariffs –Liner Documentation: Bill of Lading Terms & Conditions.	10
IV	Unit-4-Marine Insurance-General principles of Marine insurance – Marine insurance market structure – Affecting marine insurance cover – Types of marine insurance covers – Institute clauses – war & strike clauses – Marine insurance claim: process – Marine Insurance claim: during general average situations	10
V	Unit 5- E- Commerce & Shipping-Ship Agents and E-commerce – Information flow through Ship Agents – Electronic Data Interchange – Use of Internet, Access to Principals Systems for conducting Day to Day Work.	6

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation etc.)	30% (C.E.C)
B	Internal Assessment	20% (I. A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Professor Dong-Wook Song, Photis Panayides	Maritime Logistics: A Guide to Contemporary Shipping and Port Management	Kogan Page	2 nd , 2015
T-02	Ira Breskin	Business of Shipping	Schiffer Publishing Ltd	9 th Edition, 2018

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Mr. Sameer Varun	A Practical guide to Shipping & Freight Forwarding: Your key to success in the shipping industry		December-2019
R-02	Pierre A. David	International Logistics: The Manage 5ed	Cicero Press	5th Edition, 2017
R-03	Rose George	Ninety Percent of Everything: Inside Shipping, the Invisible Industry	Picador	2014

PROGRAM	Master of Business Administration
SEMESTER	IV
COURSE TITLE	Packing & Packaging Management
COURSE CODE	04MB0437
COURSE CREDITS	3
COURSE DURATION	42

COURSE OUTCOMES:

- Suggest the packaging material use and its conversion as per the product geometry.
- Gathering the knowledge of material required for the products.
- Understand the Knowledge about the Packaging Regulations.
- Analyze the difference between Packing and Packaging.
- Explaining the technologies used in Packaging.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Packaging, Classification of Packaging, Essential Requirements, Functions of Packaging, Importance / Significance of Pharma Packaging, Properties of Ideal Package, , Classification of Packaging materials, Approach to package design.	8
II	Introduction to Ancillary Materials used in Packaging, Adhesives , Paper , Paperboard, Wood, fibreboard , Packaging inserts , leaflets, Types of Cartons-Machine used in cartooning, Corrugated Box-Board construction-Machine used in manufacturing.	8
III	Packaging Materials Technology, Manufacture, Conversion, Properties, applications, advantages, disadvantages and current trends of following materials: Paper, paperboards, film laminates, plastics and polymers, aluminum, tin, drums, glass, textile materials (sacks), wood.	10
IV	Packaging Regulations · Food safety and standards Act, 2006 · The Legal Metrology Act, 2009 (Packaged commodity rules, 2011) · UN Certificate code for packaging of dangerous goods · Packaging laws and regulations – legal requirements	10
V	Composite & Ancillary Materials: Labels, Tags, Caps, Closures, Reinforcements, Strapping, Tapes, Holograms, Cushioning theory and Materials, Package forms & Shapes.	6

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation etc.)	30% (C.E.C)
B	Internal Assessment	20% (I. A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Gary J Field	Printing Production Management	Printing Industries	4 th Edi., 2007
T-02	Shrikant P. Athavale	Hand Book of Printing, Packaging and Lamination: Packaging Technology	Notion Press	1 st Edition, 2018

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	W. Soroka	Fundamentals of Packaging Technology	Wiley	3 rd Edition, 2009
R-02	F. A. Paine	The Packaging User's Handbook	Springer	1990
R-03	Davis, C.G.,	Introduction to Packaging Machinery,	S.Chand	2009

PROGRAM	Master of Business Administration
SEMESTER	4
COURSE TITLE	International Logistics and Management
COURSE CODE	04MB0438
COURSE CREDITS	3
COURSE DURATION	42 Hrs

COURSE OUTCOMES:

After studying this course, student should be able to

- Remember the various issues of international transportation.
- Evaluate different transportation modes for fulfilling Organization's need.
- Apply the concepts of Inventory Management in International Logistics
- Analyse the Importance of Chartering and Containerization in International Trade.
- Understand the concepts of Inventory Management in International Logistics.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	International Trade: Need and Importance – Recent Trends in World Trade – Leading players – India's Foreign Trade – Commodity Composition and Destination - Overview of International Logistics Components, Importance, Objectives; Logistic Subsystem;- Integrated Logistics; - Barrier to Internal Integration – Logistics Documents for International Trade.	6
II	Marketing and Logistics Customer Focused Marketing; International Marketing: International Marketing Channel: Role of Clearing Agent, Various Modes of Transport, Choice and Issues for Each Mode, Transport Cost Characteristics	8
III	Basics of Transportation Transportation Functionality and Principles; Multimodal Transport: Modal Characteristics; Modal Comparisons; Legal Classifications; International Air Transport; Air Cargo Tariff Structure; Freight: Definition, Rate; Freight Structure and Practice	8
IV	Containerization and Chartering Containerization: Genesis, Concept, Classification, Benefits and Constraints; Inland Container Depot (ICD): Roles and Functions, CFS, Export Clearance at ICD; CONCOR; ICDs under CONCOR; Chartering: Kinds of Charter, Charter Party, and Arbitration	10
V	Inventory Management and Packaging Inventory Management: Introduction, Characteristics, Functionality, Components, Planning; Packaging and Packing: Labels, Functions of Packaging, Designs, Kinds of Packaging; Packing for Transportation and Marking: Types of Boxes, Container, Procedure, Cost, Types of Marking, Features of Marking -Dynamic Component for Continuous Internal Assessment only: Contemporary Developments Related to the Course during the Semester concerned	10

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	SakOnkvisit(1996) & John J. Shaw	International Marketing	Prentice Hall of India	Latest
T-02	Multiah Krishnaveni	Logistic Management and World Sea Borne Trade	Himalaya Publication	2011

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Gupta and Varshney	International Marketing	Sultan Chand and Sons	2000
R-02	Pierre David	International Logistics	Biztantra	2003
R-03	Donald J. Bowersox	Supply Chain Logistics Management	McGraw Hill	2017

PROGRAM	Master of Business Administration
SEMESTER	IV
COURSE TITLE	Preparedness and Response in Disaster
COURSE CODE	04MB0439
COURSE CREDITS	3
COURSE DURATION	42 sessions

COURSE OUTCOMES:

- Understand the different types of disaster.
- Create a strategy for vulnerability reduction.
- Understand, analyze, and create plan, prediction, early warnings and safety measures of disaster.
- Understand the disaster response.
- Analyze the role of government and NGO

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Session
I	Module 1: Introduction on Disaster Different Types of Disaster: Natural Disaster: such as Flood, Cyclone, Earthquakes, and Landslides etc. Man-made Disaster: such as Fire, Industrial Pollution, Nuclear Disaster, Biological Disasters, Accidents (Air, Sea, Rail & Road), Structural failures(Building and Bridge), War & Terrorism etc., Causes, effects and practical examples for all disasters.	10
II	Module 2: Risk and Vulnerability Analysis Risk : Its concept and analysis, Risk Reduction, Vulnerability : Its concept and analysis , Strategic Development for Vulnerability Reduction	8
III	Module 3: Disaster Preparedness Disaster Preparedness: Concept and Nature Disaster Preparedness: Plan, Prediction, Early Warnings and Safety Measures of Disaster.	6
IV	Module 4: Disaster Response Disaster Response : Introduction, Disaster Response Plan, Communication, Participation, and Activation of Emergency Preparedness Plan, Search, Rescue, Evacuation and Logistic Management	8
V	Module 5: Role of Government and NGO Role of Government, International and NGO Bodies, Role of IT in Disaster Preparedness, Role of Engineers on Disaster Management. Role of Information, Education, Communication, and Training, Relief and Recovery, Medical Health Response to Different Disasters.	10

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignment/ Quiz/ Class participation/ presentation/ etc.,	20%(C.E.C)
B	Internal assessment	30%(I.A)

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C	End- Semester Examination	50% (External assessment)
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SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Dr.Mrinalini Pandey	Disaster Management	Wiley India	latest
T-02	Tushar Bhattacharya	Disaster Science and Management	McGraw Hill.	latest
T-03	Jagbir Singh	Disaster Management : Future Challenges and Opportunities	K W Publishers Pvt. Ltd.	latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	J. P. Singhal	Disaster Management	Laxmi Publications	latest
R-02	Shailesh, Shukla, Shamna Hussain	Biodiversity, Environment and Disaster Management	Unique Publications	latest
R-03	C. K. Rajan, Navale Pandharinath	Earth and atmospheric Disaster Management: Nature& Manmade	B.S Publication	latest

PROGRAM	Master of Business Administration
SEMESTER	IV
COURSE TITLE	Design Thinking
COURSE CODE	04MB0440
COURSE CREDITS	3
COURSE DURATION	42 sessions

COURSE OUTCOMES:

- Understand the concepts of design thinking approaches
- Create design thinking teams and conduct design thinking sessions
- Apply both critical thinking and design thinking in parallel to solve problems
- Apply some design thinking concepts to their daily work
- Provide a thinking space for innovation of new ventures, value propositions, new products or services.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Session
I	Module 1: Design Thinking Background Definition of Design Thinking, Business uses of Design Thinking, Variety within the Design Thinking Discipline, Design Thinking Mind-set	6
II	Module 2: General approaches to Design Thinking The Basis for Design Thinking, Design Thinking Frameworks, The Design Thinking Team, Design Thinking Workshops and Meetings	8
III	Module 3: A Design Thinking Approach in Stages Apply the Design Thinking Frameworks, Empathize with the Customers and/or Users, Define the Problem, Ideate, Prototype Alternate Solutions, Test the Solutions.	10
IV	Module 4: Design Thinking Techniques Listening and Empathizing Techniques: Engagement, Observation, Showing Empathy, Define and Ideation Techniques: Unpacking, Personas, Pattern Recognition and Connecting the Dots, Prototype and Test Techniques: Types of Prototypes, Forms of Testing in Design Thinking.	10
V	Module 5: General Design Thinking Practices : Visualization Techniques and Diagrams: Use of Diagrams and Maps in Design Thinking Storytelling Techniques: Storytelling Throughout the Design Thinking Process, Improvisation, Scenarios, K-Scripts.	8

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignment/ Quiz/ Class participation/ presentation/ etc.,	20%(C.E.C)
B	Internal assessment	30%(I.A)
C	End- Semester Examination	50% (External assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Roger.L. Martin	The Design of Business	Harvard business review press, 2009	latest
T-02	Esslinger	Fine line	Friesen press, 2017	latest
T-03	Tom Kelly	The art of innovation	IDEO	latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	Tom Kelley	Ten faces of innovation	IDEO	latest
R-02	Roberto verganti	Design driven Innovation	Harvard business review press,	latest

PROGRAM	Master of Business Administration
SEMESTER	IV
COURSE TITLE	Intellectual Property Rights (IPR)
COURSE CODE	04MB0441
COURSE CREDITS	3
COURSE DURATION	42 Hrs (42 sessions of 60 minutes each)

Learning Outcomes: This course aims,

- To demonstrate knowledge and understanding of the core doctrines of intellectual property law
- To identify and analyze the intellectual property issues
- To apply intellectual property law principles (including copyright, patents, designs and trademarks) to real problems and analyze the social impact of intellectual property law and policy
- The course is designed to provide comprehensive knowledge to the students regarding Indian position of the Patent Law.
- To understand historical development, Procedure for granting a patent, Infringement.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Intellectual Property: Introduction, overview and history, Characteristics and Nature of Intellectual Property right, Kinds of Intellectual Property, Justification and Rationale for Protecting Intellectual Property, IPR and Economic Development	8
II	Copyright: Meaning, History & Characteristics, Works in which Copyright subsists, Procedure for registration, Author or Ownership, Rights of Author or Owner, Term of Copyright, Assignment & License, Infringement & Remedies	8
III	Patents: Introduction & overview, Historical development, Issues of patentable subject matter, Criteria of patentability, Rights & Obligations of Patentee, Basic concept of Compulsory license and Government use of patent, Patent Infringement and Remedies	8
IV	Trade Marks: Meaning of mark, trademark, Categories of Trademark: Certification Mark, Collective Mark and Well known Mark and Non-conventional Marks, Concept of distinctiveness, Doctrine of honest concurrent user Designs, GI and other forms of IP: Meaning design protection, Concept of original design, Meaning of GI, Difference between GI and TradeMarks, Concept of Authorized user	9
V	International Treaties related to IPR: The nature and scope of international law, International Intellectual Property Instruments, Leading International Instruments- WIPO, WTO, TRIPS; International Treaties on Patent -The Paris Convention, PCT (Patent Cooperation Treaty), Budapest Treaty; TRIPS: Doha Declaration	9

EVALUATION:

The students will be evaluated on a continuous basis and broadly the scheme given below will be followed:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	P. Narayanan	Intellectual Property Law	Eastern Law House	Latest Edition
T-02	Lionel Bently & Brad Sherman	Intellectual Property Law	Oxford	Latest Edition
T-03	N S Gopal Krishna & T G Agitha	Principles of Intellectual Property	Eastern Book Company	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Peter Groves	Sourcebook on Intellectual Property Law	Routledge-Cavendish	1997
R-02	J P Mishra	An Introduction to Intellectual Property Rights	Central Law Book	Latest Edition
R-03	David I. Bainbridge	Intellectual Property	Longman	9th Edition, 2012

PROGRAM	Master of Business Administration
SEMESTER	IV
COURSE TITLE	Leadership - Theory and Practice
COURSE CODE	04MB0442
COURSE CREDITS	3
COURSE DURATION	42 Hours (42 Sessions of 60 Minutes each)

Learning Outcomes: This course aims,

- To develop an ability to assess potential leadership philosophy, traits, skills, and behavior.
- To understand leadership at the Personal, Interpersonal, Team, and Organizational levels
- To evaluate fundamentals, leadership theories and practices which are relevant to contemporary organizations.
- To assess the state of current leadership capacity within organizations
- To assess personal values, beliefs, and ethical standards to enhance self-awareness regarding personal leadership behaviors and reactions to leadership behaviors of others

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Understanding Leadership: Introduction to Leadership, Leadership Traits, Leadership Approaches: <i>Trait approach:</i> Definition, Big five Personality Model, <i>Skills Approach:</i> Leadership skill, Skill Model of Leadership, <i>Style Approach:</i> Management Skills required at Various levels of organization, The Ohio State, The University of Michigan, Blake and Mouton's Managerial Leadership Grid and <i>Situational Approach:</i> Four Leadership Style Model. Case Studies	10
II	Leadership Theories: Motivational Theories, Contingency Theories, Charismatic Leadership, Transformational Leadership, Transactional Leadership, Authentic Leadership Theory, Servant Leadership, Crisis Leadership, Case studies	8
III	Leadership and Communication: Introduction to Communication, the Model of Communication, Coaching and Mentoring, Leader-Member Exchange, Followership and Delegation, Team and Self-Managed Teams: Group vs Team, Types of Teams, Characteristics of an effective team, The nature of self-managed teams, Strength and Limitations of Self-managed teams, Changing role of Leadership in Self-Managed Teams.	8
IV	Leadership and Power: Introduction to Power, Sources of Power, Types of Power, Power Tactics, Leadership, and Politics: Introduction to Politics, Factors influencing Political Behavior, Guidelines for developing political skills. Leadership and Conflict: Introduction to Conflict, Types of Conflict, The conflict Process, Leadership, and Negotiation: Introduction to Negotiation, The Negotiation Process, Third Party Negotiation.	8
V	Emerging Leadership: Strategic Leadership, Gender Diversity, and leadership, Ethics in Leadership, Leadership and Spirituality at the workplace, Entrepreneurial Leadership, Good to Great Approach of Leadership.	8

EVALUATION:

The students will be evaluated on a continuous basis and broadly the scheme given below will be followed:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Quizzes / Class Participation etc.)	20%(CSE)
B	Internal Assessment	30%(IA)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Robert N. Lussier, Christopher F. Achua	Effective Leadership	South-Western College Publishing	Latest
T-02	Robert N. Lussier, Christopher F. Achua	Leadership: Theory, Application & Skill Development	Cengage	Latest
T-03	Peter G. Northouse	Leadership: Theory and Practice	Sage Publication	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Michael G. Rumsey	The Oxford handbook of Leadership Latest Edition	Oxford University press	Latest
R-02	A. Chandramohan	Leadership and management	Himalaya	Latest
R-03	Dr. D.K.Tripathi	Team Building & Leadership	Himalaya	Latest
R-04	Jim Collins	Good to Great: Why Some Companies Make the Leap...And Others Don't	William Collins	Latest
R-04	Conger, J.A	The charismatic leader: Behind the mystique of exceptional leadership	Jossey-Bass, San Francisco, CA.	Latest
R-05	Suzanne Bates	All the Leader You Can Be: The Science of Achieving Extraordinary Executive Presence	McGraw Hill	Latest

PROGRAM	Master of Business Administration
SEMESTER	IV
COURSE TITLE	Energy Business Management
COURSE CODE	04MB0443
COURSE CREDITS	3
COURSE DURATION	42 Hrs

COURSE OUTCOMES:

- Awareness and assessment of the importance of energy and its conservation, various energy sources and their significance.
- Understanding the energy storage and distribution and the conversion processes.
- Gaining knowledge on the impact of energy on society, need for sustainable energy, global and Indian energy policies.
- Identification and analysis of various techniques of energy management and conservation.
- Obtaining basic skills of energy accounting and conducting an energy audit.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Energy General Principles Energy resources - Energy uses patterns and scope of conversion Energy conversion processes and devices – Energy conversion plants –Conventional - Thermal, Hydro, Nuclear fission , and Non-conventional – Solar, Wind Biomass, Fuel cells, Magneto Hydrodynamics and Nuclear fusion. Energy from waste, Energy plantation.	8
II	Energy Storage Energy storage and Distribution – Electrical energy route – Load curves – Energy conversion plants for Base load , Intermediate load, Peak load and Energy displacement – Energy storage plants. Energy Scenario – Global and Indian –Impact of Energy on economy, development and environment, Energy policies, Energy strategy for future.	9
III	Energy Management and Auditing Energy Management – Definitions and significance – objectives –Characterizing of energy usage – Energy Management program – Energy strategies and energy planning Energy Audit – Types and Procedure – Optimum performance of existing facilities – Energy management control systems – Computer applications in Energy management.	8
IV	Energy conservation – Principles – Energy economics – Energy conservation technologies – cogeneration – Waste heat recovery – Combined cycle power generation – Heat Recuperators – Heat regenerators – Heat pipes – Heat pumps – Pinch Technology, Social and Economic Benefits- Energy accounting and analysis- Pollution control impact- Energy management in deregulated environment	9
V	Energy Conservation in Electric Utility and Industry Energy Conservation Opportunities – Electrical ECOs – Thermodynamic ECOs in chemical process industry – ECOs in residential and commercial buildings – Energy Conservation Measures.	8

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignment/ Quiz/ Class participation/ presentation/ etc.,	20%(C.E.C)
B	Internal assessment	30%(I.A)
C	End- Semester Examination	50% (External assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Amlan Chakrabarti	Energy Engineering and Management	Prentice Hall India	Latest
T-02	Rai G. D.	Non-conventional Energy Sources	Khanna Publishers	Latest
T-03	Wayne C. Turner & Steve Doty	Energy Management Handbook	CRC Press Publications 6th Edition	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	D.A. Reay	Industrial Energy Conservation: A Handbook for Engineers and Managers	Pergamon Press	Latest
R-02	S.C. Tripathy Utilization and Conservation	Electrical Energy Utilization and Conservation	Tata McGraw-Hill	Latest
R-03	Albert Thumann P. E. and W. J. Younger	Handbook of Energy Audits	Fairmont Press	Latest

PROGRAM	Master of Business Administration
SEMESTER	IV
COURSE TITLE	Event Management
COURSE CODE	04MB0444
COURSE CREDITS	3
COURSE DURATION	42 Hrs

COURSE OUTCOMES:

- Understand the efforts needed to conduct an event of any nature and various activities related to human resources.
- Identify the responsibilities of an event manager or planner.
- Develop a timeline for event planning and a schedule of events.
- Able to undergo structuring and organizing work, scheduling of activities, leadership, creativity and innovation and event coordination.
- Analyze the opportunities of Event Tourism

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Event: Event, Scope of the Event, Events Types, Characteristics of conferences and conventions – Requirement of Event Manager, Analyzing the events, Decision-makers, Technical Staff, Developing Record-Keeping Systems, – Growth and development of the industry – Impact on local and national communities- Laws & Statutory requirements. Role of Event Management firms	9
II	Event Marketing: Clients - Sponsorship - Brands – Professionals – Advertising & Publicity. Practices in Event Management – Development of Event Marketing plans – Event promotion for future.	8
III	Event Financing: Budgeting an event – Preparation – Estimating fixed and variable costs – Cash Flow – Sponsorships & Subsidies – Contract negotiations	8
IV	Event Management: Planning - Scheduling - Venue – Logistics – Customer care management – Celebrity endorsements - Coordination - Risk and Crises Management – Visit to State/National level events	8
V	Market & Future trends: Event Management Associations –Travel Industry fairs – Benefits of fairs – ITB, WTM, PATA Travel Mart etc., - Social and Government associations – Organizational and financial structures – International association market History, role and functioning of ICCA & ICPB.	9

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
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A	Continuous Evaluation Component (Assignment/ Quiz/ Class participation/ presentation/ etc.,	20%(C.E.C)
B	Internal assessment	30%(I.A)
C	End- Semester Examination	50% (External assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Wagen & Carlos	Event Management	Pearson	Latest
T-02	Sharma	Event Planning & Management	Deep & Deep	Latest
T-03	K. Goyal	Event Management by Swarup	Adhyayan Publisher	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Meegan Jones	Sustainable Event Management: A Practical Guide	Routledge	Latest
R-02	Savita Mohan	Event Management & Public Relations	Enkay Publishing House.	Latest
R-03	Judy Allen	The Business of Event Planning: Behind-the-Scenes Secrets of Successful Special Events	John Wiley & Sons	Latest

PROGRAM	Master of Business Administration
SEMESTER	4
COURSE TITLE	Public Policy
COURSE CODE	04MB0445
COURSE CREDITS	3
COURSE DURATION	42 Sessions

Course Outcomes:

- Have an understanding about the public policy evolution and its importance.
- Have knowledge of various approaches to public policy.
- Develop an understanding about the theories and processes of public policy.
- Explain the formulation, implementation and evaluation of public policy.
- Critically evaluate various trends across the globe with regard to public policy.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction : Meaning, Nature, Scope and importance of Public Policy, Evolution of Public Policy, types of public policies: Substantive, Regulatory, Distributive, Redistributive and capitalization	8
II	Approaches to Public Policy Approaches to Public Policy: The process approach, Logical Approach, phenomenological approach, participatory and normative approach	8
III	Theories and Process of Public Policy Theories and Models of Public Policy making, Perspectives of Policy making process, Institutions of policy making: Legislature, Executive, Judiciary, Planning machinery at Central and State levels	8
IV	Policy Formulation, Implementation and Evaluation Policy formulation, policy implementation, techniques of policy implementation, concept of policy evaluation, constraints of policy evaluation	8
V	Globalization and Public Policy Public Policy trends across the globe, Impact of globalization on public policy making, Comparison of Indian Public policies with other countries.	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

		Weight age
A	Continuous Evaluation Component (Assignments / Quizzes / Class Participation etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Anderson, J.E.	Public Policy Making	Houghton Mifflin Co	6 th edition, 2005
T-02	Thomas, A	An Introduction to The Policy Process: Theories, Concepts, And Models of Public Policy Making	Routledge, Talylor and Francis	5 th edition, 2017
T-03	Nachmias, David	Public Policy Evaluation: Approaches and Methods	St. Martin Press	1979
T-04	Henry, N	Public administration and Public Affairs	Prentice Hall	11 th edition, 2009

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Jay M. Shafritz	International Encyclopedia of Public Policy and Administration	Westview Press	1998
R-02	Farzmand, Ali	Global Encyclopedia of Public Administration, Public Policy and Governance.	Springer	2018

PROGRAM	Master of Business Administration
SEMESTER	IV
COURSE TITLE	Public Finance and Policy
COURSE CODE	04MB0446
COURSE CREDITS	3
COURSE DURATION	42

COURSE OUTCOMES:

- ❖ To know the role of government in the economy, applying tools of basic microeconomics
- ❖ To find out the important policy questions such as government response to global public finance policy challenges.
- ❖ To discuss various economic activities of the public sector; with taxation and expenditures of governments and their effects on the economy. In addition, governments create regulations that significantly affect the economy without involving either taxes or expenditure.
- ❖ To explore the Public Finance policy and take away that governments were pure, selfless institutions that would function perfectly to implement socially optimal policies.
- ❖ To know the functioning of Social Security versus private retirement savings accounts, government versus private health insurance, setting income tax rates for individuals and corporations.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I Public goods in theory and practice	Public provision of private goods, Meaning, Nature & Scope, Importance, Role of Government in Changing Perspective; Government as an agent of economic growth and development; Fiscal Functions of the Government; Classification of Goods: Private, Public, Social, Merit and Mixed Goods, Regional public goods in practice.	08
II The Size of Government and Public Revenue	Level of Government and Functions: Union, State and Local- functions of each level for public finance policy, Closed economy, open economy, mixed economy Public Revenue: Sources of Revenue, Taxation – characteristics of a good taxation system, Canons of taxation, direct vs. indirect taxes, principles of taxation, effects of taxation, taxable capacity, impact and incidence of taxation; Tax structure in India and Recent Reforms - GST.	10

III Public Debt and Public Budget	Sources of Public Debt, Burden of public debt – theories, effects of public debt, methods of debt redemption, Public Debt Management in India. Public Budget - Concept of public budget, types of public budget, theories of public budgeting.	08
IV Federal Finance and Fiscal policy	Principles and problems of Federal finance – centre-state financial relations, 15th Finance Commission; Fiscal Policy: meaning and objective, fiscal multipliers, compensatory fiscal policy, functional finance approach, fiscal policy for inflation, full employment and economic growth.	08
V Public Expenditure	Public Expenditure- Meaning and Classification, Theories of Public Expenditure – Wagner's Law; Maximum Social Advantage, Normative and Positive Theories, Growth in Public Expenditure, Canons of Public Expenditure, Effects of Public Expenditure on Production, Distribution and economic growth, Criteria for public investment – social cost-benefit analysis – project evaluation.	08

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (IA)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Choudhary, R. K.	Public Finance and Fiscal Policy	Kalyani Publishers, New Delhi	2014 4th edition
T-02	Backhaus, J. G. & Wagner, R. E.	Handbook of Public Finance	Springer, US.	2004 (Revised Edition)
T-03	Musgrave, R. A.	The Theory of Public Finance	MG-Hill Publication, New York	1959 (2 nd Edition)
T-04	Dalton, H. (1922):	Principles of Public Finance,	Allied Publishers, Reprinted by Routledge	2009 (4th Revised Edition)

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	NIRMALA SITHARAMAN 1 st February, 2021 Minister of Finance Government of India Ministry of Finance Department of Economic Affairs	15 th Finance Commission Annual Reports	Finance Commission of India	https://fincomindia.nic.in/
R-02	Jha, Raghendra	Modern Theory of Public Finance	New Age International Pvt. Ltd. India	2010 –edition
R-03	Garg, R. & Garg, S.	Handbook of GST in India	Bloomsbury India Professional.	2017-2020

PROGRAM	Master of Business Administration (Regular)
SEMESTER	4
COURSE TITLE	Stress Management
COURSE CODE	04MB0447
COURSE CREDITS	3
COURSE DURATION	42 Sessions

Learning Outcomes: At the end, participants will be able to,

- Understand the basics of stress management.
- Analyze stress triggers and to manage them.
- Evaluate the responses to stressful situations.
- Apply the techniques of stress management in day-to-day life.
- Develop personal strengths for preventing stress and achieving meaningful goals.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Stress Defining stress: The Meaning of Stress, The Body's Reactions to Stress, Context and overview, types of stress: distress, eustress, indicators of stress: physiological, psychological and cognitive indicators	8
II	Sources of Stress across Lifespan Internal Stressors, External Stressors, Developmental stressors, life situations/chronic stressors, Unusual Stressors, Nutrition, Occupation, Response to Stress (4 Fs: Flight, Fight, Fear, Fornication, Depression and its impact on the mental and physical state)	8
III	Stress Management Techniques I Spiritual approach to stress management, Food habits as a cure to stress, Modification to routine life style and thought process renewal activities	8
IV	Stress Management Techniques II Psychological Relaxation methods, Physical activities to reduce stress, Deep breathing, Yoga, Meditation, Keeping a thought journal, Music therapy, Affirmations, Methods to improve overall well being	9
V	Final Reflection: Individual Stress Management Plan, Making Changes last, Case studies learning	9

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

		Weight age
A	Continuous Evaluation Component (Assignments / Quizzes / Class Participation etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (E.A)

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Kottler & Chen	Stress Management and Prevention: Application to Everyday Life	Routledge	2 nd Edition 2011
T-02	P.K. Datta	Stress Management	Himalaya	First, 2016

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Olpin, Hesson	Stress Management for Life	Cengage	Fifth Editions
R-02	Melanie Greenberg	The Stress-Proof Brain	Amazon Edition	-

PROGRAM	Master of Business Administration
SEMESTER	IV
COURSE TITLE	Six Sigma
COURSE CODE	04MB0449
COURSE CREDITS	2
COURSE DURATION	28 hours

COURSE OUTCOMES:

- Describe the concepts of Six Sigma
- Explain the concepts of process
- Apply the five-step DMAIC model as a framework to organize process improvement activity.
- Analyze the wide range of process improvement techniques, including design of experiments, within the DMAIC model.
- Determine the organizational factors that are necessary groundwork for a successful Six Sigma effort.
- Design your Six Sigma skills to lead a successful process improvement project and deliver meaningful results to the organization

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Six Sigma: Six Sigma and Lean Enterprise, Defects Per Million Opportunities Metric (DPMO), Success Stories, Six Sigma History, DMAIC Process, Thought Process Mapping, Process Thinking, Process Mapping, Flow Charts, Value-Added Flow Charts, Deployment Flow Charts, Spaghetti Diagrams, Value Stream Mapping, Balanced Scorecard, Pareto Chart, Project Selection, Project Charter, Project Tracking – Gantt Chart, Stakeholder Analysis, Voice of the customer, Customer Satisfaction & Kano Model, Sample Surveys, Survey Construction, Margin of Error, Affinity Diagrams, CTQC, Tree Diagrams, Critical to Quality, Characteristics (CTQCs), Setting Specifications, Quality Function Deployment, Operational Definition, Variable and Attribute Data, Sampling Plan, Measurement System Analysis, Data Collection – Check Sheet, Benchmarking, Baseline DPMO & Sigma Conversion, Rolled Throughput Yield	10
II	Measure & Analyze: Trend Chart, Histograms, Measuring Process Variability, Statistical Process Control, Rational Subgrouping and Moving Range Control Charts, Attribute Control Charts, X-bar and R Control Charts • Process Capability, Analyze I – Potential Root Cause, Cause and Effect Diagrams (Fishbone Charts), Five-Why, One-How, FMEA, Scatter Plots, Regression and Correlation Analysis, Multiple Regression, Logistic Regression, Introduction to Hypothesis Testing, Confidence Intervals and Hypothesis Testing, Comparison of Two Treatments: Z-test, F-Test, t-test, Comparison of Multiple Treatments – ANOVA, Chi-Square for Multiple Proportions, Comparison of Variances – Chi-Square Test, Non-parametric Testing, Hy-Court TV TM Learning Lab, Analyze III – Design of Experiments • Introduction to Design of Experiments • Single Factor Experiments • Full Factorial Experiments, Fractional Factorial Experiments, General Factorial Experiments, Experiment Simulations Advanced Topics.	9
III	Improve: Design for Manufacturability/ Serviceability/Repairability (DFSS), Brainstorming Continuous Flow (Little’s Law), Quick Changeovers, Implementing Work Cells, Theory of Constraints, Pull Scheduling, Narrowing the List of Ideas, FMEA, Error-proofing,	9

	Corrective Action Matrix, Piloting a Solution, System Dynamics, Control Plan, SPC Revisited, FMEA Revisited, Visual Control – 5-S, CHECK Process, Total Productive Maintenance	
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EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	0% (C.E.C.)
B	Internal Assessment	50% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	MacCarty, Daniels, Bremer and Gupta	The Six Sigma Black Belt Handbook	Tata McGraw Hill	2 nd Edition, 2012
T-02	De Feo and Barnard	Juran Institute's Six Sigma Breakthrough and Beyond	Tata McGraw Hill	6 th Edition, 2014
T-03	Blashka	Six Sigma Management	Tata McGraw Hill	10 th Edition, 2016

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Hubert Ramprasad	TPS-Lean Six Sigma	Sara Books Pvt.Ltd	9 th Edition, 2011
R-02	Donald Benbow	The Certified Six Sigma Black Belt Hand Book	Pearson Publication	16 th Edition, 2016
R-03	Pravin Rajpal	Achieving Business Excellence by Pravin Rajpal	Om Books International, India	11 th Edition, 2014

PROGRAM	Master of Business Administration (MBA)
SEMESTER	IV
COURSE TITLE	Management of Field Sales Force
COURSE CODE	04MB0450
COURSE CREDITS	2
COURSE DURATION	28 Hours (28 sessions of 60 minutes each)

COURSE OUTCOMES:

- At the end of the course, students will understand in and out of Sales Management.
- This course will enable students to analyze the various working styles, challenges in day-to-day Sales organizations.
- At the end of the course, students will be able to apply the tools of personal selling.
- At the end of the course, students will be able to make strategies required to manage field sales force.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Sales management; Importance and Objectives of Sales Department; Role of a Sales Manager & Sales Executive; Functions of Sales Manager & Sales Executive; Qualities of Salesperson; Personal Selling Skills; Theories in Sales - AIDAS & ACMEE model; Case Study	10
II	Personal Selling; Theories of personal selling; Executing Effective Meetings; Communication in Sales; Opening and Closing a Sale; Negotiation and Sales Management; Negotiation Strategies; Effective Sales Body Language, Eye Contact; Case Study	9
III	Sales Analysis & Forecasting; Sales Budgeting; Sales Territory; Sales Quota; Recruitment & Selection in Sales; Sales Training; Sales Compensation; Sales Performance Evaluation; Sales Audit; Sales Reports; Case Study	9

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	0% (C.S.E.)
B	Internal Assessment	50% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Krishna Havaladar and Vasant Cavale	Sales and Distribution Management	McGraw Hill	3 rd edition 2017

T-02	Pingali Venugopal	Sales and Distribution Management – An Indian Perspective	SAGE	2 nd edition 2020
T-03	S. L. Gupta	Sales and Distribution Management – Text and Cases An Indian Perspective	Excel Books	2 nd edition 2010
T-04	Tapan K. Panda Sunil Sahadev	Sales & Distribution Management	Oxford University Press	2 nd edition 2011

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Richard R. Still, Edward W. Cundiff, et al	Sales & Distribution Management	Pearson	6 th edition 2017
R-02	Pradip Mallik	Sales Management	Oxford University Press	Illustrated edition 2011
R-03	Jeff Tanner, Earl Honeycutt, Robert Erffmeyer	Sales Management	Pearson	1st edition 2013
R-04	Graham Yemm	The Sales Book: How to Drive Sales, Manage a Sales Team and Deliver Results	Pearson	1st edition 2015
R-05	William L. Cron Thomas E. Decarlo	Sales Management: Concepts & Cases	Wiley	10 th edition 2009
R-06	David Jobber Geoffrey Lancaster	Selling and Sales Management	Pearson	11 th edition 2019
R-07	John Treace	Nuts & Bolts of Sales Management: How to Build a High Velocity Sales Organization	Hardcover (Amazon)	2011
R-08	M. Johnston Greg Marshall	Sales Force Management	Hardcover (Amazon)	11 th edition 2013
R-09	Chet Holmes	The Ultimate Sales Force	Portfolio - Penguin Group	2008

PROGRAM	Master of Business Administration
SEMESTER	IV
COURSE TITLE	Blockchain Technology
COURSE CODE	04MB0451
COURSE CREDITS	2
COURSE DURATION	28 lectures

COURSE OUTCOMES:

- Students will have knowledge of concepts of Blockchain and its types.
- Students will understand the concept of decentralization and smart contracts and its usage in Blockchain. Also they will have knowledge of usage of cryptography concepts in Blockchain.
- Students will have knowledge of two Blockchain development frameworks namely Ethereum and Hyperledger
- Students will get the idea about Blockchain applications domains and Challenges in Blockchain implementation

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction Blockchain 101, Distributed systems, History of Blockchain, Introduction to Blockchain, Types of Blockchain, Benefits and limitations of Blockchain	8
II	Decentralization, Smart contracts and cryptography foundation Decentralization, Decentralization using Blockchain, Methods of decentralization, Smart contracts, Symmetric and Asymmetric key cryptography, Public and private keys, Hash functions	10
III	Ethereum and Hyperledger Ethereum blockchain, Elements of Ethereum blockchain, Hyperledger, Projects Hyperledger as a protocol	5
IV	Blockchain Application domains and Challenges IoT, Government, Health, Finance, Media Challenges : Scalability, Security and Privacy	5

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	0% (C.E.C.)
B	Internal Assessment	50% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Imran Bashir	Mastering Blockchain: Deeper insight into decentralization, cryptography, Bitcoin and popular Blockchain frameworks	Packt	2017

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Daniel Drescher	BlockChain Basics	Apress	1 st edition, 2017
R-02	Arvind Narayanan, Joseph Bonneau, Edward Felten, Andrew Miller, and Steven Goldfeder	Bitcoin and cryptocurrency technologies: a comprehensive introduction	Princeton University Press	2016
R-03	Manav Gupta	Blockchain for Dummies	Wiley	2017

PROGRAM	Master of Business Administration
SEMESTER	04
COURSE TITLE	Enterprise Resource Planning and Business Process Management
COURSE CODE	04MB0459
COURSE CREDITS	03
COURSE DURATION	42 hours

COURSE OUTCOMES:

After completing the syllabus students should be able to-

- Understand how ERP works and its relationship with SCM.
- Categorizing the steps in SCM process and how it can be applied in real world.
- Explaining the in-depth knowledge of MRP, ERP and SCM
- Reviewing of Various model of SCM and ERP
- Adapting the Application of ERP in SCM.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction: Evolution of ERP and SCM, MRP (material requirement planning, manufacturing resource planning, ERP-enterprise resource planning)	6
II	Case: SAP ERP, implementing business process with SAP ERP, ERP system implementation, Manufacturing systems	8
III	SCM- supply chain management, modeling intercompany business processes, SCOR model	10
IV	SCM data structures and advance planning, advanced SCM planning approaches, APS-Advanced planning and scheduling, planning inventory and orders.	10
V	SAP scm- SAP advanced planner and optimizer, CIF –core interface, SAP SCM modules	8

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation etc.)	30% (C.E.C)
B	Internal Assessment	20% (I. A.)

C	End-Semester Examination	50% (External Assessment)
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SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Kurbel, Karl E	Enterprise Resource Planning and Supply Chain Management	Springer	latest edition
T-02	Knolmayer, Gerhard F., Mertens, Peter, Zeier, Alexander	Supply Chain Management Based on SAP Systems	Springer	latest edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Bansal	Enterprise Resource Planning	Pearson	Latest edition
R-02	Rajesh ray	Enterprise Resource Planning	Mcgraw Hill	Latest edition
R-03	Garg	Enterprise Resource Planning: Concepts and Practice	PHI publisher	Latest edition



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Faculty of Management Studies: Master of Business Administration

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FACULTY OF LAW

CHOICE BASED CREDIT SYSTEM

COURSES OF STUDY FOR THE BATCH OF STUDENTS ADMITTED IN

ACADEMIC YEAR 2018-22

B.A. LLB HONS

Activities/Content with direct bearing on

Employability/Entrepreneurship/Skill Development

 Marwadi University	Faculty of Law B.Com.,LL.B. (Hons) Semester I				
Subject Name	Principles of Business Administration	Credit	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code	10BC0101	4	3	0	2

Course Objectives

The course is designed to achieve Following Objectives:

- To understand the basic principles of management
- To examine the importance of developing clearly identified goals and objectives
- To provide an understanding of the managerial functions essential in today's business environment

Prerequisites:

None

Course Outcomes



After studying this course, student should be able to:

- Demonstrate their knowledge of business and management principles.
- Get acquainted with management process and functions.

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- Comprehend the modern management techniques and its relevance in business.

Course Contents

Module I	Introduction to Management Meaning, Nature and Characteristics of Management – Scope of Management - Functional areas - Management as a Science and an Art - Management & Administration – Levels of management & Managerial Skills - Evolution of Management Thoughts - Principles of management - Ethics in Management.	12 hours
Module II	Planning in Management Need and importance of planning - basic purpose of planning - Planning process, Types of plans - Objectives - Management By Objectives Decision-making Decision making – Nature and importance- types of decisions – process	12 hours
Module III	Organizing Need for organization - purpose of organization, fundamental principles of organization - Types of organization - Departmentalization, Committees - Centralization Vs decentralization of authority and responsibility Staffing Staffing – Introduction - Need for Staffing - Importance of staffing -Process of staffing	12 hours
Module IV	Directing Directing – Meaning, nature and importance – Theories of Motivation – Maslow’s, Herzberg’s & McGregor’s Leadership – Introduction - Formal and Informal Leadership – Characteristics – Styles of Leadership - Importance of Communication as a leader Coordinating Coordination – Introduction - Importance of coordination - Principles of coordination	12 hours
Module V	Controlling Meaning and steps in controlling – Pre-requisites of a strong control system - Methods of establishing control Modern Management Techniques Introduction to various latest management techniques: Business process re-engineering, business outsourcing, benchmarking, kaizen, six sigma, knowledge management, just in time management, total quality management.	12 hours

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
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T-01	L. M. Prasad	Principles Management	of	Sultan Chand and Sons	Ninth Edition - 2015
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Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	V.S.P. Rao	Management: Text and Cases	Excel Books India	Second edition
R-02	Koontz & O'Donnell	Principles of Management	McGraw Hill	Forth edition

Subject Name	Business Environment	Credit	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code	10BC0102	4	3	0	2

Course Objectives

The course is designed to achieve Following Objectives:

- To impart basic understanding of the various environmental components influencing the business.
- To appreciate opportunities, risks and challenges and their relevance associated with managerial decisions

Prerequisites:

None

Course Outcomes



After studying this course, student should be able to:

- Understand the meaning and relationship of environment and business
- Know the characteristics of modern business
- Explain the competitive structure of an industry

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Course Content

Module 1	INTRODUCTION TO BUSINESS ENVIRONMENT Introduction to Business environment - salient features – importance - types of business environment-SWOT Analysis- Firm Specific-environment scanning: features - process & techniques, Business Environment with reference to global integration	12 hours
Module 2	ECONOMIC ENVIRONMENT & POLITICAL ENVIRONMENT Political structure: Legislature institutions – executive institutions – judiciary institutions - Economic systems: capitalism, socialism; mixed economy, LPG - Liberalization, Privatization & Globalization and its impacts –Highlights of New industrial policy & its implication in India –Fundamentals of fiscal policy.	12 hours
Module 3	LEGAL FRAMEWORK ISO standards- Bureau Of Indian Standards–Important features of Intellectual property rights – Trademarks –The Competition Act 2002: Basics of Foreign Exchange Management Act 1999 (FEMA): Features – objectives - application of the Act - FEMA Vs FERA.	12 hours
Module 4	TECHNOLOGICAL ENVIRONMENT Innovations, technological leadership and followership- Technology and competitive advantage - sources of technological dynamics - management of technology - transfer of technology – its forms, methods and features - time lags in technology – status of technology in India and its impact on Business –Overview of Technological Policies in India	12 hours
Module 5	SOCIAL ENVIRONMENT Business and Society, Changing Concepts and objectives of Business, Interdependence of business and society, technological development and social change, Consumers’ rights & consumerism, Consumer protection Act; corporate governance.	12 hours

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
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1	Francis Cherunilam	Environment Business	For	Himalaya Publishing House	2 nd edition 2011
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Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
1	Mishra, S.K. and Puri V.K	Economic Environment of Business	Himalaya Publishing House	1 st - 2011
2	Paul Justin	Business Environment- Text and Cases	TATA McGraw Hill Publishing	3 rd - 2010
3	Vivek Mittal	Business Environment	Excel Books	2 nd - 2010
4	Raj Agarwal	Business Environment	Excel Books	5 th - 2002
5	Francis Cherunilam	Business Environment, Text & Cases	Himalaya Publishing House	25 th - 2016
6	Aswathappa K	Essentials of Business Environment	Himalaya Publishing House	13 th - 2016
7	Morrison J	The International Business Environment	Palgrave	2 nd - 2006
8	Richard G. Lipsey	An Introduction to Positive Economics	ELBS, Oxford	7 th - 1989

List of Journals /Periodicals/ Magazines/ Newspapers etc.



1. International Journal of Business Environment
2. International Journal of Entrepreneurship & Business Environment Perspectives
3. Journal of World Business
4. Economic & Political Weekly
5. Intellectual Property Rights
6. Corporate Governance
7. Business India / Business World
8. Banking & Finance
9. Industrial Economist
10. Fortune, Global Business Review,
11. Economic Survey- GOI
12. World Development Report

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| 13. India Development Report (Latest Edition)
14. RBI Annual Report, etc |
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 Marwadi University	Faculty of Law B.Com.,LL.B. (Hons) Semester I				
	Subject Name	Principles of Accounting	Credit	Teaching Scheme	
			Theory	Practical	Tutorial
Subject Code	10BC0103	4	3	0	2

Course Objectives

The course is designed to achieve Following Objectives:

- To impart knowledge regarding the process of accounting
- To equip students with preparation of final accounts
- To brief students with the accounting principles and accounting standards
- To impart knowledge regarding accounting for depreciation

Prerequisites:

None

Course Outcomes

After studying this course, student should be able to:

- Implement the accounting process from journal entries to trial balance
- Understand the need for uniformity in accounting
- Prepare financial statements of sole-proprietary business

Course Content



Module I	BASICS OF BOOK-KEEPING AND ACCOUNTING Introduction to Book Keeping, Accounting and Accountancy – Process of Accounting – Branches of Accounting- Methods of Accounting – Basis of Accounting – Characteristics of Accounting – Functions of Accounting – Users of Accounting Information – Basic Accounting Terms – Classification of Accounts and its Rules – Accounting Equation – Accounting Principles – Accounting Concepts – Accounting Conventions – Fundamental Accounting Assumptions	10 hours
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Module II	OVERVIEW OF INDIAN ACCOUNTING STANDARDS Background of GAAP and IFRS – Introduction to Indian AS: Background, need, applicability, overview of standards (only theory)	10 hours
Module III	PROCESS OF ACCOUNTING Meaning of Journal – Format of Journal – Single and compound Journal Entries – Difference between Cash Discount and Trade Discount – Meaning of Ledger – Format of Ledger – Balancing of Ledger – Practical problems on Journal and Ledger – Meaning of Trial Balance – Preparation of Trial Balance – Redrafting of Trial Balance – Types of Errors and their Rectification	17 hours
Module IV	FINAL ACCOUNTS OF SOLE-PROPRIETORSHIP: Types of Expenditure – Types of Income – Types of Profit – Meaning of Deferred Revenue Expenditure – Difference between Trial Balance and Balance sheet – Contingent Asset and Contingent Liability – Classification of Assets and Liabilities under different heading - Difference between Provisions and Reserves –Types of Reserves - Preparation of Final accounts for sole proprietorship for non manufacturing	12 hours
Module V	DEPRECIATION: Meaning - Methods of calculating depreciation (straight line method and written down value) - Method of recording Depreciation (Charging to Asset Account, Creating provision for Depreciation/ Accumulated Depreciation, Treatment of Disposal of Fixed assets.	11 hours

Text Books				
Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	P.C. Tulsian	Financial Accounting	Pearson	Latest
T-02	S.N. Maheshwari, and. S. K. Maheshwari	Financial Accounting	Vikas Publishing House, New Delhi	Latest



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T-03	M.C.Shukla, T.S.Grewal and S.C.Gupta	Advanced Accounts. Vol.-I	S. Chand & Co., New Delhi	Latest
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Reference Books

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Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	R. L. Gupta and M. Radhaswamy	Advanced Accounts. Vol.-I& II	S. Chand & Co., New Delhi	Latest
R-02	A.Mukharji and M. Hanif	Financial Accounting	Tata McGraw, Hill Publishing Co. Ltd. New Delhi	Latest
R-03	S. P. Jain and K. N. Narang	Advanced Accountancy	Kalyani Publishers, New Delhi	Latest
R-04	T. S. Grewal	Introduction to Accountancy	S. Chand & Co. Pvt. Ltd., New Delhi	Latest
R-05	Monga, J. R.	Financial Accounting : concepts and applications	Mayoor Paper Backs, New Delhi	Latest



**Marwadi
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**Faculty of Law
B.A,LL.B. (Hons)
Semester I**

Subject Name	Legal Methods	Credit	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code	10BC0105	4	3	0	2

Course Objectives



The course is designed to achieve Following Objectives:

1. To provide an understanding of the meaning, importance and role of law in society.
2. To provide the understanding of nature & development of law and legal systems.
3. To know the structure of the legal institutions and the hierarchy of courts in India.
4. To know the various sources of law and be able to synthesise such sources and use them to formulate arguments in their research; be familiar with legal research sources and tools and basic techniques of legal and logical reasoning.

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Prerequisites:

None

Course Outcomes

After the completion of the course the student will be able to:-

- Understand the concept, sources and the functions of law and various legal systems of the world.
- Understand the hierarchy of the Indian courts and their jurisdictions.
- Understand judicial reasoning and its application in the Courts.
- Acquire the ability to identify legal issues and principles underlying in any given factual situation and to undertake and present research on such issues.
- Equip with the basics of legal research methodology and legal writing.

Catalog Description

This course seeks to enable first year students to understand what is law, development of law, the nature and sources of law and to distinguish between various kinds of law. It will provide in-depth knowledge to the students about the Indian legal system and the functioning and hierarchy of courts.

This course will give an overview of the law-making roles of the legislative, executive and judicial branches of government; an introduction to case laws, including judicial reasoning and the doctrine of precedent; an introduction to statute laws, including the legislative processes and techniques of statutory interpretation and application; the interaction between case law and legislation. This course will give a basic awareness to the students about legal language, research methodology and legal writing.

Course Content



Module I: Law- Meaning, Nature and Functions	<ul style="list-style-type: none">• Concept and Definition of law and legal system – Law, A Law, The Law• Functions of law• Classification of laws:<ul style="list-style-type: none">i. Civil Legal System, Common Legal System, Religious Legal Systemii. Public and Private Lawii. Substantive and Procedural Lawiii. Municipal and International Law	14 hours
Module II: Sources of Law	<ul style="list-style-type: none">• Custom• Precedent	9 hours



<p>Module III: Basic Concepts of Indian Legal System</p>	<ul style="list-style-type: none"> • Legislation • Common Law • Indian Constitution: Salient Features • Rule of Law • Separation of Powers • Judicial system in India <ul style="list-style-type: none"> i. Hierarchy of Courts ii. Jurisdiction of the Courts 	<p>16 hours</p>
<p>Module IV : Legal Writing and Research</p>	<ul style="list-style-type: none"> • Meaning & Importance of Legal Research(Research Problem) • Legal Materials: Primary & Secondary, Statutes, Reports, Journals, Manuals, Bill, Act • Case Analysis and Preparation of Briefs • Kinds of Legal Research <ul style="list-style-type: none"> i. Doctrinal Research ii. Non-Doctrinal Research • Techniques of Legal Research <ul style="list-style-type: none"> i. Sampling Design Technique ii. Measurement & Scaling Technique iii. Observation Method iv. Interview Method • Report Writing, Formulation of Problems • Citations and Bibliography 	<p>21 hours</p>

Text Books

- A.T.H. Smith - Glanville Williams: Learning The Law, 14th Edition, Sweet & Maxwell
- B.N.M. Tripathi – An Introduction to Jurisprudence and Legal theory
- C.R. Kothari- Research Methodology-Methods and Techniques (Second Revised Edition)
- C.K. Takwani – Administrative Law
- V D Mahajan –Jurisprudence & Legal Theory, 5th Edition, Eastern Book Company

Reference Books



- Nomita Aggarwal – Jurisprudence (Legal Theory)
- Dr. T.Padma- Legal Research Methodology
- Legal Research and Writing Method- Anwarul Yaqin
- ILI Publication in Legal Research and Methodology
- J.Williams, *A Statement on Plagiarism: What It is and How to Recognize and Avoid It.*

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[http://wso.williams.edu/~athoms/WW/3--Plagiarism Handout.pdf](http://wso.williams.edu/~athoms/WW/3--Plagiarism%20Handout.pdf)

- Upendra Baxi, "The Rule of Law in India", 4 *International Journal of Human Rights* 6-25 (2007) [available at www.surjournal.org]
- M.N. Venkatachaliah, "Rule of Law : Contemporary Challenges", 45 *Indian Journal of Public Administration* 321 (1999) 77
- H.M. Seervai, "Rule of Law" in *The Position of the Indian Judiciary under the Constitution of India* 83-96 (1970) 86



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Faculty of Law
B.A,LL.B. (Hons)
Semester I

Subject Name	Law of Contract – I (General Principles)	Credit	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code	10BC0106	4	3	0	2

Course Objectives

The course is designed to achieve Following Objectives:

1. To provide the conceptual understanding of the basic principles of Law of Contract
2. To develop analytical skills with respect to various issues related to law of Contract
3. To understand the judicial interpretation of the statute as the case analysis method of teaching will be mostly adopted.

Prerequisites:

None

Course Outcomes



On completion of this course, the students will be able to

1. Develop a conceptual understanding of the basics of law of contract.
2. Understand the legal aspects of a valid contract and at the same time judge a void and voidable contract.
3. Learn the remedies available in cases of breach of contract.

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4. Have conceptual understanding of E-contracts, and government Contracts.
5. Develop strong analytical skills.

Catalog Description

Law of Contract is one of the foundational subjects in legal studies. It constitutes the basis on which the whole gamete of commercial laws has been established. Accordingly, present syllabus has been drafted with the object to give students conceptual, jurisprudential and foundational understanding about the general principles governing contractual obligations. Present syllabus deals with the various issues regarding contract from formation of the contract, performance of the contract to its enforcement and remedies on breach including remedies under Specific Relief Act, 1963.

The subject shall be taught in two parts. The first semester shall deal with Law of Contract I in which an overview of Sections 1 to 75 of the Contract Act, covering the general nature of contract and some portions of specific relief Act 1963 shall be dealt. Contract II shall be covered in second semester, in which various specific contracts shall be covered.

Course Content

Module: 1. Introduction	<ul style="list-style-type: none"> • The historical development of contract law: • English origin (debt, detinue, account, covenant, action on case, assumpsit, indebitus assumpsit) • Indian origin • Purpose of Contract 		3 hours
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Module: 2. Elements of contract	<ul style="list-style-type: none">• Agreement and Contract• Types of Contract• Essentials of a Valid Contract• Offer, Types of Offer, Communication and Termination, Distinction between offer and invitation to treat• Acceptance, Communication and Termination	Case Laws: <ul style="list-style-type: none">• Bharat Petroleum Corp. Ltd. V. Great Eastern Shipping Co. Ltd. (2008) 1SSC 503• GEA Energy System (India) Ltd. V. Litostroi El (2005) (Mad DB); (2005) 2 CTC 761• Mukand Ltd. V. Hindustan Petroleum Corp. (2005) # CLT 45 (Bom DB)	8 hours
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		<ul style="list-style-type: none"> • C.K Asati v Union of India AIR 2005 MP 96 • Sultan Sadik v Sanjay Raj Subha (2004) 2 SCC 547 • Merritt v. Merritt 1970 2 All ER 760 (CA) • Entores Ltd. V Miles Far East Corp. (1955) 2 All ER 493 • Upton Rural District Council v Powell (1942) I All ER 220 • Balfour v. Balfour, (1919) 2 K.B. 571 • Lalman Shukla v. Gauri Dutta (1913) 11 All LJ 489 • Powell v Lee (1908) 24 TLR 606 • Felt House v. Bindley (1862) 11, CB (NS) 86 • Carlill v. Carbolic Smoke Ball Company, (1893) 1 QB 256 	
<p>Module: 3. Consideration</p>	<ul style="list-style-type: none"> • Doctrine of consideration • Essential of valid Consideration • The rule ‘no consideration no contract’- its exception’, inadequacy of consideration, nudum pactum • Privity of contract and of consideration • Unlawful consideration and its effects 	<p>Case Laws:</p> <ul style="list-style-type: none"> • Durga Prasad v. Baldeo (1880) 3 All 221 • Kedar Nath v. Gorie Mohamed 1886 ILR 14 Cal 64 • Doraswami Iyer v. Arunachala Ayyar, AIR 1936 Mad. 135 • Union of India v. Indo Afghan Agencies (1968) 2 SCR 366 • Pournami Oil Mills v. State of Kerala 1986 SCC 728 • Dutton v. Poole, 83 ER 523 (1677) • Tweddle v. Atkinson 123 ER 762 • Dunlop Pneumatic Tyre Co. V. Selfridge & Co. 1915 AC 847 • Chinnaya v. Ramayya 	<p>5 hours</p>



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		<p>Begaum, (1910) 37 IA 152</p> <ul style="list-style-type: none"> • Pinnel's case, (1602) 5 Co Rep 117a • Metal Manufacturing Co Ltd v. Tungsten Electric Co. Ltd, (1955) 2 All ER 657 	
<p>Module: 4. Capacity to Contract</p>	<ul style="list-style-type: none"> • Natural Person • Agreements by minor • Unsoundness of mind • Legal Person • Company • State • Disqualification under Law 	<p>Case Laws:</p> <ul style="list-style-type: none"> • Kumari Shahnour Md Tahseen v. State of U.P. AIR 2007 All 437 • Mohori Bibi v. Dhurmodas Ghosh (1903) 30 IA 114 • Raj Rani v. Prem Adib AIR 1949 Bom 215 • Burnard v. Haggis (1863) 4 CBNS 45 • Leslie v. Shiell (1914) 3 KB 607 • Amiriraju v. Sheshmme (1917) 41 Madrass 33. 	4 hours
<p>Module: 5. Free Consent</p>	<ul style="list-style-type: none"> • Free consent- Its need and definition- • Factors vitiating free consent: Coercion, Undue Influence, Misrepresentation, Fraud, Mistake, etc 		4 hours



<p>Module: 6. Voidable Contracts</p>	<ul style="list-style-type: none">• Coercion• Definition- essential elements• Illustrations of coercion• Doctrine of economic duress• Effect of coercion• Undue Influence• Definition- essential elements- between which parties can it exist? Who is to prove it?• Illustrations of undue influence- independent advice• Pardanashin women• Effect of undue influence• Misrepresentation• Definition - misrepresentation of law and of fact• Their effects and illustration• Fraud• Definition - essential elements - suggestion falsi-suppresio	<p>Case Laws:</p> <ul style="list-style-type: none">• Great Peace Shipping Ltd v. Tsavlis Salvage (International) Ltd, 2003 QB 679• Chikham Amiraju v. Chikham Seshamma, (1917) 41 Mad 33• Subhas Chandra Das v. Ganga Prasad Das, AIR 1967 SC 878• Derry v. Peek (1886) 14 App Cas. 337• Car & Universal Finance Co Ltd v. Caldwell, (1964) 1 All ER 290• New India Rubber Works (P) Ltd v. Oriental Fire and General Insurance Co.	<p>6 hours</p>
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	veri - when does silence amounts to fraud? <ul style="list-style-type: none">• Active concealment of truth• Importance of intention	Ltd. (1969) 1 Comp LJ 153 (Cal)	
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<p>Module: 7. Void Agreement (Void-ab-initio)</p>	<ul style="list-style-type: none"> • Mistake • Definition - kinds- fundamental error - mistake of law and of fact – their effects • When does a mistake vitiate free consent and when does it not vitiate free consent? • Legality of objects • Void agreements - lawful and unlawful considerations and objects • Void, voidable, illegal and unlawful agreements and their effects • Unlawful considerations and objects: • Forbidden by law • Defeating the provision of any law • Fraudulent • Injurious to person or property • Immoral • Against public policy • Void Agreements • Agreement without consideration • Agreement in restraint of marriage • Agreements in restraint of trade- its exceptions- sale of goodwill, Section 11 restrictions under the partnership Act, trade combinations, exclusive dealing agreements, restraints on employees under agreements of service • Agreements in restraint of legal proceedings- its exceptions • Uncertain agreements • Wagering agreement- its exception 	<p>Case Laws:</p> <ul style="list-style-type: none"> • Central Inland Water Transport Corporation v. B.K Ganguly AIR 1986 SC 1571 • Kalyanpur Lime Works Ltd. v. State of Bihar and another AIR 1954 SC 165 • Tarsem Singh v. Sukhminder Singh AIR 1998 SC 1400 • Dularia Devi v. Janardan Singh and others AIR 1990 SC 1173 • Kedarnath Motani and Others v. Prahlad Rai and Others AIR 1960 SC 213 • Manicka Gounder v. Muniammal AIR 1968 Mad 392 • Ratanchand Hirachand v. Askar Nawaz Jung (dead) By LRs and Others (1991) 3 SCC 67 • BOI Finance Ltd. v. Custodian and Others AIR 1997 SC 1952 • Madhub Chander v. Raj comer Dass (1874) 14 BLR 76 • Gujarat Bottling Co. Ltd. v. Coca Cola Co. (1995) 5 SCC 545 • National Insurance Co Ltd v. S. G Nayak & co AIR 1997 SC 2049 • Frost v. Knight (1872) LR 7 Exch 111 • Ramzan v. Hussaini (1990) 1 SCC 104 • Rao Rani v. Gulab Rani (1942) ILR All 810 • Hakam Singh v. Gammom (India) Ltd. AIR 1971 SC 740 • Gherulal Parekh v. Mahadeo Das Maiya AIR 1959 SC 781 	<p>8 hours</p>
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<p>Module: 8. Contingent, Quasi & Govt. Contract</p>	<ul style="list-style-type: none">• Contingent Contract• Contingent condition, Promissory conditions• Features, when contingent contracts become void• Quasi Contract• Meaning & nature, Theory of Unjust Enrichment• Theory of “implied-in-fact” Contract• Claim for necessities supplied to incapable person (section 68)• Reimbursement of person paying money due by another (section 69)• Obligation of person enjoying benefit of non gratuitous act (section 70)• Responsibility of finder of goods (section 71)• Liability of person to whom money is paid, or thing is delivered by mistake or under coercion (section 72)	<p>Case Laws:</p> <ul style="list-style-type: none">• Satyabrata Ghose v. Mugneeram Bangur AIR 1954 SC 44• State of Bihar v. Majeed AIR 1954 SC 786.• Ram Lal v. State of Punjab, AIR 1966 Pun 436.• Bhikaraj Jaipuria v. Union of India AIR 1962 SC 113.• Chandulal Harjivandas v. Commissioner of Inc. Tax. Gujarat AIR 1967 SC 816• The Commissioner of Wealth Tax Mysore v. Vijayaba Dowger Maharani Saheb Bhavnagar & others AIR 1979 SC 982• Bashir Ahmad and others v. Govt. of AP AIR 1970 SC 1089• Mugniram Bangur & Co.(P) Ltd. v. Gurbachan Singh AIR 1965 SC 1523• State of West Bengal v. B.K. Mondal & Sons, AIR 1962 SC 779• K.P.Chowdhary v. State of Madhya Pradesh AIR 1967 SC 203	<p>6 hours</p>
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<p>Module: 9. Discharge of a contract and its various modes</p>	<ul style="list-style-type: none">• By performance• Rules of performance including joint promisor, joint promisee, time and place of performance,• Condition precedent and condition subsequent• Quantum Merit• By breach• Anticipatory breach• Present breach• Constructive Breach• Impossibility of performance• Specific grounds of frustration- application to leases theories of frustration- effect of frustration- frustration and restitution	<p>Case Laws:</p> <ul style="list-style-type: none">• Paradine v. Jane (1647) Aley 26.• Taylor v. cadwell (1863) 3 B&S 826.• Krell v. Henry (1903) 2 KB 740.• Herne Bay Steam Boat Co v. Hutton (1903) 2 K B 683.• Hochster v. De La Tour (1853) 2 E &B 678.• Frost v. Knight (1872) L.R.7 Ex 111.• Hadley v. Baxendale (1854)9 Exch 341.• Victoria Laundry (Windsor) Ltd v.	<p>4 hours</p>
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	<ul style="list-style-type: none"> • By period of limitation • By agreement- novation, rescission and alteration- their effect- remission and waiver of performance extension of time- accord and satisfaction. • Force majeure 	<p>Newman Industries Ltd (1949) 1 All ER 997.</p> <ul style="list-style-type: none"> • Simpson v. London & North Western Railway Co (1876) 1 Q.B.D 27 	
Module: 10. Breach of contract & Remedies for Breach	<ul style="list-style-type: none"> • Meaning, kinds of breach, remedies for breach; • Remedies generally, Sections 73, 74, 75 • Damages; measure of damages, remoteness of damages. 	<p>Case Laws:</p> <ul style="list-style-type: none"> • State of Karnataka v. Shree Rameshwar Rice Mills AIR 1987 SC 1359 • Timblo Irmaos Ltd. v. JAM Sequera AIR 1976 SC 734 • State of Gujarat v. M.K. Patel & Co. AIR 1985 Guj 179 • Hadley v. Baxendale 23 LJ Ex 179. • Oil and Natural Gas Corp. Ltd. SAW Pipes Ltd. AIR 2003 SC 2629 • Johnson v. Gore Wood & co. (2002) 2 AC 1 • Jackson v. Royal Bank of Scotland (2005) 2 All ER 71 (HL) 	4 hours
Module: 11. Specific Relief Act, 1963	<ul style="list-style-type: none"> • Specific performance of contract • Contract that can be specifically enforced • Persons against whom specific enforcement can be ordered • Rescission and cancellation • Injunction • Temporary • Perpetual • Declaratory orders • Rectification of Contract 	<p>Case Laws:</p> <ul style="list-style-type: none"> • S.B Dutt v. University of Delhi AIR 1958 SC 1050 • Pearlite Liners (P) Ltd. v. Manorma Sirsi AIR 2004 SC 1373 • Shanti Prasad Devi v. Shankar Mehto AIR 2005 SC 2905 • Percept D Mark (India) (P) Ltd. v. Zaheer Khan (2006) 4 SCC 227. • Jai Narain Parasrampur v. Pushpa Devi Saraf , (2006) 7 SCC 756 	8 hours



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Text Books


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1. Pollock and Mulla, Indian Contract and Specific Relief Act, 13th Edition, Lexis Nexis Butterworths Wadhwa, Nagpur, 2009
2. Avatar Singh, "Law of Contract and Specific Relief", Eastern Book Company, 10th Edition, Lucknow, 2011

Reference Books

1. Joseph Chitty, *Chitty on Contracts*, Sweet and Maxwell Limited, 2011
2. Jill Poole, *Case Book on Contract Law*, 10th Edition, Oxford University Press, Oxford New York, 2010
3. *Cunningham and Shephard's Contract Act*, 11th Edition, Law Publisher (India) Pvt. Ltd, Allahabad, 2007-08
4. P.C Markanda, *The Law of Contract*, 2nd Edition, Wadhwa Nagpur, 2008
5. Robert A. Feldman, Raymond. T. Nimmer, *Drafting Effective Contracts – A Practitioner's Guide*, 2nd Edition, Wolter Kluwer Law and Business – Aspen Publishers, New Delhi, 2010
6. J. Beatson, *Ansons Law of Contract*, 29th edition, Oxford University Press, Oxford New York, 2010
7. B S Ramaswamy, "Contracts and their Management", Lexis Nexis Butterworth, 3rd Edition, New Delhi 2008
8. H.K Saharay, "Dutt on Contract", Eastern Law House, 10th Edition, Kolkata, 2006



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Faculty of Law
B.A.LL.B. (Hons)
Semester I

Subject Name	Introduction to Language Skills	Credit	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code	10SL0101	4	3	0	2

Course Objectives:

The course is designed to achieve Following Objectives:

1. To familiarize students with language skills to understand their domain
2. To help students enhance their competency in English language with a focus on LSRW
3. To introduce students to English in legal context to help them achieve their program requirements

Prerequisites:

None



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Learning Outcomes:

The students will get the necessary training in language skills and they will be able to:

1. Develop and enhance their listening skills for various purposes

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2. Understand and use written and spoken language in context
3. Comprehend, compare and differentiate between various written texts/documents
4. Evolve appropriate writing competence

Unit 1: Listening in Context

(12 hours)

- Listening with a purpose
 - Listening for detail
 - What do you mean by detail?
 - Having an eye for detail/ identifying detail in context
 - Tasks
 - Listening for the main idea
 - Defining the main idea
 - Techniques to identify the main idea
 - Tasks
 - Listening for specific vocabulary
 - Understanding vocabulary (various forms/types)
 - Vocabulary in context (formal & informal etc)
 - Tasks
 - Listening for attitudes and opinions
 - Defining, identifying and differentiating attitudes and opinions
 - Attitudes and opinions in context
 - Tasks

Unit 2: Speaking in Context

(12 hours)

- Speaking in context
 - Effective Pronunciation & Body Language
 - Basics of pronunciation
 - Understanding body language
 - Tasks
 - Conversation in formal and informal contexts
 - Language in informal context
 - Language in formal context
 - Tasks
 - Persuasive speaking
 - Law and the art of persuasion
 - Techniques
 - Tasks



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- Using Argumentation
 - Law and the art of argumentation
 - Techniques

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- Tasks

Unit 3: Reading Skills

(12 hours)

- Skimming, Scanning, Intensive and Extensive Reading
 - Tasks
- Reading Comprehension and Interpretation
 - Understanding comprehension and interpretation
 - Techniques of comprehension and interpretation
 - Tasks
- Comparing, and Classifying information
 - Techniques of comparison and classification
 - Tasks
- Evaluating and Synthesizing Information
 - Techniques of evaluation and synthesizing
 - Tasks

Unit 4: Writing Skills

(12 hours)

- Grammar in context
 - Understanding grammar in context
 - Practice
- Vocabulary in Context
 - Synonyms and antonyms
 - Acronyms and abbreviations
 - Idioms and Phrases
- Sentence Structure and Paragraph Development
 - Types of sentences and sentence structure
 - Paragraph development strategies
 - Practice
- Note Taking and Note Making
 - Note taking vs. Note making
 - Methods of preparing Notes
 - Tasks

Recommended Readings

1. Siddons Suzy. *The Complete Presentation Skills Handbook*. Kogan Page, 2008.
2. Sprague Jo, and Douglas Stuart. *The Speaker's Handbook*. 8th ed., Thomson Wadsworth, 2008.
3. Kumar, Sanjay, & Pusalata. *Communication Skills*. OUP. 2011.
4. A. S. Hornby, *Guide to Patterns and Usage in English* (2nd Ed. Oxford University Press)



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5. Amy Krois Linder and TransLegal. *International Legal English: A course for classroom and self-study use.* ((2nd edn Cambridge University Press. 2014)

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6. M. A. Yadugiri and Geeta Bhasker. *English for Law*. (Foundation Books, Cambridge House. 2005)
7. S.R. Myneni, *English for Pre-Law: Vol. I & II*. (2nd edn Allahabad Law Agency. 2011)
8. Michael McCarthy & Felicity O'Dell, *English Idioms in use*. ISBN: 9780521731768,
9. Michael McCarthy & Felicity O'Dell, *English Phrasal verbs in use*, ISBN: 9780521736381
10. Michael McCarthy & Felicity O'Dell, *English Vocabulary in Use*, ISBN: 9780521684569
11. Raymond Murphy, *Intermediate English Grammar*, ISBN NO 978-81-7596-676-5
12. Raymond Murphy & Louise Hashemi, *English Grammar in Use* (Supplementary Exercises 3rd edn Cambridge University Press Ltd.)
13. Raymond Murphy, *Essential English Grammar*, ISBN: 9788175960299
14. Dr. Anirudh Prasad. *Outlines of Legal Language in India* (Central Law Publications, 2014).
15. Bryan A. Garner, *Legal Writing in Plain English: A Text with Exercises* (University of Chicago Press, London 2001).
16. Bryan A. Garner, *Garner on Language and Law* (American Bar Association 2009)
17. Bryan Garner. *The Winning Brief: 100 Tips for Persuasive Briefing in Trial and Appellate Courts*. OUP 2014
18. Bryan Garner. *The Redbook Manual of Legal Style*. (3rd Ed.) WEST.
19. Michael J. Wallace, *Study Skills in English*, Cambridge University Press, Cambridge, 1980.
20. Ashok R. Kelkar, *Communication and Style in Legal Language*, Indian Bar Review a. Vol. 10 (3): 1993.
21. Garner Bryan, *A Dictionary of Modern Legal Usage*, New York: OUP, 1987.
22. Eastwood John, *Oxford Practice Grammar*, Oxford Uni. Publication.
23. Anirudh Prasad, *Outlines of Legal Language in India*, Central Law Publications, Allahabad.
24. J.S. Singh, *Legal Language, Writing and General English*.
25. Glendinning, Eric H., and Beverly Holmström. *Study Reading: A Course in Reading Skills for Academic Purposes*. Cambridge University Press, 2012.
26. Hamp-Lyons, Liz, and Ben Heasley. *Study Writing: A Course in Writing Skills for Academic Purposes*. Cambridge University Press, 2013.





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Subject Name	Critical Thinking and Argumentative Skills	Credit	Teaching Scheme		
			Theory	Practical	Tutorial

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Subject Code	10CR0101	2	1	0	2
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Course Objectives

The course is designed to achieve Following Objectives:

- To underscore the realization and importance of Critical thinking in academics;
- To conduct various Practical exercises to inculcate skills and faculties so that they think logically and analytically.
- To develop the Skills in students so that they can examine research and analyze evidence in order to organize, deliver and critique effective arguments and rebuttals.

Prerequisites:

None

Course Outcomes

On completion of this course, the students will be able to

- Identify the differences between fact and opinion.
- Identify, compose and refute propositions of fact, value and policy.
- Understand the methods of analyzing evidences in order to organize, deliver and critique effective arguments and rebuttals.
- Analyze and utilize formal and informal logic to construct arguments which advocate or defend position(s).
- Utilize ethical communication when developing arguments while simultaneously taking into consideration diverse audiences.
- Design and present impromptu, extemporaneous and prepared arguments.

Catalog Description



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The purpose of this course is to develop thinking skills. We live in a society that mass-produces information. Not all of it is true or well grounded in fact. The key challenge in an information age is to know how to judge the quality of the information, opinions, and arguments that we are exposed to on a daily basis. This includes the ideas, arguments and assertions that we see, hear or read in the news, in coursework, on the job and in all human relations. Critical thinking is a fundamental leadership competency. Leaders are often presented with information from a variety of sources and about areas where they have no expertise. They must know how to make good judgments about people, information, and arguments. Leaders also have to know how to present persuasive arguments. Some people become leaders because of their personality, desire, or “people skills.” Others become leaders because of their ideas and ability to create a vision, plan for the future, and anticipate and solve problems. Critical thinking is the foundational skill for of the Jepson School curriculum. It is not an end in itself, but a first step towards

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creative thinking and problem solving. The ability to think critically and solve problems is not only important for leadership, but for a life-long learning.

Course Content

Module 1:- Introduction	<ol style="list-style-type: none">i. What is Critical Thinking?ii. Intellectual Standards to Critical thinking.iii. Benefits of Critical thinking.iv. Barrier to Critical thinking.v. Characteristic of Critical thinkers.	5 hours
Module 2:- Evaluating Arguments	<ol style="list-style-type: none">i. Argument and Non-argumentsii. Refuting Argumentsiii. Premises and Conclusions.	3 hours
Module 3:- Basic Logical Concepts	<ol style="list-style-type: none">i. Inductive and Deductive Argumentsii. Legal Reasoning – Inductive and Deductive.	2 hours
Module 4:- Logical Fallacies	<ol style="list-style-type: none">i. Fallacious Arguments.ii. Fallacies of Relevance.iii. Fallacies of Insufficient evidence.	3 hours
Module 5:- Inductive Reasoning	<ol style="list-style-type: none">i. Inductive Generalizations.ii. Induction and Analogy.iii. Induction and Causal Arguments.	3 hours
Module 6:- Evaluating Inferences	<ol style="list-style-type: none">i. Deductive validity.ii. Assumptions and other relevant arguments.	2 hours
Module 7:- Information and its Evaluation	<ol style="list-style-type: none">i. Judging the credibility of source.ii. Sources of Information.iii. Testimony as a source of Information.	5 hours



Module 8:- Decision Making	<ol style="list-style-type: none">i. Common flaws in our thinking about decisions.ii. A model for good decision making.iii. Decision procedures and making the right decisions.	3 hours
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Module 9:- Critical Thinking, Law and Logic	<ol style="list-style-type: none">i. Western and Indian traditions of epistemology.ii. The Indian System of Nyaya.	4 hours
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Text Books

1. Alec Fisher, *Critical Thinking – An Introduction*, Cambridge University Press, 2001.
2. Madhuchanda Sen, *An Introduction to Critical Thinking*, Pearson India, 2010.
3. Gregory Bassham, *Critical Thinking – A Student’s Introduction*, Mc Graw Hill, 2010.
4. Howard Kahane & Nancy Cavender, *Logic and Contemporary Rhetoric*, 10th edition, (Wadsworth Publishing, 2006).

Reference Books

1. 1. John Stuart Mill , *A system of logic, Ratiocinative and Inductive*, University of Toronto Press, 1853. Available at:
http://oll.libertyfund.org/?option=com_staticxt&staticfile=show.php%3Ftitle=246
2. Nick Morgan, *Give Your Speech, Change the World: How to Move Your Audience to Action*, Harvard Business School Press, 2003.
3. Andrea Gardner, *Change your words, change your world*, Hay House Publishers, 2012.
4. Karyn C. Rybacki & Donald J. Rybacki, *Advocacy and Oppostion: An Introduction to Argumentation*, Pearson, 2012.



 Marwadi University	Faculty of Law B.Com. LL.B. (Hons) Semester II				
Subject Name	Business Communication	Credit	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code	10BC0201	4	3	0	2

Course Objectives

- To read and interpret formal business writings such as reports, articles and reviews.
- To know the structure of formal business letter, reports and of the meeting.
- To write formal business letters, e-mails, agenda of meetings, minutes of the meeting and reports.
- To inculcate a taste for reading and writing habits pertaining to the world of business.

Prerequisites:

None

Course Outcomes

After COMPLETING the course, student should be able to:

- Inculcate formal reading and writing skills required to communicate with colleagues **in the workplace.**
- Writing effective business letters, reports.

Detailed Syllabus: (per session plan)

Unit No	Unit / Sub Unit	Sessions (per Hours)
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Unit I	Introduction to Business World Reading 3 business articles (general in nature) from the newspapers/magazines: i. "Paytm: the wonder wallet" from Forbes India. ii. "Millennials: How They Live and Work" from Gallup.	15
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	iii. "The Right Culture: Not About Employees Happiness" from Gallup.	
Unit II	Reading Case Studies i. "Tripping Along" by Deep Kalra from <i>Stay Hungry Stay Foolish</i> ii. "Charisma Corporation" by Malini Varma iii. "The Book of Job" by Sanjeev Bikhchandani from <i>Stay Hungry Stay Foolish</i>	20
Unit III	Writing for business 1. E-mail (Features, Problems and Etiquettes) 2. Writing business letters (Format and types) a) Inquiry Letters b) Order Letters c) Complaint Letters d) Adjustment (Claim) Letters e) Credit Letters	20
Unit-IV	Writing for business 1. Agenda for Meetings 2. Minutes of the Meeting 3. Writing short business reports	20

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Raman M. and Singh P	Business Communication	Oxford University Press	20 th edition, 2011
T-02	Kumar S. and Lata P.	Communication Skills	Oxford University Press	6 th edition, 2013

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Murphy H., Hildebrandt H. and Thomas J	Effective Business Communication	Tata McGraw-Hill	2008
R-02	Sharma R. and Mohan K	Business Correspondence and Report Writing	Tata McGraw-Hill	4 th edition, 1998
R-03	Lesikar R., Flatley M., Rentz K., Pande N	Business Communication	Tata McGraw-Hill	11 th edition, 2009



 Marwadi University	Faculty of Law B.Com. LL.B. (Hons) Semester II				
Subject Name	Business Economics	Credit	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code	10BC0202	4	3	0	2

Course Objectives

- This course aims at providing knowledge of fundamental concepts of Microeconomics.
- It intends to provide the students the basic understanding of utility analysis, demand and supply application, application of elasticity to business, different types of markets and equilibrium under different types of markets.
- This course focuses in providing the basic knowledge about micro-economics which will aid the students in applying the knowledge to real business world.

Prerequisites:

None

Course Outcomes

After studying this course, student should be able to:

- Apply economic reasoning to the analysis of selected contemporary economic problems.
- Understand how households (demand) and businesses (supply) interact in various market structures to determine price and quantity of goods and services produced and consumed.
- Use economic problem solving skills to discuss the opportunities and challenges of the increasing globalization of the world economy.

Detailed Syllabus: (per session plan)

Unit No	Unit / Sub Unit	Sessions (in hours)
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Unit I	INTRODUCTION TO MICROECONOMICS Meaning and definition of Microeconomics, Nature and scope of Microeconomics, Difference between microeconomics and macroeconomics. Central economic problems of society.	10
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Unit II	CONSUMER BEHAVIOUR Utility analysis: Meaning of Cardinal and Ordinal utility. Cardinal Utility: Law of diminishing Marginal utility, Law of Equi-marginal Utility, Ordinal Utility: Indifference curve analysis, properties of indifference curve analysis, Marginal rate of substitution, Budget line and consumer's Equilibrium.	10
Unit III	DEMAND AND SUPPLY ANALYSIS Determinants of demand, law of demand, exceptions to law of demand. Elasticity of demand and its applications: Price elasticity, Income elasticity and cross elasticity. Concept and Law of Supply, Factors Affecting Supply	10
Unit IV	PRODUCTION AND COST ANALYSIS Production Function: Short run and long run production functions, laws of returns, and law of returns to scale. Cost Function: classification of costs, short run and long run cost curves and their interrelationship, Planning curve and envelope curve, internal and external economics of scale, revenue curves, optimum size of the firm, factors affecting the optimum size	10
Unit V	EQUILIBRIUM OF FIRM AND INDUSTRY Perfect competition, monopoly, monopolistic competition, discriminating monopoly, aspects of non-price competition; group equilibrium, excess capacity, selling costs, oligopolistic behavior.	08

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	H. L. Ahuja	Principles of Economics	S. Chand Publishing house	11 th ed. 2015

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	N.GregoryMankiw,	Principles of Micro Economics	Cengage	6 th ed.



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R-02	Pindyck, R.S., D. L. Rubinfeld and P. L. Mehta	Microeconomics	Pearson	7 th ed.
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R-03	D. Salvatore	Microeconomic Theory	Tata McGraw Hill	5 th ed
R-04	D N Dwivedi	Managerial Economics,	Vikas Publishing House	4 th ed.

 Marwadi University	Faculty of Law B.Com. LL.B. (Hons) Semester II				
Subject Name	Advanced Accounting Principles	Credit	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code	10BC0203	4	3	0	2

Course Objectives

- To get the student acquainted with the issues relating to reconstitution and dissolution of partnership firm
- To acquire knowledge of accounting for hire purchase transactions
- To acquire knowledge of the accounting aspects relating to branches
- To learn the accounting for investments

Prerequisites:

Should have basic knowledge of fundamentals of accounting.

Course Outcomes

After studying this course, student should be able to:

- Address advanced accounting issues of partnership firm
- Learn the application of Garner vs. Murray rule
- Understand the difference between hire purchase and instalment purchase transactions
- Classify the branches and do the accounting accordingly
- Demonstrate knowledge of the concept of Ex-interest and Cum-interest





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Detailed Syllabus: (per session plan)



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Unit No	Unit / Sub Unit	Sessions (in hours)
Unit I	RECONSTITUTION OF PARTNERSHIP FIRM Accounting issues related to Admission, Retirement and Death of a Partner – Preparation of Revaluation account – Calculation of Goodwill : Average profit method, Super profit method, Annuity method, Capitalisation method	15
Unit II	DISSOLUTION OF PARTNERSHIP FIRM Preparation of Realisation account – Settlement of accounts – Piecemeal distribution: Maximum loss method and Proportionate capital method – Insolvency of partner during piecemeal distribution (Garner vs. Murray rule)	12
Unit III	ACCOUNTING FOR HIRE PURCHASE Meaning – Difference between Hire purchase and Installment purchase –Calculation of missing details when cash price or rate of interest is not given – Accounting for hire purchase transactions –Default and repossession	13
Unit IV	ACCOUNTING FOR BRANCHES Meaning – Classification of Branches –Accounting for dependant branches – Accounting for independent branches	15
Unit V	INVESTMENT ACCOUNTS Meaning – Classification of investments – Calculation of purchase price – Disposal of investments – Preparation of Investments account – Calculation of ex-interest and cum-interest	20

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	P.C. Tulsian	Financial Accounting	Pearson	Latest
T-02	S.N. Maheshwari, and. S. K. Maheshwari	Financial Accounting	Vikas Publishing House, New Delhi	Latest



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T-03	M.C.Shukla, T.S.Grewal S.C.Gupta	and	Advanced Accounts. Vol.-I	S. Chand & Co., New Delhi	Latest
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Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	R. L. Gupta and M. Radhaswamy	Advanced Accounts. Vol.- I& II	S. Chand & Co., New Delhi	Latest
R-02	A.Mukharji and M. Hanif	Financial Accounting	Tata McGraw, Hill Publishing Co. Ltd. New Delhi	Latest
R-03	S. P. Jain and K. N. Narang	Advanced Accountancy	Kalyani Publishers, New Delhi	Latest
R-04	T. S. Grewal	Introduction to Accountancy	S. Chand & Co. Pvt. Ltd., New Delhi	Latest
R-05	Monga, J. R.	Financial Accounting : concepts and applications	Mayoor Paper Backs, New Delhi	Latest

Subject Name	Law of Torts, Consumer Protection Act, 2019 & Motor Vehicle Act, 1988	Credit	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code	10FL0201	4	3	0	2

Course Objectives



1. To equip students with knowledge of legal rights, duties and liabilities mentioned under Law of Torts with the help of leading cases
2. To make the students understand the specific torts against individual and property.
3. To present a comprehensive introduction to liabilities under Consumer Protection Act, 2019 and Motor Vehicle Act, 1988.

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Course Outcomes

On completion of this course, students will be able to:

1. State the meaning and nature of the Law of Torts.
2. Describe the liability for the Wrong Committed by Other Person.
3. Describe Negligence, Contributory Negligence and Nuisance.
4. Interpret General Defenses for the Tortious Liability.
5. Relate Torts Against Human Being and Property.
6. Criticize the liabilities based on fault & Remedies.
7. Describe The Consumer Protection Act, 2019
8. Describe Motor Vehicle Act, 1988.

Detailed Syllabus

Unit/ Sessions (in hours)	Descriptions	Case Laws
I (7 hours)	<p>Definition and Nature of the Law of Tort</p> <ul style="list-style-type: none"> • Definition, Nature and Development of Torts, “Law of Torts” or “Law of Torts.” • General Condition of Tortious Liability <ul style="list-style-type: none"> • <i>Ubi jus Ibi remedium,</i> • <i>Injuria Sine Damnum</i> • <i>Damnum Sine Injuria.</i> • Distinction between Torts and Crime, Torts and Contract, Torts and Quasi Contract. 	<p>Case Law:</p> <ul style="list-style-type: none"> • Ashby v. White (1703)2 LR 938; • Rudal Shah v. State of Bihar, AIR 1983 SC 1086; • Saheli v. Commissioner of Police, Delhi AIR 1990 SC 513; • Gloucester Grammer School case (14190 V.B. Hill 11.; • Mayor of Broadford Corporation v. Pickles (1895) AC 587; • Bhim Singh v. State of Jammu & Kashmir AIR 1986 SC 494; • Usha Ben v. Bhagya Laxmi Chitra Mandir, AIR 1978 Guj.]



II (7 hours)	Liability for the Wrong Committed by Other Person <ul style="list-style-type: none">• Vicarious Liability<ul style="list-style-type: none">• Principle and Agent• Partners of a firm• Master and Servants,• State's Liability: Doctrine of Sovereign Immunity in reference to the Crown Proceedings Act 1947, Federal Tortss Claims Act 1946 and	Case Law: <ul style="list-style-type: none">• Lucknow Development Authority v M.K. Gupta AIR 1994 1 SC 243;• State of Rajasthan v. Vidyawati Devi AIR 1962 SC 933;• Donoghue v. Stevenson, 1932,AC 562;• Kasturi Lal v. State of U.P. AIR 1965 SC 1039;
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	<p>Article 300 of the Indian Constitution.</p> <ul style="list-style-type: none"> Joint Torts Feasors, joint and several liabilities in payment of damages. 	<ul style="list-style-type: none"> Nicholes v. Marshland (1876)2 Ex.D. 1; Smith v. London and South Western Railway Co. (1870) LR 6; Peninsular and Steam Navigation Co. Secretary of State for India (1861) 5 Bom. H.C.R. App. 2; Loyd v. Grame Smith &Co. (1912) AC 716]
<p>III (8 hours)</p>	<p>Negligence, Contributory Negligence and Nuisance</p> <p>1. Negligence</p> <ul style="list-style-type: none"> Negligence as a tort and its various dimensions in the present world viz. Professional Negligence, Foresight of harm as test of the existence of negligence, Proximate Cause and Intervening cause, Contributory Negligence, Last Opportunity Rule, Res Ipsa Loquitur <p>2. Nuisance</p> <ul style="list-style-type: none"> History of Nuisance, Nuisance and interference with real rights, Remedy for Nuisance, Public & Private Nuisance. 	<p>Cases Law:</p> <ul style="list-style-type: none"> Jay Laxmi Salt Works (P) Ltd. V. State of Gujarat 1994(4) SCC 1; Dr.Laxman V. Dr. Trimbak AIR 1969 SC 128; Davis v. Redcliffe, (1990)2 AER 536; F V. Birkshire Health Authority (1989) 2 All ER 545 (HL); Maynard V. Midlands Health Authority (1985) 1 All ER 635 (HL); Achutrao Haribhau Khodwa V. State of Maharashtra AIR 1996 SC 2377 ; M.P. StateRoad Transport Corp. v. Basanti bai (1971) MPLJ 706 (DB); Indian Air Lines v. Madhuri Chaudhri AIR 1964 Cal. 252; Glasgow Corporation v. Muir (1943) AC 448; Municipal Corporation of Delhi v. Subhagwati AIR 1966 SC 1750; Ratlam Municipality v. Vardhichand (1980) 4SCC 162] MCD v. Assn. of Victims of Uphaar Tragedy and Ors. (2005) 9 SCC 586
<p>IV (8 hours)</p>	<p>General Defenses for the Tortuous Liability</p> <ul style="list-style-type: none"> <i>Volenti non fit injuria</i> <i>Vis Major (Act of God)</i> Inevitable Accident Necessity Statutory Authority, Judicial and Quasi-Judicial, Parental and Quasi-Parental Authorities. Act of Third Parties Plaintiff's Default Mistake 	<p>Case Law;</p> <ul style="list-style-type: none"> Hall v. Brookaland Auto Racing Club Smith v. Backer (1981) AC 325; Stanley v. Powell (1891)11 Q.B. 86; Heynes v. Harwood (1935) 1 KB 146]



V (8 hours)	Torts Against Human Being and Property <ul style="list-style-type: none">• Defamation	Case Law:
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	<ul style="list-style-type: none"> • Trespass to Person – Assault, Battery, Malicious Prosecution and False Imprisonment • Trespass to Property- Goods, Conversion, Land, Trespass <i>ab inito</i> 	<ul style="list-style-type: none"> • Leta Fay Ford V. Revlon, Inc. Supreme Court of Arizona (153 Ariz. 38, 734 P.2d 580) 1987; • Noor Mohd. v, Mohd Jiauddin AIR 1992 MP 244; • Hayward v. Thompson (1981)3All E R 450; • M.C. Verhese v. T.J. Poonam, AIR 1970 SC1876; • T.S. Bhatt v. A. K. Bhatt AIR 1978 Ker 111; • Girija Prasad Sharma v. Uma Shankar Pathak AIR 1973 MP 79; • Quinn v. Leathem,(1901)AC 495; • Municipal Board of Kanauj v. Mohanlal AIR 1951 All 867 • State v. Gangadhar AIR 1967 Raj 199; Rajalingam v. Lingaiah (1964) 1ALT 391; • Sobha Ram v. Tika Ram(1936) ILR 58 All 903]
<p>VI (12 Hours)</p>	<p>Liabilities based on fault & Remedies:</p> <ul style="list-style-type: none"> • Strict Liability, Absolute Liability, The Public Liability Insurance Act, 1991 • Remoteness of Damage • Personal Capacity • Who cannot sued Who cannot be sued • General Remedies in Tort Damages 	<p>Cases Law:</p> <ul style="list-style-type: none"> • Reyland v. Fletcher (1868) L.R. 3 H.L. 30; • M.C. Mehta v. Union of India AIR 1987 SC 1086 @Olium Gas Leak Case/ Bhopal Gas Leak Case; • M.C. Mehta v. Union of India AIR 1987 SC 965@ Shri ram Food Fertilizer Case; • Glasgow Corporation v. Muir (1943) AC 448 • In Re Polemise Case (1921)3 KB 560 CA; • Wagaon Mound Case (1961)AC 388; • Leisbosch Dredger v. Edison, (1933) AC 449 • HL.Dilaware Ltd. V. Westminister City Council, (2001) 4 All ER 737 (HL)]



VII (12 hours)	The Consumer Protection Act, 2019 <ul style="list-style-type: none">• Definitions of Consumer, Goods, Services and Deficiency• Rights and Duties of Consumer• Product Liability• Liabilities with special reference to Medical Negligence & Real Estate issues	Case Law: <ul style="list-style-type: none">• Vasantha P Nair v Smt VP Nair (1991) CPJ 685,• IMA V VP Santha & others, AIR 1996; United India Insurance Co. Ltd. v. Kiran Combers and Spinners 2007 AIR 393 SC;• State of Kerala v. K. Raghu Verma, AIR 2010 Ker.28;
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	<ul style="list-style-type: none"> Grievances under Consumer Protection Act- Appointment, Qualification, Disqualification, Jurisdiction, Powers and Function. Remedies Central Consumer Protection Authority (CCPA) Mediation in Consumer Courts Unfair Terms of Contract 	<ul style="list-style-type: none"> Sovintong (India) Ltd. v. State Bank of India, New Delhi, AIR 1999 SC 2963; Marghesh K. Parikh v. Dr. Mayur H. Mehta, AIR 2011 SC 249; Dr. V.N. Shrikhande v. Mrs. Anita Sena Fernandes AIR 2011 SC 212] Laxmi Engineering Works v PSG Industrial Institute, 1995 AIR 1428 Lucknow Developmental Authority v/s MK Gupta, AIR 1994 SC 787 Spring Meadows Hospital and Anr v Harjol Ahluwalia & Anr, 1998(2) SCALE 456 (SC) Consumer Education & Research Society & Anr. v/s New India Assurance Co. Ltd. & Ors
VIII (13 hours)	<p>Motor Vehicle Act, 1988 :</p> <ul style="list-style-type: none"> Licensing of Drivers, Conductors and Registration of Motor Vehicle (Chapter II, III & IV) Liability without fault in certain cases (Chapter X) Insurance of Motor Vehicles- First Party and Third Party Insurance Motor Vehicle (Amendment) Act, 2019 	<p>Case Law-</p> <ul style="list-style-type: none"> Siyabai v. Chander Sharma AIR 2011(NOC) 5 (M.P.); National Insurance Company Ltd. v. Smt. Bimla Dey, AIR 2011 (NOC) 2 (Gujarat); Heeralal Giri v. Ramratan AIR 2011, Chhatisgarh, 22; Ravi v. Badrinarayan AIR 2011, Supreme Court, 1226; United India Insurance Co. Ltd. V. Om Prakash, AIR 2010 (NOC) 563 (A.P.)] Sarla Verma & Ors vs Delhi Transport Corp. & Anr (2009) National Insurance Co. Ltd vs Pranay Sethi (2017) Ramla vs National Insurance Co. Ltd (2018)

Text Books

- Ratanlal & Dhirajlal, revised by Justice G.P. Singh: The Law of Torts, 27 Edition 2016, published by LexisNexis Butterworths.
- B. M. Gandhi: Law of Torts (with Law of Statutory Compensation and Consumer Protection), 4 Ed 2016, published by Eastern Book Company.



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Reference Books


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- D.N. Saraf, Law of Consumer Protection in India, 1995 Tripathi
- P.K. Majumdar: The Law of Consumer Protection in India, 1998 Orient Publishing Co. Delhi.
- Avtar Singh: Consumer Protection Law
- Barowalia - Consumer Protection Law
- Kumud Desai: Law of Torts(An Outline with Cases)
- S.K Kapoor: [Law of Torts & Consumer Protection Act](#)
- P.S.A.Pillai: Law of Tort with Law of Statutory Compensation and Consumer Protection
- M.N.Shukla: The Law of Torts & Consumer Protection Act & Compensation Under Motor Vehicle Act
- Clerk, J. F., Lindsell, W. H. B., & Dugdale, A. M. (2006). London: Sweet & Maxwell
- W.V.H. Rogers, Winfield and Jolowicz. Torts. Latest Edition, Sweet & Maxwell
- Ramaswamy Iyer. Law of Torts. Latest Edition, Lexis Nexis, Butterworths



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Faculty of Law
B.A.LL.B. (Hons.)/ B.Com.LL.B. (Hons.)
Semester II

Subject Name	Law of Contract II	Credit	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code	10FL0202	4	3	0	2

Course Objectives

1. To initiate the students to understand the different kinds of contracts which emphasis on the intricacies therein.
2. This course would provide an insight into the justification for special statutory provisions for certain kinds of contracts.
3. This course would definitely help the students to understand the nature of jurisprudence involved in each case, the technique of interpreting such law etc.
4. To provide them with a practical approach



Course Outcomes

On completion of this course, The students will be able

1. To recall concepts of contract to special contracts.
2. To demonstrate understanding on various principles relating to Contract of Indemnity & Guarantee.
3. To experiment with principles and provisions on Bailment & Pledge.
4. To examine the principle of agency in practice.
5. To evaluate the difference between Partnership & Limited Liability Partnership Act and benefits.
6. To formulate the modern contract technique and develop new drafting skills in the Sale of Goods Act 1930 with Amendments.

Detailed Syllabus:

Unit/ Sessions (in hours)	Descriptions	Case laws
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<p>I (15 hours)</p>	<p>Contract of Indemnity & Guarantee</p> <ul style="list-style-type: none">• Nature and definition;• Rights of indemnity holder;• Commencement of liability;• Contract of Guarantee – Nature and definition;• Essential features of guarantee;• Extent of surety's liability, discharge of surety;• Rights of the surety.• Contract Drafting and Contract Management	<p>Suggested Case Readings:</p> <ol style="list-style-type: none">1. Anuj Jain vs. Axis Bank Limited and Ors. (26.02.2020-SC) :MANU/SC/0228/20202. Rajendra k. Bhutta vs. Maharashtra Housing and Area Development Authority and Ors. (19.02.2020 - SC):MANU/SC/0226/20203. Assistant General Manager and Ors. vs. Radhey Shyam Pandey (02.03.2020 - SC): MANU/SC/0252/20204. Deepak Bhandari vs. Himachal Pradesh State Industrial Development Corporation Limited (29.01.2014 - SC): MANU/SC/0068/20145. Sobran Singh vs. State of U.P. (23.09.2014 - SC): MANU/SC/0912/20146. State Bank of India vs. V. Ramakrishnan and Ors. (14.08.2018 - SC): MANU/SC/0849/2018
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		<ol style="list-style-type: none">7. Rajendra k. Bhutta vs. Maharashtra Housing and Area Development Authority and Ors. (19.02.2020 - SC) : MANU/SC/0226/20208. Dugdale v. Lovering, 18759. Swan v. Bank of Scotland, 183610. National Provincial bank of England v. Brackenbury, 190611. Yarlagadda Bapanna v. Devata China Yerkayya AIR 1966 AP 15112. Hindutatan Steelworks Corpn Ltd v. Tarapore & Co (1996) 5SCC 3413. Bonar v. Macdonald (1850) 3 HLC 22614. Chunibhai Patel v Nath Bhai AIR 1944 Pat 1.15. Coutts & Co v Brown Lecky 1946 2 All ER 207.16. Industrial Finance Corporation of India v PVK Papers Ltd, AIR 1992 All 239.17. State Bank of India V Indexport Regisered (1992) 3 scc 159.18. Centax (India) Ltd v Vinmar Impex Inc (1986) 4 SCC 136.19. Gajanan Moreshwar v. Moreshwar Madan, AIR 1942 Bom 302
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<p>II (15 hours)</p>	<p>Bailment & Pledge</p> <ul style="list-style-type: none">• Nature and definition;• Essential features;• Rights and duties of bailor and bailee;• Pledge – Nature and definition;• Rights of pawnor and pawnee.• Contract Drafting and Contract Management	<p>Suggested Case Readings</p> <ol style="list-style-type: none">1. Infrastructure Leasing and Financial Services Limited vs. B.P.L. Limited (09.01.2015 - SC) : MANU/SC/0018/20152. Axis Bank vs. SBS Organics Private Limited and Ors. (22.04.2016 - SC): MANU/SC/0438/20163. All India Power Engineer Federation and Ors. vs. Sasan Power Ltd. and Ors. (08.12.2016 - SC):MANU/SC/1567/20164. Kut Energy Pvt. Ltd. and Ors. vs. The Authorized Officer, Punjab National Bank, Large Corporate Branch, Ludhiana and Ors. (20.08.2019 - SC): MANU/SC/1115/2019
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		<ol style="list-style-type: none">5. Magma Fincorp Ltd. vs. Rajesh Kumar Tiwari (01.10.2020 - SC):MANU/SC/0735/20206. The Great Eastern Shipping Co. Ltd. vs. State of Karnataka and Ors. (04.12.2019 - SC) : MANU/SC/1674/20197. Union of India v Sugauli Sugar Works (1976) 3 SCC 32.8. Bank of chittor v Narsimbulu AIR 1966 Ap 163.9. Kalia Perumal Pillai v Visalakshmi AIR 1938 Mad 32.10. N.R. Srinivas Iyer v New India Insurance Co ltd (1983) 3 SCC 458.11. RamGulam v Govt of UP AIR 1950 All 206.12. Secy of State v. Sheo Singh Rai, (1880) 2All 20613. Lasalgaon Merchants Cooperative Bank Ltd v Prabhudas Hathibhai AIR 1966 Bom 134.14. R.S. Deboo v. M.V. Hindlekar AIR 1995 Bom 6815. State of Gujrat v Memon Mohd AIR 1967 SC 1885.16. Gurbax Rai v Punjab National Bank (1994) 3SCC 96.17. Moorvi mercantile Bank Ltd. V. Union of India 1965.
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<p>III (15 hours)</p>	<p>Agency</p> <ul style="list-style-type: none">• Definition and kinds of agency;• Essentials of agency;• Modes of creation of agency;• Duties and rights of agents;• Authority of agent – express, implied, and ostensible authority,• Liabilities- liability of principal & agent;• Termination of agency.• Contract Drafting and Contract Management	<p>Suggested Case Readings</p> <ol style="list-style-type: none">1. R. Rajashekar and Ors. vs. Trinity House Building Co-operative Society and Ors. (15.09.2016 - SC):MANU/SC/1005/20162. Chairman, Life Insurance Corporation and Ors. vs. Rajiv Kumar Bhasker (28.07.2005 - SC) : MANU/SC/0441/20053. Shipping Corporation of India Ltd. vs. Machado Brothers and Ors. (25.03.2004 - SC) : MANU/SC/0276/20044. P.G. Natarajan vs. Life Insurance Corporation of India and Ors. (16.02.2016 - SC) : MANU/SC/0389/20165. Great Northern Railway v. Swaflied, 1874
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		<ol style="list-style-type: none">6. Bolton Partners v. Lambert7. Keighly, Masted & Co. v. Durant, 19018. Kelner v. Baxter, 18669. Shephard v Cartwright, [1953] Ch 728.10. Beaven v Webb,[1901] 2 Ch 59.11. Laxmi Narain Ram Gopal & Sons v Hyderabad Government, AIR 1954, SC 364.12. United Commercial Bank V Hem Chandra Sarkar, AIR 1990 SC 1329.13. Debenham v Mellon 1880 AC 24.14. Sims & Co v Midland Rly Co, [1913] 1 KB 103.15. Jayabharati Corp v SUPNSNR Nadar, AIR 1992 SC 596.16. Attwood v Munnings [1827] 7 B & C 278.17. Reid v Rigby [1894] 2 QB 40.18. Jacob v Morris [1902] 1 Ch 816.
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<p>IV (15 hours)</p>	<p>Partnership & Limited Liability Partnership Act</p> <ul style="list-style-type: none">• Nature and definition• Types of Partners• Concept of limited liability• Registration• Test of partnership, registration of partnership;• Minor as a partner;• Dissolution of partnership• Contract Drafting and Contract Management	<p>Suggested Case Readings</p> <ol style="list-style-type: none">1. Umesh Goel vs. Himachal Pradesh Cooperative Group Housing Society Ltd. (29.06.2016 - SC): MANU/SC/0694/20162. Indian Oil Corporation Ltd. vs. Nilofer Siddiqui and Ors. (01.12.2015 - SC): MANU/SC/1389/20153. S.P. Misra and Ors. vs. Mohd. Laiquddin Khan and Ors. (18.10.2019 - SC): MANU/SC/1440/20194. Mohd. Laiquiddin and Ors. vs. Kamala Devi Misra (Dead) by L.Rs. and Ors. (05.01.2010 - SC):MANU/SC/0031/20105. Swiss Timing Limited vs. Organising Committee, Commonwealth Games 2010 (28.05.2014 - SC):MANU/SC/0516/20146. Department of Customs vs. Sharad Gandhi (27.02.2019 - SC):MANU/SC/0295/20197. Axis Bank vs. SBS Organics Private Limited and Ors.
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		<p>(22.04.2016 - SC): MANU/SC/0438/2016</p> <p>8. Pr. Commissioner of Income Tax, New Delhi vs. Maruti Suzuki India Ltd (25.07.2019 - SC) : MANU/SC/0966/2019</p> <p>9. State Bank of India vs. V. Ramakrishnan and Ors. (14.08.2018 - SC): MANU/SC/0849/2018</p> <p>10. ArcelorMittal India Private Limited Vs. Respondent: Satish Kumar Gupta and Ors (04.10.2018 - SC):MANU/SC/1123/2018</p> <p>11. Serious Fraud Investigation Office and Ors. vs. Rahul Modi and Ors. (27.03.2019 - SC) : MANU/SC/0420/2019</p> <p>12. Rasik Lal & Co v CIT, AIR 1998 SC 401.</p> <p>13. Abdul v Century Wood Industries, AIR 1954 Mys 33.</p> <p>14. Prativa Rani v Suraj Kumar AIR 1985 SC 628.</p> <p>15. Ram Priya Saran v. Ghan Sham Das AIR1981All184</p> <p>16. 5.K.D.Kamath v. Commissioner of Income Tax (1971)2SCC873</p> <p>17. Smith v Anderson [1880] 15 Ch D247.</p> <p>18. R. R Sarna v Reuben AIR 1946 Oudh 68.</p> <p>19. Cox v Hickman [1860] 8 HLC 268.</p> <p>20. Badley v Consolidated Bank,[1888] 38 Ch D 238.</p> <p>21. Rawlison v Clarke [1846] 153 ER 860.</p> <p>22. Man v D Arcy [1968] 2 All ER 172.</p> <p>23. Helmore v Smith [1886] 35 Ch D 436.</p>
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<p>V (15 hours)</p>	<p>The Sale of Goods Act 1930 with Amendments</p> <ul style="list-style-type: none">• Purpose of the Act;• Sale, Agreement to sell;• Difference between sale and agreement to sell;• Caveat Emptor, Caveat Venditor,	<p>Suggested Case Readings</p> <ol style="list-style-type: none">1. High Range Coffee Curing Pvt. Ltd. Vs. Respondent: The State of Karnataka and Ors. (05.02.2020 - SC):MANU/SC/0133/20202. VS Motor Company Ltd. Vs. Respondent: The State of Tamil Nadu and Ors. (12.10.2018 - SC):MANU/SC/1170/2018
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	<p>Nemo dat quod non habet;</p> <ul style="list-style-type: none"> • Condition and warranties; • Passing of property, rules relating to passing off property; • Rights of the unpaid seller. • Contract Drafting and Contract Management 	<ol style="list-style-type: none"> 3. State of Karnataka and Ors. vs. Durga Projects Inc. (06.03.2018 - SC): MANU/SC/0206/2018 4. Indian Hume Pipe Co. Ltd. vs. State of Rajasthan and Ors. (28.08.2017 - SC): MANU/SC/1053/2017 5. State of West Bengal and Ors. vs. Calcutta Club Limited and Ors. (03.10.2019 - SC): MANU/SC/1367/2019 6. Graff v Evans [1882] 8QBD 373. 7. Alridge v Johnson [1857] 26 LJ QB 296. 8. Helby v Mathews [1893] AC 417. 9. State of Gujarat v. Ramanlal S. & Company, AIR, 1965 Guj. 60 10. Rowland v. Duvall [(1923) 2 K.B.] 11. Goddard v. Hobbs [(1878) 4 App. Cas. 13] 12. Rugg v. Minett, 1809 13. Zaguny v. Furnell, 1809 14. Bharneha v. Wadilal [28 Bom. L.R. 777 PC] 15. Lee v Butler [1893] 2 QB 318. 16. Raj Steel v State of A.P, AIR 1989 SC 1696. 17. Barrow Lane & Ballard v Phillips [1929] 1KB 574. 18. Harrison v Knowles & Foster [1917] 2 KB 606: All ER Rep 306. 19. Baldry v Marshall [1925] 1KB 206. 20. Niblett v confectioners' Materials Co, [1912] 3 KB 387: All ER Rep 459 CA. 21. Re Andrew Yule & Co, AIR 1932 Cal 879. 22. Gardener v Gray, [1850] 4 Camp 144: 171 ER 46. 23. Sacks v Tilley [1915] 32 TLR 148. 24. Knights v. Wiffen [(1870) L.R. 5Q.B. 600]
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Text Books



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1. Avtar Singh, Law of Contract, 2018, Eastern Book Company, Lucknow.

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Reference Books

1. Chitty on Contracts, 33rd Edition, Vols 1, 2 & 2nd Supplement, Sweet & Maxwell Publication, 2020.
2. Cheshire, "Law of Contract" Oxford, 15th edition, 2007.
3. The Sale of Goods, P.S. Atiyah, John N. Adams, Hector Macqueen.
4. G.H.L. Ericman; Law of Agency, 5th edition.
5. Dutt on Contract Universal, (2000).
6. Treitel, "The Law of Contract," 12th Edition, Sweet & Maxwell, 2007.
7. F.M.B. Raynolds & B.J. Dave Port; Bowstead on agency, 4th edition,.
8. Satish J Shah on Pollock and Mulla, The Sale of Goods Act, 8th Edition, by, Publisher: LexisNexis India (2011)
9. Madhusudan Saharay on Textbook on Indian Partnership Act with Limited Liability Partnership Act, 2nd edition, Universal Law Publication, 2013

Bare Acts to be referred

1. The Indian Contract Act, 1872
2. The Limited Liability Partnership Act 2008
3. The Indian Partnership Act, 1932
4. The Sale of Goods Act, 1930

 Marwadi University	Faculty of Law B.A.LL.B. (Hons.) Semester II				
	Subject Name	Moot Court Training	Credit	Teaching Scheme	
Theory				Practical	Tutorial
Subject Code	10FL0203	2	0	2	0

Course Objectives



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This course relates to litigation advocacy and as such this shall be simulation course that shall have two parts. First part shall focus on preparation for trial and trial strategies. It shall also disseminate techniques of examination-in-chief cross examination and re-examination of witnesses, argumentation in courts, bail application, injunction application, etc. The

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second part shall focus on writing briefs in civil suits and criminal cases, appellate briefs in civil and criminal cases, and writ matters, memorial writings and arguing before the appropriate forums. The students shall be given a case to argue, that shall help to articulate their argumentative zeal as well as capacity. It also provides a unique bonding experience for you and your team and gives you a mini-support system during law school.

Prerequisites:

Legal Terms

Course Outcomes

- On completion of this course, students will be able to:
1. Identify the legal issues arising from a hypothetical set of facts
 2. Research the law relevant to these legal issues;
 3. Formulate legal argument based on this research;
 4. Apply the law accurately and persuasively;
 5. Distinguish any case law which runs contrary to the argument being made;
 6. Present this argument articulately and clearly in an oral format;
 7. Advocate an interpretation of the law which is favourable to a particular side of the argument;
 8. Respond to questioning by judges based on the student's presentation observing the etiquette of the courtroom

Detailed Syllabus

Unit/ Sessions (in hours)	Descriptions
I (6 Hours)	Scope And Importance <ul style="list-style-type: none"> • Meaning of Moot Court • Difference between Moot Court & Court • Significance & Importance of Moot Court • Hierarchy of Courts
II (6 Hours)	Research <ul style="list-style-type: none"> • Library research • How to research for cases • How to research different journals and publications. • Online research
III (6 Hours)	Mode Of Citations <ul style="list-style-type: none"> • The Blue Book Citations • How to read case laws.



IV

(6 Hours)

Memorial

- How to approach a problem.
- Identifying the issues using different resource authorities to substantiate the arguments framed for both sides.
- How to quote cases and other authorities in the memorial.
- Bibliography.



V (6 Hours)	Qualities of Good Mooter <ul style="list-style-type: none"> • Language • Court manners • Appearance & Presentation Emphasis on the law.
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Text Books
<ul style="list-style-type: none"> ➤ Aggarwal Prof. Nomita & Mukesh Anand, “<i>Beginners Path To Moot Court</i>” Universal Law Publishing Co. Pvt. Ltd. ➤ Rai Kailash (Dr.), “Moot Court, Pre-Trial Preparations and Participation in Trial Proceedings”

Reference Books
<ul style="list-style-type: none"> ➤ Sirohi J.P.S., “<i>Moot Court, Pre-Trial Preparations and Participation in Trial Proceedings.</i>” ➤ Tewari O.P., “<i>Moot Court Pre Trial Preparations & Viva Voce.</i>” ➤ Deshta Sunil (Dr.) & Mrs. Kiran Deshta, “<i>Practical Advocacy of Law.</i>” ➤ Mittal J.K. “<i>Practical Training.</i>” ➤ Williams Glanville, “<i>Learning the Law</i>”

 Marwadi University	Faculty of Law B.A.LL.B. (Hons.) Semester II				
Subject Name	Law through Popular Media	Credit	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code	10SL0152	4	3	0	2

Course Objectives:
<p>The course is designed to achieve Following Objectives:</p> <ul style="list-style-type: none"> • To help learners learn legal language through popular media • To familiarize learners with various forms of media dealing with law

Learning Outcomes:
<p>After completion of the course, students would be able to :</p> <ul style="list-style-type: none"> ➤ Understand and analyze the different courtroom situations in a critical manner ➤ Use legal language with reference to a particular context ➤ Create an argument critically in the field of Law

Detailed Syllabus:



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Unit / Sessions (in hours)	Description	Recommended readings
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Unit 1:
Popular
Literature

(25 Hours)

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. <i>Silence! The Court is in Session</i> - by Vijay Tendulkar <ul style="list-style-type: none"> • Reading and roleplay of selected material from the text. • Based on the reading, there will be a series suitable tasks (e.g. Group discussions, debates, quizzes, roleplays, worksheets, et al) 2. <i>The Apple Cart</i> by George Bernard Shaw <ul style="list-style-type: none"> • Reading and roleplay of selected material from the text. • Based on the reading, there will be a series suitable tasks (e.g. Group discussions, debates, quizzes, roleplays, worksheets, et al) 3. Selected excerpts from Earl Stanley Gardner <ul style="list-style-type: none"> • Students will be asked to read the excerpts before the class. • Based on the reading, there will be a series suitable tasks (e.g. Group discussions, debates, quizzes, roleplays, worksheets, et al) | <ul style="list-style-type: none"> • CharandasChor by Habib • Tanvir • Selected excerpts from Agatha Christieand • Sherlock Holmes • Selected excerpts from John Grisham • Justice by John Galsworthy • Undue I Martini • The Trial by Franz Kafka • The Law and the Lawyers • by M K Gandhi • Poems on law and lawyers • Short Stories related to law and lawyers or court room. • Courtroom scene from Merchant of Venice by Shakespeare and Funeral • Oration by Mark Antony • from Julius Caesar by Shakespeare. • Great Trial of 1922 • famous speeches by Mahatma Gandhinfluence by Steve |
|---|--|



<p>Unit 2: Films (25 Hours)</p>	<p>1) <i>My Cousin Vinnie</i>(1992) a. Screening of selected scenes b. Based on the reading, there will be a series suitable tasks (e.g. Group discussions, script-writing, debates, quizzes, roleplays, worksheets, et al)</p> <p>2) <i>Kramer vs Kramer</i>(1979) a. Screening of selected scenes b. Based on the reading, there will be a series suitable tasks (e.g. Group discussions, script-writing, debates, quizzes, roleplays, worksheets, et al)</p> <p>3) <i>A Few Good Men</i> (1992)</p>	<ul style="list-style-type: none">• Legally Blonde(2001)• Judgment at Nuremberg (1961)• Philadelphia(1993)• The Reader (2008)• Woman in Gold(2015)• Pink (2016)• Shahid(2012)• Provoked(2006)• Court (2014)• Jolly LLB(2013)• No One Killed
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	<p>a. Screening of selected scenes b. Based on the reading, there will be a series suitable tasks (e.g. Group discussions, script-writing, debates, quizzes, roleplays, worksheets, et al)</p> <p>4) <i>Amistad</i> (1997) a. Screening of selected scenes b. Based on the reading, there will be a series suitable tasks (e.g. Group discussions, script-writing, debates, quizzes, roleplays, worksheets, et al)</p> <p>5) <i>To Kill A Mocking Bird</i> (1962) a. Screening of selected scenes b. Based on the reading, there will be a series suitable tasks (e.g. Group discussions, script-writing, debates, quizzes, roleplays, worksheets, et al)</p>	<ul style="list-style-type: none"> • Jessica(2011) • Salim LangdePe Mat Ro • (1989) • Chalamussaddi...office • office(2011) • Article 15 (2019)
<p>Unit 3: TV Series (25 Hours)</p>	<p>1) Boston Legal a. Screening of selected episodes b. Based on the reading, there will be a series suitable tasks (e.g. Group discussions, script-writing, debates, quizzes, roleplays, worksheets, et al)</p> <p>2) The Practice a. Screening of selected episodes b. Based on the reading, there will be a series suitable tasks (e.g. Group discussions, script-writing, debates, quizzes, roleplays, worksheets, et al)</p> <p>3) People vs O. J. Simpson a. Screening of selected episodes b. Based on the reading, there will be a series suitable tasks (e.g. Group discussions, script-writing, debates, quizzes, roleplays, worksheets, et al)</p>	<ul style="list-style-type: none"> • How to get away with murder • Sherlock • The Defenders • Lie to Me • Adalat • Law and Order: Victims • Law and Order: Criminal Intent • Unbreakable Kimmy • Schmitt (Season 1-Finale) • Damages • Suits • The Good Wife • The Good Fight



 Marwadi University	Faculty of Law B.A.LL.B. (Hons.) Semester II				
Subject Name	NGO (4 weeks) Internship	Credit	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code		2	0	0	0

Course Objectives:

The course is designed to achieve Following Objectives:

- To familiarize students with reality of the society
- To enable student's exposure to law in practice

Learning Outcomes:

After completion of the course, students would be able to :

- Understand the nuances of social reality
- Identify the social issues facing by the people in society
- Create an ambience for amelioration of the issues related to society

Detailed Syllabus:

Sessions (in hours)	Nature of Work done	Learning Outcome	Remarks
1 st week			
2 nd week			
3 rd week			
4 th week			

RULES

1. All Internships mentioned in the above-mentioned table shall be completed by a student in order to be eligible for the award of the degree of B.A.LL.B.(Hons.)/B.Com.LL.B. (Hons.).
2. An internship can be arranged by a student or the same can be arranged by Faculty of Law, Marwadi University, Rajkot.
- 2.1 Procedure to be followed when student is self-arranging internship





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a. Student shall submit the details of the internship office to the internship committee before beginning the internship as per the internship calendar notified by the Internship Committee.

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Marwadi University
Rajkot



- b. Student shall obtain a recommendation letter from Dean, Faculty of Law before starting the internship.
- c. Student shall submit the Internship Confirmation Letter before starting the internship.
- d. If a student is self-arranging the Internship, the parameters set up by Faculty of Law, Marwadi University, Rajkot shall be fulfilled by the Organisation / Lawyer / Company.
- e. Student shall not change the internship office without obtaining approval from the Internship Committee at Faculty of Law, Marwadi University, Rajkot.
- f. If a student changes the internship office without obtaining the approval from the Internship Committee, such internship shall not be considered for any purpose by Faculty of Law, Marwadi University, Rajkot.
- g. Student shall be informing the internship office regarding issuing of Confidential Internship Certificate and Internship Completion Certificate. If the internship office refuses to issue any of the documents mentioned above, the internship committee shall not make any communication to the internship office, it shall be the sole responsibility of the student to get documents mentioned above.

2.2 Procedure to be followed when Faculty of Law, Marwadi University, Rajkot will arrange the Internship

- a. Student shall submit the request in writing of arranging internship to the Internship Committee at Faculty of Law, Marwadi University, Rajkot three months prior from the starting the internship, failing which Faculty of Law shall not be responsible to arrange the internship, Student shall be responsible for self-arranging the internship and he/she shall be following all the steps mentioned in
- b. The internship office arranged by Faculty of Law, Marwadi University Rajkot, shall be final. The student shall be joining the internship office on time. No request for change of internship office shall be entertained.
- c. No preferences from a student with regard to place of internship or internship office shall be entertained by Internship Committee, Faculty of Law, Marwadi University, Rajkot.
- d. Student shall bear the cost of stay, travel and any other expenses during the time of internship. Student will have to arrange his/her accommodation. e. If a student does not join the Internship office as provided to him by Internship Committee, Faculty of Law, Marwadi University, Rajkot, in future no assistance what so ever shall be provided by Internship Committee to that student except providing him a recommendation letter.

PROCESS DURING AND AFTER COMPLETION OF INTERNSHIP

1. Student shall maintain daily record of work as per the format provided below and submit weekly progress report to their Faculty Coordinator allocated by the Internship Committee.
2. Format of Weekly Report: Name of the Student:
Course: B.A.LL.B.(Hons.)/B.Com.LL.B.(Hons.) Semester:
Name of the Internship: NGO/LC-1/LC-2/HC-1/HC-2/SC-1/SC-2/Placement
Name of the Internship Office:
Name of the Reporting Head at Internship Office:



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Week: 1/2/3/4 Dates: DD/MM/YYYY to DD/MM/YYYY

Sr. No. Date Nature of Work done Learning Outcome 1 2 3 4



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2. There shall be a separate weekly report for each week of internship. The weekly report in soft copy shall be submitted to Faculty Coordinator as per the schedule notified by the Internship Committee.
3. At the end of the internship a Final Report both in hard copy as well as in soft copy prepared by the student shall be submitted to the Faculty Coordinator.
4. Late submission of weekly reports and Final Reports shall attract deduction of the marks by the Faculty Coordinator.
5. If weekly report submission is delayed by more than seven days from the due date, it shall be considered as no weekly report submission on the part of the student.
6. The mode (google form, email etc.) of Weekly and Final Internship report submission shall be notified by the Faculty Coordinator. Submission in any other mode shall be considered as no submission on the part of student.
7. The Final Report of the Internship shall be submitted in hard copy to the Faculty coordinator, while submitting the Final report in hard copy the Student shall sign the sheet of final report submission available with Faculty coordinator.
8. The student must make sure that the weekly and final report submitted by him/her shall not be a plagiarised, copied or similar to the work submitted by any other student of Faculty of Law, Marwadi University, Rajkot.
9. In case weekly or final report have been found to be plagiarised, copied or similar to the work submitted by any other student of Faculty of Law, Marwadi University, Rajkot then such case shall be considered to be a case of use of unfair means in examination. A committee shall be constituted by the Dean, Faculty of Law to inquire into the cases of use of unfair means. The decision shall be taken by Dean, Faculty of Law, Marwadi University based on the recommendations made by the inquiry committee.
10. The student shall submit a copy of the Internship Certificate counter signed by the her/him to the Faculty Coordinator allocated by the Internship Committee.
11. Non-submission of the certificate shall lead to cancellation the Internship and the student shall be repeating the same internship again in future.
12. A student shall make sure the internship office is submits the Confidential Internship Certificate to the Faculty Coordinator via mail or post in a sealed envelope.
13. Internship Confidential Certificate must be signed and seal of the Internship office/Advocate must be there on it, without signature and seal Internship Confidential Certificate shall not be considered for any purpose.
14. After the submission of final internship report, a viva-voce examination shall be conducted in which the student shall be examined by external/internal examiner. Students shall be evaluated based on the work they have done during the internship, presentation and practical knowledge gained.
15. If a student fails to complete internship, such student shall be declared fail. He/she shall have to complete the same internship in future in order to become eligible for the award of Degree of B.A.LL.B./B.Com.LL.B.
16. In case any misconduct or unprofessional behaviour of a student during internship is being reported by the internship office to the Internship Committee, Faculty of Law, Marwadi University, Rajkot, the same shall be inquired by a committee constituted by the Dean, Faculty of Law, Marwadi University, Rajkot and the decision shall be taken by the Dean, Faculty of Law, Mawardi University,



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Rajkot based on the recommendations made by the inquiry committee.

17. The format of the Final Internship Report is as follows

List of Contents

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Marwadi University
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Sr.No.

Title Page No.

1 Acknowledgement

2 Table of Statutes

3 Abbreviations

4 Introduction

5 Internship Work Overview

6 Conclusion

7 Experience sharing

8. Evaluation Scheme:

CONFEDENTIAL CERTIFICATE

Name of the Student:

Institute/Organization:

Name & Address of the Supervisor:

STUDETNT PERFORMANCE

Specific remarks about the overall performance of the student toward tasks: (Enthusiastic; eager to learn; receptive; diligent; highly engaged; conscientious; indifferent; disinterested)

Skill of the student in executing tasks: (Well developed critical thinking & analytical skills; shows initiative; learns quickly; productive; meets deadlines; needs to ask more questions; often fails to understand or follow directions; requires close supervision)

How far the student is Dependable: (Conscientious; exercises good judgment; follows through consistently on tasks; persistent with difficult tasks; hesitant to make decisions; careless in meeting obligations)

General Conduct & Character: (Positive attitude; suitable dress & grooming; prompt; accepts praise and criticism appropriately; accountable; makes excuses; overly casual in approach)

Maintaining relationships with others: (Respectful; cooperative; receives suggestions well; open; mature; tactful; friendly; shy; impolitic; argumentative)



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Merit Based Overall Evaluation of the Interns Performance:


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- Outstanding (performed beyond expectations)
 Very good (high quality performance)
 Good (performed all tasks as expected)
 Average (marginal performance)
 Unsatisfactory (performance mostly inadequate)

(SIGNATURE OF THE SUPERVISOR WITH OFFICE SEAL)

DATED

 Marwadi University	Faculty of Law B.Com,LL.B. (Hons) Semester III				
	Subject Name Financial Accounting	Credit	Teaching Scheme		
Subject Code 10BC0301	4	Theory 3	Practical 0	Tutorial 2	

Course Objectives

- To impart knowledge regarding the inventory management
- To equip students with the conceptual understanding of cost.
- To brief students with the elementary framework of subsidiary book
- To impart knowledge regarding bank reconciliation statement
- To enhance the capabilities of students through exploring concept of final accounts and analysis of financial statement analysis.

Prerequisites:

None

Course Outcomes

After studying this course, student should be able to:

- The students will be able to understand basic of various techniques inventory management
- Clear understanding of various cost
- Understanding of importance of preparing subsidiary books
- To undemand purpose of preparing bank reconciliation statements
- Conceptual understanding of final accounts and financial statement analysis





Course Content

Unit No	Descriptions	Hours
I	INVENTORY VALUATION Introduction, Meaning of Inventory and Inventory valuation, Objectives of Inventory Valuation, Main Valuation point of Indian Accounting standard – 2 (Revised), Methods of inventory valuation First in First Out, Last in First Out, Highest in First Out, Weighted Average Price Method. Practical Questions	12
II	COST CONCEPT AND CLASSIFICATION Introduction, Meaning of Cost, Classification of Cost – on the basis of Time, on the basis of Elements, on the basis of activity, Functional Classification, Methods of Costing, Cost reduction and Cost Control.	08
III	SUBSIDIARY BOOKS Introduction, meaning of Subsidiary Books, Advantages of Subsidiary Books, Cash Book, Purchase Book, Sales Book, Purchase Return Book, Sales Return Book, Practical Questions.	12
IV	BANK RECONCILIATION STATEMENT Introduction, Meaning, Purpose of Bank Reconciliation Statement, Causes of Difference, Practical questions.	10
V	FINAL ACCOUNTS OF COMPANY Introduction, meaning and Need- related accounting standard, Legal Provision for Final Accounts as per companies Act. ANALYSIS AND INTERPRETATION OF FINANCIAL STATEMENTS Introduction, meaning of Financial statement interpretation, Procedure for Analysis and Interpretation of Financial statement, Types of Financial Statement Analysis, Techniques of Analysis and Interpretation	18
	Total	60

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	P.C. Tulsian	Financial Accounting	Pearson	Latest



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T-02	S.N. Maheshwari, and. S. K. Maheshwari	Financial Accounting	Vikas Publishing House, New Delhi	Latest
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T-03	M.C.Shukla, T.S.Grewal and S.C.Gupta	Advanced Accounts. Vol.-I	S. Chand & Co., New Delhi	Latest
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Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	R. L. Gupta and M. Radhaswamy	Advanced Accounts. Vol.-I& II	S. Chand & Co., New Delhi	Latest
R-02	A.Mukharji and M. Hanif	Financial Accounting	Tata McGraw, Hill Publishing Co. Ltd. New Delhi	Latest
R-03	S. P. Jain and K. N. Narang	Advanced Accountancy	Kalyani Publishers, New Delhi	Latest
R-04	T. S. Grewal	Introduction to Accountancy	S. Chand & Co. Pvt. Ltd., New Delhi	Latest
R-05	Monga, J. R.	Financial Accounting : concepts and applications	Mayoor Paper Backs, New Delhi	Latest

 Marwadi University	Faculty of Law B.Com,LL.B. (Hons) Semester III				
Subject Name	Fundamentals of Entrepreneurship	Credit	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code	10BC0302	4	3	0	2

Course Objectives



- To make students aware about various options available for entrepreneurship.
- To enable students to visualize and conceptualize an idea that can be converted into a venture
- To make student aware about preparing a good business plan.

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- To make them aware about the support available for entrepreneurs in the country.

Prerequisites:

None

Course Outcomes

- Comprehend fundamental concepts for starting the business.
- Apprehend the concept of industrial environment and preparing basic plan.
- Understand available sources for raising funds for start- ups.
- Comprehend various challenges and possible solution for starting a business unit.

Course Content

Unit No	Descriptions	Hours
I	ENTREPRENEURSHIP - AN INTRODUCTION: Meaning & Definition of Entrepreneurship, Common Entrepreneurial Characteristics, Required skills of an Entrepreneurs, Entrepreneurial Process, Role of Entrepreneurship in Economic Development of the Nation, Advantages & Drawbacks of Entrepreneurship, Introduction to Intrapreneurship	10
II	UNDERSTANDING INDUSTRIAL ENVIRONMENT: Industry - Large Scale - Small Scale - Tiny - Ancillary - Cottage, Challenges for Small Scale Industries, Registration process of SME, Definition & Symptoms of industrial sickness and suggested remedies for sick units, Domestic & International Entrepreneurship Options	12
III	PREPARING BUSINESS PLAN: Generation of Project Ideas, Sources of Business Ideas, Methods to generate business ideas, Feasibility Analysis: Economic, Managerial competency. Marketing, Financial & Technical, Environmental Scanning and SWOT analysis. Structure of a business plan, Importance of Business Plan, process of Preparation of Business Plan.	16
IV	SOURCES OF FINANCE FOR BUDDING ENTREPRENEURS Debt V/S Equity, Internal V/s External Funds, Options for Borrowing Funds, Various Financial Institutions Supporting entrepreneurial activities, Introduction to Venture Capital Funding, Managing Growth	12



V	SUCCESS & FAILURE STORIES OF ENTREPRENEURSHIP:	10
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	Discussions of various business stories & Cases of Successful Businesses, Lessons to be learnt from various organizational failures	
	Total	60

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Kumar Arya,	Entrepreneurship,	Pearson,	Latest Edition
T-02	Desai Vasant,	The Dynamics of Entrepreneurial Development & Management	Himalaya Publishing House, Delhi	Latest Edition
T-02	Robert D. Hisrich, Michael P Peters and Dean A Shepherd,	Entrepreneurship	TMH	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Poornima M. Charnatimath, ,	Entrepreneurship Development And Small Business Enterprises	Pearson,	Second Edition
R-02	K Ramchandran,	Entrepreneurship – Indian Cases on Change Agents	TMGH	Latest Edition
R-03	Satish Taneja, S.L.Gupta	Entrepreneurship Development New Venture Creation	Galgotia Publishing Company	Latest Edition
R-04	Rashmi Bansal	Stay Hungry Stay Foolish	IIM Ahmedabad CIIE publication	Latest Edition



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R-05	Longenecker, Moore, Petty and Palich,	Managing Small Business	Cengage Learning, India Edition	Latest Edition
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 Marwadi University	Faculty of Law B.Com,LL.B. (Hons) Semester III				
Subject Name	Human Resource Management	Credit	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code	10BC0303	4	3	0	2

Course Objectives

- To understand the importance of human resource management as a central management function.
- To acquaint the students with Human Resources Management practices and to develop in them the ability to demonstrate them in the corporate world

Prerequisites:

None

Course Outcomes

After studying this course, student should be able to:

- Understand the various functions of the HR management and a range of practices employed by organizations.
- Develop appropriate methods for attracting, retaining, developing and engaging talent for the organization.
- Identify employment related challenges faced by the organization

Course Content

Unit No.	Descriptions	Hours
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I	INTRODUCTION TO HUMAN RESOURCE MANAGEMENT Introduction – Meaning - Objectives of Human Resource Management-Importance of HRM – Functions and Process of	10
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	HRM- HR Manager - Duties and Responsibilities – Recent trends in HRM	
II	PROCUREMENT OF HUMAN RESOURCE Human Resource Planning – Significance and Process, Job Analysis - Process- Job Description & Job Specification, Recruitment –Sources– Methods of Recruitment, Selection – Steps in Selection Process – Placement and Induction	13
III	TRAINING AND HUMAN RESOURCE DEVELOPMENT Training- Significance of training - identification of training needs - methods of training – Difference between Training & Development- Design of Training Programme- Evaluation of Training Effectiveness	13
IV	COMPENSATION AND MAINTAINENCE Job Evaluation – Concept, Process and Significance-Components of Employee Remuneration – Base and Supplementary- types of employee benefits and services; Performance Appraisal – Concept and Objectives- Traditional and Modern Methods	12
V	INTRODCUTION TO INDUSTRIAL RELATIONS Industrial Relation – Objectives – Approaches of Industrial Relations – Collective Bargaining – Grievance Process	12
	Total	60

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Pravin Durai	Human Resource Management	Pearson Publication	Second Edition
T-02	Gary Dessler and Biju Varkkery	Human Resources Management	Pearson Publication	Thirteenth Edition



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Reference Books:



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Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	V. S. P. Rao	Human Resource Management– Text and Cases	Excel Books	Third Edition
R-02	K. Aswasthapa	Human Resource	Tata Mc Graw Hill	Sixth Edition
R-03	P. Subba Rao	Essential of Human Resource Management and Industrial relations	Himalaya Publishing House	Fifth Edition
R-04	Sinha, Sinha and Shekhar .	Industrial Relations, Trade unions and Labour Legislations	Pearson Education	Second Edition

Subject Name	Jurisprudence	Credit	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code	10FL0301	5	4	0	2

Objectives:

- To encourage the development of skills in legal reasoning and analysis among the students
- To introduce students to basic theoretical perspectives on the creation and application of law.
- To provide students with knowledge and appreciation of the major theories of law, justice and rights.
- To provide students with awareness of principles underpinning legal doctrine, and of the ways in which those principles can conflict.
- To engage students in reflection upon the question of what makes for a valid system of binding laws, and upon the distinction between a just and an unjust legal system.

Outcomes:



After completion of the course, students will be able to-

1. To be able to relate to the different aspects of jurisprudence as a field of study.
2. Interpret and assess competing philosophical and ethical perspectives on law, and to use those perspectives to formulate arguments about law, politics and ethics.
3. Identify the critically key jurisprudential issues.
4. Analyse and reason the legal and moral arguments, by way of both oral and written presentation.
5. Evaluate a concise and appropriately structured report addressing a key jurisprudential issue.
6. Develop and formulate theses and summarize legal and ethical perspectives.
7. Logically test and, to assess competing principles impartially and to identify and solve legal and ethical problems.

Detailed Syllabus

Unit/ Sessions (in hours)	Descriptions
1 (9 hrs)	<p>Jurisprudence: Nature and Scope</p> <ul style="list-style-type: none"> • The purpose of legal theory • What is jurisprudence? • Concept of law and legal system & its relation of justice to law and ethics. • The problem of International Law. • Definition of law in terms of the judicial process. • Constitutional Law.
2 (4 hrs)	<p>Sources of Law</p> <ul style="list-style-type: none"> • Legislation • Precedents: concept of stare decisis • Customs • Juristic Writings
3 (10 hrs)	<p>Theories/Schools of Law</p> <ul style="list-style-type: none"> • Natural Law Theory. • Historical School. • Positive Law Theory. • Sociological School. • Realistic School.



<p>4 (8 hrs)</p>	<p>Purpose of Law</p> <ul style="list-style-type: none">• Justice<ul style="list-style-type: none">➤ Meaning and kinds➤ Justice and law: approaches of different schools & relations➤ Power of the Supreme Court of India to do complete justice in a case: Article 142
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	<ul style="list-style-type: none"> ➤ Critical studies ➤ Feminist jurisprudence
5 (9 hrs)	<p>Legal Concepts</p> <ul style="list-style-type: none"> • Rights : Wrongs, Duties, Rights <p>The characteristics of legal rights, theories of rights, legal rights in a wider sense, the kinds of legal rights, right duties co-relations</p> <ul style="list-style-type: none"> ➤ Theories of Rights ➤ The Characteristics of legal rights ➤ Legal rights in a wider sense ➤ The Kinds of legal rights ➤ Right – Duty correlation

Text Books:

- V.D. Mahajan, *Jurisprudence and Legal Theory* (1996 re-print) , Eastern, Lucknow.
- Jayakumar, N.K. 2006. *Lectures in Jurisprudence*. (Second Edition). Lexis Nexis Butterworths, New Delhi.

Reference Books:

- M.D.A Freeman (ed.), *Lloyd's Introduction t Jurisprudence*, (1994), Sweet & Maxwell
- Dias, *Jurisprudence* (1994 First Indian re-print), Adithya Books, New Delhi
- Ian Mcleod, *Legal Theory*, (2007), Palgrave Macmillan
- Paton G.W., *A Textbook of Jurisprudence* (4th ed.1972) Oxford
- P.J. Fitzgerald, *Salmond on Jurisprudence* (2004) Universal Law Publishing Co. Pvt. Ltd.
- Nomita Aggarwal, *Jurisprudence- Legal Theory*, (7th ed., 2008), Central ILaw Publications, Allahabad.

 Marwadi University	<p>Faculty of Law</p> <p>B.A.LL.B. (Hons.)</p> <p>Semester III</p>				
Subject Name	Family Law I	Credit	Teaching Scheme		
Subject Code	10FL0302	5	Theory	Practical	Tutoria 1
			4	0	2





Course Objectives

1. To know the various concepts and basis of evolution of Family Law.
2. To analyze and examine the different codified as well as unmodified family laws operating in the Indian societal set up.

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3. To examine judicial trends and its impact.
4. To discuss the contemporary issues affecting Family Laws.
5. To understand justice dispensation in Family Law and to identify the constraints in the adoption of uniform civil code in India.

Course Outcomes

On completion of this course, the students will be able to:

1. State origin, types, classification of families and personal laws.
2. Identify the various modes of marriages under different personal laws.
3. Describe the establishment, composition and powers of family Courts.
4. Interpret the provisions of guardianship and minority.
5. Criticize various issues and problems of adoption and maintenance.
6. Develop the various legal provisions as well as judgments of Supreme Court and High Courts.

Detailed Syllabus:

Unit/Hours	Description	Case Law
1 (12 hrs)	Introduction to Family Law 1.1 Origin of family 1.2 Types of family 1.3 Characteristics of family 1.4 Classification based upon marriage 1.5 What is Family Law 1.6 Origin and Sources of Personal Laws	
2	Marriage	Case Law



(13 hrs)

- 2.1 Evolution of the Institution of Marriage
- 2.2 Hindu Marriage under Hindu Marriage Act, 1955
- 2.3 Muslim Marriage
- 2.4 Christian Marriage
- 2.5 Marriage under Special Marriage Act
- 2.6 Parsi Marriage
- 2.7 LGBTQ community marriage.

- Dr. Surajmani Stella Kujur v. Durga Charan Hansdah AIR 2001 SC 938
- S. Nagalingam v. Sivagami (2001) 7 SCC 487
- Lily Thomas v. Union of India, AIR 2000 SC 1650



		<ul style="list-style-type: none">• Asha Qureshi v. Afaq Qureshi, AIR 2002 MP 263• Seema v. Ashwani Kumar (2006) 2 SCC 578• Kailashwati v. Ayudhia Parkash, 1977 C.L.J. 109 (P.& H.)• Saroj Rani v. Sudarshan Kumar, AIR 1984 SC 1562K.M. Garg, AIR 1978 Del. 296• N.G Dastane v S. Dastane, AIR 1975 SC 1534• Samar Ghosh v. Jaya Ghosh, 2007 (3) SCJ 253• Bipinchandra Jaisinghbai Shah v. Prabhavati, AIR 1957 SC 176 <p>Case Law</p> <ul style="list-style-type: none">• Dharmendra Kumar v. Usha Kumar, AIR 1977 SC 2213
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<p>3 (13 hrs)</p>	<p><u>Matrimonial Reliefs and Family Court</u></p> <p>3.1 Restitution of Conjugal Rights 3.2 Judicial Separation 3.3 Divorce</p> <ul style="list-style-type: none">➤ Void and voidable marriage➤ Theories of Divorce➤ Divorce under Hindu Marriage Act➤ Divorce under Muslim Marriage Act<ul style="list-style-type: none">• The Dissolution of Muslim Marriage	<p>Case Law</p> <ul style="list-style-type: none">• Chand Patel v. Bismillah Begum, 1 (2008) DMC 588 (SC)• Shamim Ara v. State of UP., 2002 Cr LJ 4726 (SC) 28• Masroor Ahmed v. Delhi (NCT) 2008 (103) DRJ 137 (Del.)
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	<p>Act, 1939</p> <ul style="list-style-type: none"> • Muslim Women (Protection of Rights on Marriage) Act, 2019 <p>➤ Divorce under Special Marriage Act</p> <p>3.4 Family Court Act</p>	<ul style="list-style-type: none"> • Musst. Rebun Nessa v. Musstt. Bibi Ayesha & others, AIR 2011 Gauhati 36 • T Srinivasan v. T. Varalakshmi, 1 (1991) DMC 20 (Mad.) • Hirachand Srinivas Managaonkar v. Sunanda, AIR 2001 SC 1285 • Sureshta Devi v. Om Prakash, 1 (1991) DMC 313 (SC) • Waj Bibee v. Azmat Ali, (1867)8 WR 23 • Shayara Bano and others v. Union of India and others, Writ Petition (C) No. 118 of 2016
<p>4 (13 hrs)</p>	<p><u>Provisions relating to Maintenance</u></p> <p>4.1 Persons entitled to maintenance 4.2 Maintenance of divorced women (a) Under Hindu Law (b) Under Muslim personal Law (c) Under the Muslim women Act, 1986 (d) Under Criminal Procedure code 4.3 -Maintenance and Welfare of Parents and Senior Citizens Act, 2007.</p>	<p>Case Law</p> <ul style="list-style-type: none"> • Amar Kanta Sen v. Sovana Sen, AIR 1960 Cal. 438 • Padinja Sharma v. Ratan Lal Sharma, AIR 2000 SC 1398 • Ramesh Chandra Kaushal V. Veena Kaushal, AIR 1978 SC 1807 • - Yamunbai V. Anantrao, AIR 1988 SC 644. • Md. Shamsuddin V. NoorJohan, AIR 1955, Hyd.44 • Rohtas Singh V.



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Ramendri, AIR 2000
SC 952.

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		<ul style="list-style-type: none"> Begum Bibi V. A. R Khan. 1995 Cr. L. J. 604 (Ori)
<p>5 (12 hrs)</p>	<p>Adoption and Guardianship</p> <p>5.1 Concept of Adoption 5.2 Legal aspects and requirements for a valid adoption</p> <ul style="list-style-type: none"> Hindu Adoption and Maintenance Act Juvenile Justice Act, 2015 CARA Guideline <p>5.3 Guardianship and its legal issues in personal laws 5.4 Relevant Provisions of Guardian and Wards Act, 1890</p>	<p>Case Law</p> <ul style="list-style-type: none"> Brijendra v. State of MP., AIR 2008 SC 105 Githa Hariharan v. Reserve Bank of India (1999) 2 SCC 228 Danial Latifi v. Union of India (2001) 7 SCC 740
<p>6 (12 hrs)</p>	<p>Contemporary Issues and Challenges</p> <p>6.1 Uniform Civil Code 6.2 Live-in-relationship 6.3 Surrogacy 6.4 Forced conversion law. 6.5 other issues</p>	<p>Case Law</p> <ul style="list-style-type: none"> Mohd. Ahmed Khan v. Shah Bano, AIR 1985 SC 945 Fazlunbi v. Khader Ali, 1980 SCR (3)1127 Sarla Mudgal v. Union of India, (1995)3SCC635. Alok Kumar v. State and Another, Cr. M.C. No. 299/2009, High Court of Delhi Khushboo v. Kanniammal, JT 2010(4) SC 478 D. Velusamy v. D. Patchaiammal, AIR 2011 SC 479 at para 33 Indra Sarma v. V.K.V.Sarma, AIR 2014 SC 309



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75 hours		
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Text Books

1. Family Law Lectures, Family Law I, By Kusum, Lexis Nexis student Series. 4th Edition, 2015
2. Aqil Ahmad, Mohammedan Law, Central Law Agency, 21st Edition.

Reference Books

1. Prof. G.C.V. Subba Rao's Family Law in India, S. Gogia and Company, 9th Edition 2011
2. Dr. U.P.D. Kesari, Modern Hindu Law, Central Law Publication, 9th Edition 2013.
3. Aqil Ahmad Mohammedan Law revised by Prof. I.A. Khan, Central Law Agency, 25th Edition 2015
4. Manjit Singh Nijjar, Nullity of marriage under Hindu law, Deep and Deep Publications Pvt. Ltd., 1994

 Marwadi University	Faculty of Law B.A.LL.B. (Hons.) Semester III				
Subject Name	Constitutional Law I	Credit	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code	10FL0303	5	4	0	2

Course Objectives:

Constitutional Law carries a very important role in today's curriculum of every law school. Its study has following objectives:

1. To understand the jurisprudential aspect of the rights guaranteed to the citizens by the Constitution of India.
2. To study constitutional governance through a detailed analysis of rights, duties and directive principles of state policy enshrined in the Indian Constitution.
3. To analyze the relationship between fundamental rights and directive principles of state policy as both are indispensable elements for good governance of country.





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Course Outcomes


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On completion of this course, students will be able to:

1. To be able to define the meaning nature and salient features of the Constitution of India.
2. To be able to demonstrate the jurisprudence of the fundamental freedoms guaranteed to the citizens of India
3. To be able to develop and solve problems relating to the Fundamental rights and duties guaranteed by the constitution
4. To be able to analyze the basic knowledge of the constitutional remedies in case of violation of fundamental rights
5. To be able to explain the interrelationship between fundamental rights, fundamental duties and Directive principles of state policy and their role in achieving the constitutional goals
6. To be able to elaborate on the case law critically in the context of the ideal of a welfare state

Detailed Syllabus

Unit/Sessions (in hours)	Descriptions	Case Laws
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**Unit 1: –
Constitution,
Constitutional Law
Constitutionalism,
The Union and its
territories and
Citizenship**

(9 Hours)

- | | |
|--|---|
| <ul style="list-style-type: none"> • Concepts of Constitution, • Constitutional Law and Constitutionalism, • History of constitutional law – • Forms and characters of various models of constitution – written and unwritten – secondary rules of governance vis-à-vis Constitution – unitary vis-à-vis federal – rigid vis-à-vis flexible – Parliamentary vis-à-vis Presidential forms of governments- • Formation of Constituent Assembly- • Drafting of the Constitution of India and various interaction of forces- Adoption of the Constitution of India and promulgation – 1946 to 1950 | <ul style="list-style-type: none"> • Keshavananda Bharati v. State of Kerala, AIR 1973 SC1461; • Excel Wear v. Union of India AIR1979 SC25; • Bhim Singhji v. Union of India, AIR 1981 SC234; • State of Kerala v. N.M.Thomas AIR1976 SC490 • Waman Rao v. Union of India AIR 1981 SC271; • Minerva Mills Ltd. V. Union of India AIR 1980 SC1789, • Dharwad Employees v. State of Karnataka, AIR1990SC883 • Hinsa Virodak Sangh v mirzapur Moti Kuresh Jamat (2008)5 SCC 33 • Mullaperiyar Environmental Protection Forum v UOI (2006) 3 SCC 643 • Louis Randt v UOI AIR 1991 SSCW 2113 |
|--|---|



	the territory of India	
<p>Unit 2:</p> <p>Definition of State and Law (Article 12 and 13)</p> <p>Right to Equality (Article 14): (12Hours)</p>	<ul style="list-style-type: none"> • Definition of State • What is Law • Doctrine of eclipse, severability, waiver. • Distinction between pre-constitutional law and post-constitutional law • Right to equality; including equality before law; • Prohibition of discrimination on grounds of religion, race, caste, sex or place of birth; • Equality of opportunity in matters of employment; • Abolition of untouchability; and Abolition of titles • Justifiability of fundamental rights– <p>Reservation (Article 15 & 16):</p> <ul style="list-style-type: none"> • General principle of reservation vis-à-vis affirmative action in US • Pulland push process of reservation • Reservation vis-à-vis principle of equality and state special responsibility create of substantial basis of negative application of principle of equality • General principle of non-discrimination • Special provision for women and children • State special responsibility for 	<ul style="list-style-type: none"> • Ashok Thakur v UOI (2008) 6 SCC1 • Global Energy Electricity v CERC (2009)15 SCC570 • State of West Bengal v. Anwar Ali AIR 1951 SC75, • Meenakshi Mills v. Viswanath AIR 1955SC13 • Shri Sita Ram Sugar CoLtd v. Union of India,AIR 1990SC 1277 • Naga People’s Movements of Human Rights v. Union of India AIR 1998 SC431, • BALCO Employees’ Union v. Union of India AIR 2002 SC350 • JohnVallamattom v. Union of India AIR 2003 SC 2003, • St Stephen’s College v. University of Delh AIR1992SC1630 • Indian Express Newspapers v. Union of India, AIR 1986 SC515] • State of Uttar Pradesh v. Balaram, AIR 1972 SC1375 • Ajay Kumar v. State of Bihar (1994) 4SCC401, • State of Sikkim v. Surendra Prasad Sharma AIR 1994 SC2342, • Mohan Bir Singh Chawla v. Punjab University AIR 1997 SC788, • Prabhakar v. State of Andhra Pradesh AIR 1986 SC210, • Shiv Charan v. State of Mysore AIR 1965 SC280



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Advancement of socially
and educationally backward
community or scheduled

- Balaji v. State of Mysore
AIR 1963 SC 649,}

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	caste and scheduled tribes and doctrine of protective discrimination.	
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Unit 3: Right to freedom Arts.19(1), 19(2), 20(2),20(3), 21, 22)
(9 Hours)

- Right to freedom which includes speech and expression, assembly, association or union or cooperatives, movement, residence, and right to practice any profession or occupation
- Restrictions on Freedom under Art.19 such as security of the State, friendly relations with foreign countries, public order, decency or morality,
- Protection in respect to conviction in offences
- Right to life and liberty,
- Right to education, and
- Protection against arrest and detention in certain cases.
- Communist Party of India (M) v. Bharat kumar AIR 1998 SC 184,
- Sagir Ahmed v. State of Utter Pradesh AIR 1954 Sc728,
- Ram Jaways v. State of Punjab SIR 1955 SC549
- T.M.A. Pai Foundation v. State of Karnataka AIR 2003 SC 355,
- State of MP, v. Nand Lal AIR 1987 SC251
- Express Newspapers v. Union of India AIR 1986 SC 872
- Dinesh Trivedi v. Union of India (1997) 4SCC306,
- Khare v. State of Delhi AIR 1950 SC211,
- State of Maharashtra v. Rajendra J. Gandhi AIR 1997 SC3986,
- Francis Corali eMullin v. Administration of Delhi AIR 1981 SC746,
- M.C.Mehta v. Union of India AIR 1987 SC 1086,
- Bandhua Mukti Morcha v. Union of India AIR 1984 SC 802,
- Indian Council for Environmental Action v. Union of India AIR 1996 SC1446,
- Vellore Citizens Welfare Forum v. Union of India AIR1996 SC 2715
- State of Punjab v. Mahinder Singh Chawla AIR1997 SC 1225],



		<ul style="list-style-type: none"> • State of Rajasthan v. Hat Singh AIR 2003 SC791 • Mr. X v. Hospital Z AIR 1999 SC495 • R.K.Dalmia v. Delhi Administration AIR 1962 SC 1821, • Gopalan v. State of Madras, AIR 1950SC27, • Francis Coralie Mullin v. Administration of Delhi AIR 1981 SC746, • M.C.Mehta v. Union of India AIR 1987 SC 1086, • Bandhua Mukti Morcha v. Union of India AIR 1984 SC 802, • Indian Council for Environmental Action v. Union of India AIR 1996 SC1446, • Vellore Citizens Welfare Forum Union of India AIR1996 SC 2715
<p>Unit 4: Right against exploitation: (Arts. 17, 23and 24) (9 Hours)</p>	<ul style="list-style-type: none"> • Right against exploitation, • Prohibiting all forms of forced labour, child labour and traffic in human beings 	<ul style="list-style-type: none"> • BandhuaMukti Morcha v Union of India AIR 1984 SC802, • Neeraja Choudhary v State of Madhya Pradesh AIR 1984 SC1099)



Unit 5: Right to Freedom of Religion: (Arts.25(2) and 26)
(9 Hours)

- Right to freedom of religion, including freedom of conscience and free profession, practice, and propagation of religion,
- Freedom to manage religious affairs,
- Freedom from certain taxes and

- Acharya Jagadiswarananda v. Commissioner of Police, Calcutta AIR 1984 SC51,
- Divyadarshan v. State of Andhra Pradesh AIR 1970 SC181,
- Dalbir v. State of Punjab AIR 1962 SC1106,
- Frank Anthony Association v. Union of India AIR 1987 SC 311,



	<ul style="list-style-type: none">• Freedom from religious instructions in certain educational institutes.	<ul style="list-style-type: none">• Arya Samaj Education Trust v Director of Education AIR 1976 Del 207,• Bihar State Madrasa Board v. Madarsa Hanafia AIR 1990 SC695,• St Stephen's College v. University of Delhi AIR 1992SC1630
<p>Unit 6: Cultural and Educational rights (Arts. 15(1) & 15 (4), 29(1), 29(2),30) (9 Hours)</p>	<ul style="list-style-type: none">• Right of any section of citizens to conserve their culture, language or script, and• Right of minorities to establish and administer educational institutions of their choice.	<ul style="list-style-type: none">• Jagdev Singh v Pratap Singh, AIR1965 SC183,• Usha Mehta v State of Maharashtra, (2004) 6 SCC264,• State of Bombay v Bombay Education Society AIR 1954 SC 561,• TM Pai Foundation v Karnataka(2002) 8 SCC481,• Ahmedabad St. Xaviers College v State of Gujarat AIR 1974 SC1389,• In re the Kerala Education Bill AIR1958 SC956,• St.Stephens College AIR 1992 SC1630



Unit 7: Right to Constitutional remedies: (Arts. 32 and 226)

- Nature and need for distinctive constitutional remedies
- distinguished from legal remedies
- Types of remedies – habeas corpus, mandamus, prohibition, quo warranto, and certiorari–
- Nature and procedure of these writs
- Right to move to the Supreme Court is a fundamental right in itself
- Basic features – laches or unreasonable delay in instituting writ petition
- Limits of writ jurisdiction
- Natural justice
- Public interest litigation.
- Haji Esmail v. Competent Officer, AIR 1967 SC1244,
- FCI Workers v. Food Corporation of India AIR 1990 SC2178,
- Ratlam Municipality v. Vardichan, AIR 1980 SC1622,
- M.C.Mehtav. Union of India AIR 1987 SC 1086, and AIR 1999 SC2583,
- Pramod v. Medical Council, (1991) 2 SCC179,]



Unit 8: Directive Principles of state policy, Fundamental rights and Fundamental Duties:

(9 Hours)

- Non-binding character of the policies;
- Social and welfare perspectives; Positive aspects of DPSP – certain principles such as adequate livelihood, use of material resources to sub-serve the common good, economic system not to produce common detriment, equal pay for equal work, health and strength of workers not to be abused, opportunities to be given to children to develop, equal justice and free legal aid, -
- Cohesion of fundamental rights and directive principles; and Fundamental duties

Text Books

- Jain, M.P.: Indian Constitutional Law, Wadhwa & Co., Nagpur.
- Shukla V.N.: Constitution of India, Eastern Books Company, Lucknow.
- Subba Rao, G. C. V.: Indian Constitutional Law, Eastern Books Company, Lucknow.

Reference Books



- Austin, Granville: The Indian Constitution - Corner Stone of a Nation, 1966, Oxford University, Press, New Delhi.
- Basu D.D.: Constitutional Law of India, Prentice Hall of India, New Delhi.
- Tope T.K.: Constitutional Law of India, Eastern Book Company, Lucknow.
- Shiva Rao B.: The Framing of India's Constitution (in 5 volumes), Indian Institute of Public Admn., New Delhi.
- Seervai, H.M.: Constitutional Law of India 4th Edition (in 3 volumes), M.M. Tripathi, Bombay.
- Constituent Assembly Debates (5 books) - Official report, Lok Sabha Secretariat, New Delhi.



- Pandey J.N.: Constitutional Law of India, Central Law Agency, Allahabad.

 Marwadi University	Faculty of Law B.A.LL.B. (Hons.) Semester III				
	Subject Name	Law of Crimes - I (IPC) (General Principles)	Credit	Teaching Scheme	
Subject Code	10FL0304	5	Theory	Practical	Tutorial
			4	0	2

Course Objectives:

The course shall have the following objectives:

- To provide the conceptual understanding of the general principles of Law of Crime.
- To develop analytical thinking with respect to various elements of Criminal law.
- To understand the typology of criminal liability i.e. constructive criminal liability and group liability.
- To develop analytical understanding of general exceptions (defenses) of criminal law

Course Outcome:

After completing the course, students will be able to:

- State the nature of crime.
- Define crime.
- Explain the elements of crime.
- Interpret inchoate crime.
- Examine constructive liability.
- Weigh the general exception.
- Argue on punishment and theories of punishment.





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Unit/ Sessions (in hour)	Descriptions	Specific text/Case Laws
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Unit 1:
Introduction:
Nature and
Definition of
Crime
(13 hours)

- Crime: Nature and definition, Wrong, Offence and Crime: Similarities and differences
- Difference between Crime and other Wrongs
- State's power to determine acts or omissions as crime.
- Evolution of Criminal law- Wolfenden committee, History and Making of Indian Penal Code, 1860

References:

- CK Allen, 'The Nature of a Crime', Journal of Society of Comparative Legislation, Legal Duties, 221
- P J Fitzgerald, 'A Concept of Crime', 1960Crim. LR256
- Rostow, 'The Enforcement of Morals', 1960CLJ174
- Ashworth, A J., 'Reason, Logic and Criminal Liability', (91)1971LQR 240
- Tom Hadden, 'Contract, Tort and Crime: The forms of Legal Thought', (87)1971LQR240
- J E Hall Williams, 'The Proper Scope and Function of the Criminal Law', (74)1958LQR76
- Pall dridge, 'What is wrong with the traditional Criminal Law course?' 199010LegalStudies38

A.C. Patra, A Historical Introduction to the IPC 3 JILI (1961) 351 – 366



<p>Unit 2: Constituent Elements of Crime (13 hours)</p>	<ul style="list-style-type: none"> • Elements of Crime: Introduction, Kinds: Human Being, Actus reus, Mens rea, Injury. • Mens Rea: Introduction, Mens rea under IPC (Reason to believe (S.26); voluntarily and intentionally(S.184-186); dishonestly and fraudulently (S.24-25); Corruptly, Malignantly and Wantonly (S.196,198,200,219and 220); rashly and negligently (S.304A), Exception of Mens Rea. • Stages of Crime: Intention, Preparation, Attempt, Result: Difference between preparation and attempt • Theory of Criminal Causation, • General Explanation: (Section 6 to 52A) 	<p>References:</p> <ul style="list-style-type: none"> • V Balasubrahmanyam, Guilty Mind, Essays on the Indian Penal Code, ILL196256 • J C Smith, 'The Guilty Mind in the Criminal Law' 76(1960)LQR78 • Herder, Jeremy, 'Two Histories and Four Hidden Principles of Mensrea', 1997LQR95 • Lynch, ACE, 'The Mental Element in the Actus Reus', 1982 LQR109 • Recklessness under the Indian Penal Code by Stanley Meng Heong Yeo , 30 JILI (1988) 293 <p>Cases:</p> <ul style="list-style-type: none"> • Om Prakash v. State of PunjabAIR1961SC1782 • Suleman Rehman Mulani v. State of Maharashtra AIR1968Sc829 • Ambalal D Bhatt v. State of GujaratAIR1972SC1150 • Moti Singh v.State of Uttar Pradesh AIR1964SC900 • Rewaram v. State of Madhya Pradesh (1978)CriLJ858(MP) • Joginder Singh v. State of Punjab AIR 1979SC1876
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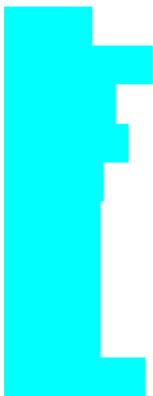


		<ul style="list-style-type: none"> • Harjinder Singh v. Delhi Administration AIR1968SC867 • R Hari Prasad Rao v. State (1951)SCR1322 • State of Maharashtra v. M H George AIR1965SC722 • Nathulal v. State of M P AIR1966SC43 • Ranjit Udeshi v. State of Maharashtra AIR1965SC881 • Narayan Das v. State of Orissa AIR1952Sc149 • Nirnajan Singh v. Jitnedra Bhimaraj AIR1990SC1962 • State of Tamil Nadu v.NaliniAIR1999SC264 • State of MP v. Narayan Singh 19893SCC 596 • State of Orissa v. K Rajeswar Rao AIR 1992SC 240 • Om Prakash v. State of Uttaranchal 20031SCC 648 • State of UP v. Arun K Gupta 20032SCC 202 • Jafel Biswas v. State of West Bengal (2019) 12 SCC 560 • State of Rajasthan v. Kanhaiya Lal (2019) 5 SCC639
<p>Unit 3: Incomplete offences (Inchoate Crimes)</p>	<ul style="list-style-type: none"> •Introduction •Criminal Conspiracy, •Abetment, • Attempt 	<p>References:</p> <ul style="list-style-type: none"> • R B Tiwari, <i>Conspiracy</i>, Essays on the Indian Penal Code,ILI196287 • Wright, '<i>Law of Criminal Conspiracy and Agreement</i>' • Sayre, Francis, Criminal Conspiracy, Harvard Law review 35 (1922) 393 427



(13 hours)

- Turner, Kenny's Out lines of Criminal Law, 1966, 426-432
- Temkin, Jennifer., 'When is a Conspiracy like an attempt and other impossible questions', 1978 LQR534
- B B Pande, 'An attempt on attempt', 19842SCCJournal42
- Sayre, Francis B, Criminal Attempts, Harvard Law review 41 (1928) 821 – 859.
- R B Tewari, *Criminal Attempt*, Essays on the Penal Code, ILI1962
- Glaze brook, PR ., 'Shall we have an





		<p><i>independent law of attempted crime?’(85) 1969LQR28</i></p> <ul style="list-style-type: none">• Glanville Williams, ‘<i>Criminal Omissions—the Conventional View</i>’,1991LQR86 <p>Cases:</p> <ul style="list-style-type: none">• <i>Statev. Jagdish Narian Singh</i> 1959 CriLJ1014• <i>R v.Taylor</i>1959• <i>R v.Linneker</i>19062KB99• <i>Asgar Ali Pradhania v.Emperor</i>AIR1933Cal 893• <i>Abhyananda Mishra v.State of Bihar</i>AIR1961SC1698• <i>Malkait Singh v.State of Punjab</i>AIR1970SC713• <i>State of Maharastra v .Mohd Yakub</i> AIR1980SC1111• <i>R.v Shivpuri</i>1987AC1(HL)• <i>R v.Collins</i>186412 WLR886• <i>R v.MacPherson</i>18571D&B197• <i>R v.Brown</i>188924QBD357• <i>R v.Ring</i>189217Cox491• <i>State v.Mitchell</i>1902170MO633• <i>Asgar Ali Pradhaniav.AIR</i>1933Cal 893• <i>SudhirKumar v. State of West Bengal</i> 19743SCC357• <i>Hazara Singh v. Union of India</i>19733SCC401• <i>Inre T M Reddy</i> AIR1955AP118• <i>Gian Kaur v. State of Punjab</i>19962SCC648• <i>R. v. O’Toole</i>1987CriLR759• <i>R v.Khan</i>19902AllER783(CA)• <i>Geddes</i>(1996)CrimLR894(CA)• <i>Millard and Vernon</i>(1987)CrimLR393(CA)• <i>Topan Das v. State of Bombay</i>AIR1956SC33• <i>Bimbadhar Pradhan v.State of Orissa</i>AIR1956469• <i>Harihara Prasad v. State of Bihar</i>(1972)CriLJ707(SC)• <i>The State of Andhra Pradesh v.</i>
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		<p><i>Subbaiah 1961(2)SCJ686</i></p> <ul style="list-style-type: none">• <i>State v. V C Shukla, Sanjay Gandhi and Others AIR 1980SC1382</i>
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		<ul style="list-style-type: none">• <i>Shaw v. DPP</i> (1961)2AllER446HL• <i>State of AP v. C Ganeswar Rao</i> AIR1963SC1860• <i>Amrit Lal Hazarav. Emperor</i> ILR42Cal 957• <i>Abdul Kadar v. State</i> AIR 1964 Bombay133• <i>Noor Mohammad v. State of Maharastra</i> 1970(1)SCC696• <i>Ajay Aggarwal v. Union of India</i>1993SCC(Cri)961• <i>Andreson</i> (1986)AC27(HL)• <i>DPP v. Armstrong</i>(2000)CrimLR379(DC)• <i>Cooke</i> (1986)AC909HL• <i>Hollinshead</i>(1985)AC975(HL)• <i>Saik</i>(2006)UKHL18(HL)• <i>Scottv, Metropolitan Police Commissioner</i> (1975)AC819(HL)• <i>Shivpuri</i>(1987)AC1(HL)• <i>YipChiu-Cheung</i>(1995)1AC111(PC)• <i>Sukhpal Singh v. State of Punjab</i> (2019) 15 SCC 622 <p>Ananta Kamilya v. State of West Bengal (2020) 2 SCC 511</p>
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<p>Unit 4: Constructive Criminal Liability</p> <p>(13 hours)</p> <p>(Common Intention and Common Object)</p>	<ul style="list-style-type: none"> • Common Intention: Introduction, Section 34-38 • Determination of liability of each individual in a group, • Common Object :Section 149; <p>Extent of liability: Abettor at the scene of offence Section 114; Dacoity Section 396 & 460</p>	<p>References:</p> <ul style="list-style-type: none"> • V Balasubrahmanyam, <i>Group Liability</i>, Essays on the Indian Penal Code, ILI1962 • William Wilson, '<i>A rationale scheme of liability for participating in crime</i>', (2008)Crim LR3 • Sullivan GR, '<i>Participating in Crime: Joint Criminal Ventures</i>', (2008)CrimLR19 • Smith, JC, '<i>Criminal Liability of Accessories and Law Reform</i>', 1997LQR453 • Buxton, RJ, '<i>Complicity in the Criminal Code</i>', (85)1969LQR76 <p>Cases:</p> <ul style="list-style-type: none"> • Ganesh Singh v. Ram Raja (1869)3BLR44PC • Baul v. State of Uttar Pradesh AIR 1968Sc728 • R v. Cruse 1838C&P541
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		<p>Mistake, Judicial acts</p> <ul style="list-style-type: none">• Accident, Necessity,• Age, Unsoundness of Mind, Intoxication,
<p>Unit 5: General Exceptions to Crime</p>	<ul style="list-style-type: none">• General Exception under Chapter IV Indian Penal Code, 1860;• Defence as to	



- Barendra Kumar Ghose v. King Emperor of India (1902)5SCC1208
- Nathu v. State 1960 CriLJ1329
- Kartar Singh v. State of Punjab AIR 1961178
- Ram Nath v. State of Madhya Pradesh v. Kalicharan (2019) 13 SCC 131
- Rishi Deo Pandey v. State of UP AIR 1955SC331
- Ramayya Mani Pali v. State of Bihar AIR 1955SC287
- J M Desai v. State AIR 1960SC889
- Bashir v. State AIR 1953All668
- Shankar Lal Kachrabha i v. State of Gujarat (1965)1SCR285
- Ram Swarup v. State (1972)3SCC418
- Musa Khan v. State of Maharashtra AIR 1976SC2566
- Pandurang v. State of Hyderabad (1955)1SCR1083
- Maina Singh v. State of Rajasthan 19762SCR827
- Tukaram Ganpat Pandre v. State of Maharashtra AIR 1974SC514
- Chandra Bihari v. Gautam v. State of Bihar (2002)5SCC1208
- Suresh v. State of UP (2001)3SCC67
- Madan Singh v. State of Bihar (2004)4SCC622
- Dhana v. State of MP 1999SCC(Cri.)1192
- Mehbub Samsuddin Malek v. State of Gujarat 1996SCC(Cri)1353
- State of Rajasthan v. Leela Ram (2019) 13 SCC 131

References:

- HL Stephen, *‘Superior or lessan excuse of’*
- Ian Brownlie, *‘Superior orders– Time for a new realism’*, 1989CriLR396
- F Pollock, *‘Criminal Responsibility: the Doctrine of’*



<p>(14 hours)</p>	<ul style="list-style-type: none"> • Consent, Triviality, Act done in Good Faith, Compulsion, • Private Defence: Section 96 to 106 <ul style="list-style-type: none"> ○ Private defence of Body <p>Private defence of Property</p>	<p><i>superior Orders</i>’,35LQR195</p> <ul style="list-style-type: none"> • Parmanand Singh, <i>Anoteon the legal basis of shoot to kill order</i>’,1997DelhiLR87 • Glanvill e Williams, ‘The theory of law of Excuses’ • 42nd Law Commission Report of India 1971 • R B Tewari, <i>Law Governing Insanity</i>, Essays on the Indian Penal CodeILI1962 • R C Nigam, <i>Principles of Criminal Law</i>,1965 • Friedman, GHl. ,‘<i>Mental Incompetence</i>’, (79)1963LQR502 • Timprthy Jones, H., <i>Insanity, automatism, and the burden of proof on the accused</i>’,1995LQR475 • Stephen Gough., ‘<i>Intoxication and Criminal Liability</i>’,1996LQR335 • MacKayRD.,‘<i>On being in sane in Jersey part-2–the appeal in Jason Prior v. Attorney General</i>’,(2002) CrimLR728;see also Part-3(2004) CrimLR291 <p>Cases:</p> <ul style="list-style-type: none"> • <i>State of West Bengal v. Shew Mangal Singh</i> AIR 1981SC1917 • <i>R v.Tolson</i>188923QBD168 • <i>Emperor v. Gopalia</i> AIR1924Bom.333 • <i>Charan Das v. State</i>52PLR331 • <i>Dakhi Singh v.State</i> AIR1955All39 • <i>Waryam Singh v. Emperor</i>AIR1926Lah554 • <i>Chranghi v.State</i>1952CriLJ1212(MP) • <i>R v. Fennell</i> 19703AllER215 • <i>R v. Rose</i>188415CoxCC540 • <i>State of Maharashtra v.M H George</i> AIR1965SC722 • <i>State of Orissa v. Ram Bahadur</i>
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		<p><i>Thapa AIR1960Ori.161</i></p> <ul style="list-style-type: none">• <i>State of Orissa v. Bhagaban Barik19872SCC498</i>
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		<ul style="list-style-type: none">• <i>R v. Daniel M'Naughten</i> (1843)10Cl. AndF.200(TAC)• <i>Durham v. United States US Court of Appeals</i> ,DCC45ALR2d1430• <i>Attorney General For the State of South Australia v. John Whelon Brown</i> 1960AC432, (1960) 1AllER734• <i>R v. Bryne</i>(1960)2QB396CCA,England• <i>Queen Empress v. Kadar Nasyer Shah</i>1896ILR23Cal 604• <i>Lakshmi v. State</i> AIR1963All534• <i>Dayabhai Chhaganbhai Thakkar v. State of Gujarat</i> AIR1964SC1563• <i>Ratanlal v. State of MP</i> AIR1971SC778• <i>State of MP v .Ahmed Ullah</i>AIR1961SC998• <i>Ashiruddin v . KE</i> AIR1949Cal 182• <i>Kuttapan v.State of Kerala</i>1986CriLJ271-• <i>T N Lakshmaiah v. State of Karnataka</i> (2002)1SCC219• <i>Srikant Anandrao Bhosale v. State of Maharashtra</i> (2002)7SCC748• <i>Rv.Fennell</i>19703AllER215• <i>Rv.Rose</i>188415CoxCC540• <i>State of Maharashtra v. M H George</i>AIR1965SC722• <i>State of Orissa v. Ram Bahadur Thapa</i> AIR1960Ori.161• <i>State of Orissa v.Bhagaban Barik</i>19872SCC498• <i>State v. Ram Swarup</i>(1974)4SCC764• <i>Deo Narain v. State of UP</i>(1973)1SCC34• <i>Kishan v. State of MP</i>(1974)3SCC623• <i>Mhahbir Choudhry v. State of Bihar</i> (1996)5SCC107 <p><i>James martin v. State of Kerala</i>(2004)2SCC203</p>
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Unit 6: Punishment (9 hours)	<ul style="list-style-type: none">• Punishment: Introduction, Punishment under IPC• Necessity and objectives of Punishment• Types of punishment• Theories of Punishment. Death punishment: Why or why not	
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Reading Material

a. Text Books:

- The Indian Penal Code, 1860 (Bare act)
- K. D. Gaur, *A text Book on the Indian Penal Code*, Universal Publication, Delhi.
- P. S. Achuthan Pillai, *Criminal Law*, Eastern Book Co

b. Reference Books

- KENNY *on Outlines of Criminal Law*, 19thEdn. Cambridge University Press.
- K.N.C. Pillai & Shabistan Aquil (Rev.), *Essays on the Indian Penal Code* (The Indian Law Institute, 2005)
- K. D. Gaur, *Criminal Law Cases and Materials*, Butterworths, India
- Ratanlal & Dhirajlal's *Indian Penal Code*, Butterworths Wadhwa, Nagpur
- B. M. Gandhi, *Indian Penal Code*, Eastern Book Co,
- Codification, Macaulay and the Indian Penal Code (Wing-Cheong Chan, Barry Wright & Stanley Yeo eds., 1st ed. Ashgate 2011).
- R.C. Nigam, *Law of Crimes in India* (Vol. I) (1965)
- V.B. Raju, *Commentary on Indian Penal Code, 1860* (Vol. I & II) (4th ed., 1982)
- K.I. Vibhute (Rev.), P.S.A. Pillai's *Criminal Law*, (10th ed., 2008)

c. Websites:

- <http://thelawdictionary.org>
- <http://indiacode.nic.in/>
- <http://www.prsindia.org/>
- <http://lawcommissionofindia.nic.in/>
- <http://judis.nic.in/>
- <http://www.law.cornell.edu/>
- <http://www.worldlii.org/>
- <http://liiofindia.org/>



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Semester III

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Subject Name	Basics of French Language French- I	Credit	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code	10SL0302	2	2	0	0

Objectives:

4. To familiarize students with French Greetings
5. To enable students to introduce themselves in French
6. To introduce students to French Vocabulary in legal context

Outcomes:

The students will get basic exposure to the French language and they will be able to:

5. Use basic greetings
6. Introduce themselves in French language
7. Understand basic conversations in French language

Detailed Syllabus:

Unit	Descriptions	Sessions (in hours)
I	<ol style="list-style-type: none"> 1) Introduction French Language (1) 2) Alphabets and Special Characters (2) 3) Greetings (2) 4) Definite and Indefinite Articles (2) 5) Vocabulary: Gender, Colour, Family Members, Days and Months (6) 6) Legal Words in and from French (1) 	15
II	<ol style="list-style-type: none"> 1) Numbers in French (2) 2) Telling time in French (2) 3) To have & To be (4) 4) Self-Introduction (2) 	15

Teaching Scheme

Teaching Scheme (Hours per week)	Evaluation Scheme	
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Theory	ESE	IA	CSE	Viva	Term Work	Total Marks
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2 Hours	00	30	20	25	25	100
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1. IA will consist of the following components (30 marks):

- a. **Assignments (20 Marks):** Students will prepare three oral assignments.
- b. **In-Class Participation (10 Marks)**

2. CSE (20 marks):

- a. **(Term End Simulation):** Students will carry out simulated tasks at the end of the semester. It would comprise of individual and group tasks.

3. Viva (25 Marks): Viva will be conducted at the end of the semester. It will be based on the CSE, Term Work, Assignments and topics covered in the syllabus.

4. Term Work (25 Marks):

(Term-End Presentation): Students will make a presentation based on topics provided by the faculty, at the end of the semester.

Text Books: (Readings)

- 1) A1 ECHO Methode de francaise, J. Girardet, CLE International
- 2) Cahier Personnel D'apprentissage, J. Girardet, CLE International

Additional Texts:

NA



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Semester III

Subject Name	Lower Court I (4 weeks) Internship	Credit	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code	10BC0308	2	0	0	0

Course Objectives:



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The course is designed to achieve Following Objectives:

- To familiarize students with law in practice at local level
- To enable student's enormous exposure to lower court

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Learning Outcomes:

After completion of the course, students would be able to :

- Understand the basic requirement of depth knowledge of the subject matter in a case.
- Analyse the most basic legal cases.
- Create an alignment of curriculum with enormous practical exposure.

Detailed Syllabus:

Sessions (in hours)	Nature of Work done	Learning Outcome	Remarks
1 st week			
2 nd week			
3 rd week			
4 th week			

RULES

1. All Internships mentioned in the above-mentioned table shall be completed by a student in order to be eligible for the award of the degree of B.A.LL.B.(Hons.)/B.Com.LL.B. (Hons.).

2. An internship can be arranged by a student or the same can be arranged by Faculty of Law, Marwadi University, Rajkot.

2.1 Procedure to be followed when student is self-arranging internship

a. Student shall submit the details of the internship office to the internship committee before beginning the internship as per the internship calendar notified by the Internship Committee.

b. Student shall obtain a recommendation letter from Dean, Faculty of Law before starting the internship.

c. Student shall submit the Internship Confirmation Letter before starting the internship.

d. If a student is self-arranging the Internship, the parameters set up by Faculty of Law, Marwadi University, Rajkot shall be fulfilled by the Organisation / Lawyer / Company.

e. Student shall not change the internship office without obtaining approval from the Internship Committee at Faculty of Law, Marwadi University, Rajkot.

f. If a student changes the internship office without obtaining the approval from the Internship Committee, such internship shall not be considered for any purpose by Faculty of Law, Marwadi University, Rajkot.

g. Student shall be informing the internship office regarding issuing of Confidential Internship Certificate and Internship Completion Certificate. If the internship office refuses to issue any of the documents mentioned above, the internship committee shall not make any communication to the



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internship office, it shall be the sole responsibility of the student to get documents mentioned above.

2.2 Procedure to be followed when Faculty of Law, Marwadi University, Rajkot will arrange the Internship

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Marwadi University
Rajkot



- a. Student shall submit the request in writing of arranging internship to the Internship Committee at Faculty of Law, Marwadi University, Rajkot three months prior from the starting the internship, failing which Faculty of Law shall not be responsible to arrange the internship, Student shall be responsible for self-arranging the internship and he/she shall be following all the steps mentioned in
- b. The internship office arranged by Faculty of Law, Marwadi University Rajkot, shall be final. The student shall be joining the internship office on time. No request for change of internship office shall be entertained.
- c. No preferences from a student with regard to place of internship or internship office shall be entertained by Internship Committee, Faculty of Law, Marwadi University, Rajkot.
- d. Student shall bear the cost of stay, travel and any other expenses during the time of internship. Student will have to arrange his/her accommodation. e. If a student does not join the Internship office as provided to him by Internship Committee, Faculty of Law, Marwadi University, Rajkot, in future no assistance what so ever shall be provided by Internship Committee to that student except providing him a recommendation letter.

PROCESS DURING AND AFTER COMPLETION OF INTERNSHIP

1. Student shall maintain daily record of work as per the format provided below and submit weekly progress report to their Faculty Coordinator allocated by the Internship Committee.
2. Format of Weekly Report: Name of the Student:
Course: B.A.LL.B.(Hons.)/B.Com.LL.B.(Hons.) Semester:
Name of the Internship: NGO/LC-1/LC-2/HC-1/HC-2/SC-1/SC-2/Placement
Name of the Internship Office:
Name of the Reporting Head at Internship Office:
Week: 1/2/3/4 Dates: DD/MM/YYYY to DD/MM/YYYY
Sr. No. Date Nature of Work done Learning Outcome 1 2 3 4
3. There shall be a separate weekly report for each week of internship. The weekly report in soft copy shall be submitted to Faculty Coordinator as per the schedule notified by the Internship Committee.
3. At the end of the internship a Final Report both in hard copy as well as in soft copy prepared by the student shall be submitted to the Faculty Coordinator.
4. Late submission of weekly reports and Final Reports shall attract deduction of the marks by the Faculty Coordinator.
5. If weekly report submission is delayed by more than seven days from the due date, it shall be considered as no weekly report submission on the part of the student.
6. The mode (google form, email etc.) of Weekly and Final Internship report submission shall be notified by the Faculty Coordinator. Submission in any other mode shall be considered as no submission on the part of student.
7. The Final Report of the Internship shall be submitted in hard copy to the Faculty coordinator, while submitting the Final report in hard copy the Student shall sign the sheet of final report submission available with Faculty coordinator.
8. The student must make sure that the weekly and final report submitted by him/her shall not be a plagiarised, copied or similar to the work submitted by any other student of Faculty of Law, Marwadi



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9. In case weekly or final report have been found to be plagiarised, copied or similar to the work submitted by any other student of Faculty of Law, Marwadi University, Rajkot then such case shall be

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considered to be a case of use of unfair means in examination. A committee shall be constituted by the Dean, Faculty of Law to inquire into the cases of use of unfair means. The decision shall be taken by Dean, Faculty of Law, Marwadi University based on the recommendations made by the inquiry committee.

10. The student shall submit a copy of the Internship Certificate counter signed by the her/him to the Faculty Coordinator allocated by the Internship Committee.

11. Non-submission of the certificate shall lead to cancellation the Internship and the student shall be repeating the same internship again in future.

12. A student shall make sure the internship office is submits the Confidential Internship Certificate to the Faculty Coordinator via mail or post in a sealed envelope.

13. Internship Confidential Certificate must be signed and seal of the Internship office/Advocate must be there on it, without signature and seal Internship Confidential Certificate shall not be considered for any purpose.

14. After the submission of final internship report, a viva-voce examination shall be conducted in which the student shall be examined by external/internal examiner. Students shall be evaluated based on the work they have done during the internship, presentation and practical knowledge gained.

15. If a student fails to complete internship, such student shall be declared fail. He/she shall have to complete the same internship in future in order to become eligible for the award of Degree of B.A.LL.B./B.Com.LL.B.

16. In case any misconduct or unprofessional behaviour of a student during internship is being reported by the internship office to the Internship Committee, Faculty of Law, Marwadi University, Rajkot, the same shall be inquired by a committee constituted by the Dean, Faculty of Law, Marwadi University, Rajkot and the decision shall be taken by the Dean, Faculty of Law, Mawardi University, Rajkot based on the recommendations made by the inquiry committee.

17. The format of the Final Internship Report is as follows

List of Contents

Sr.No.

Title Page No.

1 Acknowledgement

2 Table of Statutes

3 Abbreviations

4 Introduction

5 Internship Work Overview

6 Conclusion

7 Experience sharing

8. Evaluation Scheme:

CONFIDENTIAL CERTIFICATE

Name of the Student:

Institute/Organization:

Name & Address of the Supervisor:



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STUDENT PERFORMANCE



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Specific remarks about the overall performance of the student toward tasks: (Enthusiastic; eager to learn; receptive; diligent; highly engaged; conscientious; indifferent; disinterested)

Skill of the student in executing tasks: (Well developed critical thinking & analytical skills; shows initiative; learns quickly; productive; meets deadlines; needs to ask more questions; often fails to understand or follow directions; requires close supervision)

How far the student is Dependable: (Conscientious; exercises good judgment; follows through consistently on tasks; persistent with difficult tasks; hesitant to make decisions; careless in meeting obligations)

General Conduct & Character: (Positive attitude; suitable dress & grooming; prompt; accepts praise and criticism appropriately; accountable; makes excuses; overly casual in approach)

Maintaining relationships with others: (Respectful; cooperative; receives suggestions well; open; mature; tactful; friendly; shy; impolitic; argumentative)

Merit Based Overall Evaluation of the Interns Performance:

- Outstanding (performed beyond expectations)
- Very good (high quality performance)
- Good (performed all tasks as expected)
- Average (marginal performance)
- Unsatisfactory (performance mostly inadequate)

(SIGNATURE OF THE SUPERVISOR WITH OFFICE SEAL)

DATED



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 Marwadi University	Faculty of Law B.Com.,LL.B. (Hons) Semester IV		
	Organizational Behaviour	Credit	Teaching Scheme

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Subject Name			Theory	Practical	Tutorial
Subject Code	10BC0401	4	3	0	2

Course Objectives

- To understand importance of people side of organization.
- To Understand Behavior of Individual and Groups in an organization so as to appreciate Individual, Interpersonal and Group processes for increased effectiveness both within and Outside of an Organization.
- To help student develop basic skills required for organizational effectiveness.

Prerequisites:

None

Course Outcomes

After studying this course, student should be able to:

- Understand individual differences and utilize them effectively in making groups to achieve organizational objectives.
- Apply knowledge of models and theories to promote the effectiveness in workplace

Course Content

Unit No	Unit / Sub Unit
I 12 hrs	INTRODUCTION TO ORGANIZATIONAL BEHAVIOUR: Introduction to OB- Meaning, Definition, Scope, Contributing disciplines, Determinants of OB, Evolution of OB, challenges and Opportunities for Organization Behavior
II 12 hrs	CORE ELEMENTS OF ORGANIZATIONAL BEHAVIOUR: Foundations of Individual Behaviour: Values, Attitudes, Personality, Perceptual Process and Learning.
III 12 hrs	TYPES AND ROLE OF MOTIVATION IN BEHAVIOUR Content Theories- Maslow's Need Hierarchy, Herzberg's Two factor theory; Contemporary Theories of Motivation: ERG, Goal Setting, Equity, Intrinsic Motivation Theory by Ken Thomas, Expectancy Model



IV 12 hrs	GROUP DECISION MAKING AND COMMUNICATION: Concept and nature of decision-Making process; Individual versus group decision making; Nominal group technique and Delphi technique, Communication Effectiveness in Organizations;
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	Improving Inter-personal Communication- Transactional Analysis and Johari Window.
V 12 hrs	LEADERSHIP, POWER AND CONFLICT: Concept and Theories of Leadership Behavioural Approach, Situational Approach, Leadership Effectiveness, Power- Bases of Power, Conflicts- Sources, Patterns, Levels and Techniques of resolution.

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Robbins	Organizational Behaviour	Prentice Hall	Latest Publication
T-02	K.Aswhathappa	Organizational Behaviour	HPH	Latest Publication
T-03	P.G. Aquinas	Organizational Behavior	Excel Books	Latest Publication

Reference Books

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	John W. Newstrom & Kieth Davis	Organizational Behaviour	McGraw Hill	Latest Publication
R-02	Fred Luthans	Organizational Behaviour	McGraw Hill	Latest Publication

 Marwadi University	Faculty of Law B.A.LL.B. (Hons.) Semester IV				
Subject Name	Public International Law	Credit	Teaching Scheme		
			Theory	Practical	Tutorial



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Subject Code	10FL0401	5	4	0	2
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Course Objectives

- To attain the understanding of concepts , theories and judicial response with regard to public International Law
- To understand Nature of International Law- Is International law a True Law
- To identify basis of International law
- To know Sources of PIL
- To understand concept of Recognition, Succession, Intervention, Extradition, Asylums
- To understand the role of International Organisations

Prerequisites:

None

Course Outcomes

After completion of this course student will be in a position;

- To be able to relate to the role of Public International Law in the modern day society
- To be able to interpret the importance and implications of International Law & International Organisations.
- To apply the concept of state recognition in the contemporary world.
- To be able to analyse the general principles of international law
- To evaluate the importance of Public International Law in following a code of conduct by the states.
- To be able to elaborate on the different organizations that exists in the international arena.

Detailed Syllabus

Unit/ Sessions (in hours)	Descriptions	Case Laws
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<p>Unit I: Introduction 10 hrs</p>	<ul style="list-style-type: none">• Nature of International Law, Basis of International Law• Historical Development of International Law	<ul style="list-style-type: none">• Peoples Union for civil Liberties (PUCL) V. Union Of India, Air 1997 SC 568: 1997 AIR SCW 113: (1997) 1 SCC 301.• Queen V. Keyn, (1876) 2 Ex D 63 (153, 154)
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	<ul style="list-style-type: none"> • Evolution and Development of International Law, Codification of International Law. • Relation between International Law and Municipal Law • Monistic Theory • Dualist Theory • State Practice regarding relationship. • Subjects of International Law • Theories, Realist, Fictional Functional. • Individuals • International Organisations 	<ul style="list-style-type: none"> • Pinochet Case, R V. Bow Street Metropolitan Stipendiary Magistrate. 1997, 2 All. E. R. 97. • West Rand Central Gold Mining CO. V. Lord Alverstone (1905)2 KB 391. • Trendtex trading corporation V. Central Bank of Nigeria. (1977)QB 529 court of appeal. • A.D.M. Jabalpur V. Shukla, Air (1967) supreme court p. 470.
<p>Unit II: Sources of International Law 10 hrs</p>	<ul style="list-style-type: none"> • General • Custom • Treaties • The General Principles of Law • Judicial Decisions • Juristic Work on International Law • General Assembly Resolutions and Declarations 	<ul style="list-style-type: none"> • Asylum Case (Columbia V. Peru) 1950 ICJ Reports 266. • Nicaragua Case V. USA (Merits) 1986 ICJ Report 14, at p. 97. • Portugal V. India (Right of passage over Indian Territory) 1960 ICJ reports 6. • North Sea Continental shelf Case. 1969 ICJ report 3.



Unit III:
State hood and
Recognition and
Succession
15 hrs

- Statehood
- Conditions Of Statehood
- Rights and Duties of the State.
- Recognition of States- Concept, Modes of Recognition
- Theories of Recognition, Recognition of Belligerency, Insurgency, Legal
- Western Sahara Case ICJ Rep12 (1975).
- Deutsche Continental Gas Gesellschaft V. Polish State (1929) 5 AD 11 (15).
- Austro-German Custom Union Case. Advisory opinion PCIJ Reports, series A/B NO.41 (1939).
- East Timor Case. 1995 ICJ Rep 90, P. 102.
- Sterier & Gross V. Polish State, 4 AD, Case No. 188 (1927, 28).



	<p>Effects of recognition</p> <ul style="list-style-type: none"> • Doctrines of recognition, Indian Practice Relating to Recognition • State Succession-Meaning, Kinds of Succession, Theories of State Succession, and Consequences of State Succession. 	<ul style="list-style-type: none"> • Government of republic of Spain V. Arantzazu Mendi , 1939 AC 256, (1939) 1 All ER 719: 160 LT 513(HL). • Civil air Transport Inc. V. Central Air Transport Corporation. (1951) All ER 733(PC) • Mighell V. Sultan of Johore, (1894) one QB 149. • Bank of Ethiopia V. National Bank of Egypt and Liguori. (1937) Ch. 513: (1937) 106 LJ CH 279L 160 LT 513. • Carl Zeiss Stiftung V. Rayner and Keeler Limited. (1967) 1 AC 853, House of Lords.
<p>Unit IV: State Responsibility and Use of Force in International Law. 10 hrs</p>	<ul style="list-style-type: none"> • Law on State Responsibility • Kinds of state Responsibility • Calvo Clause • Consequences of other subjects of International Law • Concept of Intervention, Grounds of Intervention • Global Practices Regarding Intervention • Intervention under League of nation and UN 	<ul style="list-style-type: none"> • United States Diplomatic and Consular staff in Tehran, Judgment, 1980 ICJ Reports 3, at p29 Para. 56 CF. page 41 • United Kingdom V. Albania, 1949 ICJ Rep 4. • Corfu Channel Case, ICJ. Reports 1949 P. 4, 35. • Military Activities against Nicaragua, ICJ Reports (1986) P, 107 • Military Activities against Nicaragua, ICJ Reports (1986) PP.124-125.



Unit V:
Extradition and
Asylum
10 hrs

- Concept of Extradition
- Basis and Principles of Extradition
- Meaning of Asylum and Rights
- Extra territorial and Diplomatic asylum

- Rosaline George V. Union of India, (1994)2 SCC 80:JT1993 (6) SC51.
- Daya Singh Latoria V. Union of india,2001 Air SCW 1731:AIR 2001SC 1716:2001CR LJ2188
- Mobarak Ali Ahmed V. State of Bombay, Air1957 SC 857:1957CRLJ1346:1958SCI111.
- REX V. Godfrey. (1923)1 KB 24.
- United States V. Rauscher, 30 Law ED 425: (1886) 119 US 407at 432.



<p>Unit VI: Law of Sea 10 hrs</p>	<ul style="list-style-type: none"> • Introduction and Problems • Territorial Sea • Continental Shelf • Contiguous Zone • Exclusive Economic Zone • High Seas and law of Sea 	<ul style="list-style-type: none"> • United Kingdom V. Iceland (fisheries jurisdiction case) 1974ICJ Rep 3. • Norway V. Sweden (Grisbadarna case) Scotts Hague Court Reports 121. • United Kingdom V. Norway (Anglo- Norwegian Fisheries case) 1951 ICJ Rep 116. • United Kingdom V. Albania 1949 ICJ Rep4. • Louts case PCIJ REP, 1927
<p>Unit VII: International Organisation- Origin, Structure and Function 10 hrs</p>	<ul style="list-style-type: none"> • Origin, Purpose and Principles of UN • General assembly composition, Function and Power • Security Council, Composition, Function and power • Ecosoc , Composition, Function and power • Trusteeship Council Composition, Function and power • International Dispute Settlement system. • International Court of Justice 	<ul style="list-style-type: none"> • Construction wall Case. 2004 ICJ Rep 136 (148-149) : 129 ILR 37 (66) • Namibia Case. 1971 ICJ Rep 16 (52-3) 49 ILR 1 (41-2) • Economic Sanctions against Iraq (1990) Security Council resolution 661. • Embargo against Libya, see the Security Council resolution 883(1993). • Arms Embargo against Somalia, Security Council Resolution 788. 1992



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Text Books

➤ M.P. Tandon, Public International Law, 16th Edition, (2005), Allahabad Law Agency.
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- Dr. H.O. Aggarwal, International Law & Human Rights, 18th Edition, Central Law Publications.

Reference Books

- Bowett D.W., The Law of International Institutions, 4th Edition, 2003, Universal.
- Brownlie, Ian (2003) Principles of Public International Law, Oxford University Press, 6th Edition.
- David D. Caron, Cases & Materials on International Law.
- Oppenheim, International Law (Vol. I & II)
- Starke J.G., Introduction to International Law.
- Malcolm N. Shaw, International Law, 6th Edition, Cambridge University Press

 Marwadi University	<h2>Faculty of Law</h2> <h3>B.A.LL.B. (Hons.)</h3> <h3>Semester IV</h3>				
	Environment Law	Credit	Teaching Scheme		
Subject Name			Theory	Practical	Tutorial
Subject Code	10FL0402	5	4	0	2

Course Objectives

Environmental problems have attained alarming proportions. The course aims to sensitize the students with regards to

- Environmental issues and the laws.
- The important principles in the field like inter-generation equity, carrying capacity, sustainable development, and precautionary principle, polluter pay principles are to be appreciated.
- analyze and evaluate the law in practice
- International development in environmental law.

Course Outcomes



The students on completing the course, the learners will be able

- To exhibit memory on Environment, Nature and Ecosystem concepts.
- To demonstrate understanding of International Environmental Conventions.
- To apply various interpretation on prevention and Control of Water and Air Pollution.
- To distinguish various principles & case laws relating to protection of forests and wild life.
- To evaluate general legislation for environmental protection.
- To propose solution through judicial trends & public interest initiatives.

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Detailed Syllabus:



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<p>Unit –I 12 Hrs.</p>	<p>Introduction to Environment and Law</p> <ul style="list-style-type: none">• Environment, Nature and Ecosystem• Origin of Environmental Law• Environmental Protection in Ancient Indian Tradition and Culture• Protection of Environment under the Indian Constitution• Protection of Environment under other laws	<p>Case laws</p> <ul style="list-style-type: none">• T.N. Godavarman Thirumalpad v. Union of India (2002) 10 SCC 606• F.K. Hussain v. Union of India AIR 1990 Ker 321.• M.C. Mehta v. Union of India, (1988) I SCC 471• T. Damodar Rao v. Municipal Corpn. of Hyderabad, AIR 1987 AP 171• Tarun Bharat Sangh v. Union of India 1992• Rura Litigation & Entitlement Kendra v. State of U.P. (1985) 2 SCC• M.C. Mehta v. Union of India (1997) 2 SCC 353 (Taj Trapezium matter)• Consumer Education & Research Society v. Union of India (2000) 2 SCC 599• Indian Council for Enviro-Legal Action v. Union of India (1996) 3 SCC 212• T.N. Godavarman Thirumalpad v. Union of India (2012) 4 SCC 362• M.C. Mehta v. Kamal Nath (1997) I SCC 388• Vellore Citizens Welfare Forum v. Union of India (1996) 5 SCC 647• Dhannalal v. Thakur Chittarsingh Mehtapsingh AIR 1959 MP 240• Pakkale v. P. Aiyasami Ganapathi AIR 1969 Mad. 351• M.C. Mehta v. Union of India (1988) I SCC 471• Ram Rattan v. Munna Lal AIR 1959• Greyhound Corpn. v. Blakley 262 F 2d 401 (1958)
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		<ul style="list-style-type: none"> • M.C. Mehta v. Union of India (1987) I SCC • Kurnool Municipality v. Civic Assn. 1973 Cri. L.J. 1227 (AP) • Municipal Corporation Ratlam v. Vardhichan 1980 SCC(Cri.) 933 • State of M.P. v. Kedia Leather & Liquor Ltd. (2003) 7 SCC 389 • Kanpur Tanneries Case • Oleum Gas Leakages Case • U.P. Pollution Control Board v. Modi Distillery (1995) 3 SCC 42
<p>Unit II 12 Hrs.</p>	<p>International Environmental Conventions</p> <ul style="list-style-type: none"> • Stockholm Declaration on Human Environment, 1972 • The role of UNEP for the protection of environment • Biodiversity Convention (Earth Summit), 1992 • Rio Declaration, 1992 • Kyoto Protocol 1997 • Johannesburg Convention 2002 	<p>Case laws</p> <ul style="list-style-type: none"> • United Kingdom v. Albania 1949 ICJ 4 (Corfu Channel Case) • Trail Smelter Arbitration Award Case • France v. Spain 1957 24 ILR 101 (Lake Lanoux Arbitration) • Nuclear Weapons Case ICJ Rep 1996 • Belgium v. Spain 1970 ICJ Rep 3. • Australia v. France 1974 ICJ Rep 253 • Ecuador v. Colombia 2008 ICJ (Aerial Herbicide Case) • Argentina v. Uruguay 2006 (ICJ) (Pulp Mills case)



Unit III 12 Hrs.	Prevention and Control of Water and Air Pollution <ul style="list-style-type: none">• Pollution) Act, 1974<ol style="list-style-type: none">1. Water Pollution - Definition2. Central and State Pollution Control Boards – Constitution, Powers and Functions3. Water Pollution Control Areas4. Consent requirement – Procedure, Grant/Refusal, Withdrawal5. Sample of effluents – Procedure; Restraint order vi. Citizen Suit Provision	Case laws <ul style="list-style-type: none">• Susetha v. State of T.N. (2006) 6 SCC 543• T.N. Godavarman Thirumalpad v. Union of India (2006) 5 SCC 47• Pakkle v. P. Aiyasami Ganapathi AIR 1969 Mad. 351• Kerala State Board for Prevention & Control of Water Pollution v. Gwalior Rayon Silk Mfg. (Wvg.) Co. Ltd. AIR 1986 Ker 256
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	<ul style="list-style-type: none"> • Air (Prevention and Control of Pollution) Act, 1981 <ol style="list-style-type: none"> 1. Air Pollution – Definition 2. Central and State Pollution Control Boards – Constitution, Powers and functions 3. Air Pollution Control Areas 4. Consent Requirement – Procedure, Grant/Refusal, Withdrawal 5. Sample of effluents – Procedure; Restraint order 	<ul style="list-style-type: none"> • A.P. Pollution Control Board (2) v. Prof. M.V. Nayudu (2001) 2 SCC 62. • Delhi Bottling Co. (P) Ltd. V. Central Board for Prevention & Control of Water Pollution AIR 1986 Del 152. • M.C. Mehta v. Union of India (1997) 2 SCC 353 (Taj Trapezium matter) • Orissa State CPBP v. orient Paper Mills (2003) 10 SCC 421 • Kanpur Tanneries Case • Oleum Gas Leakages Case • Alloy Steel Rolling Mills v. W.B. PCB AIR 2006 Cal 75.
<p>Unit IV 13 Hrs.</p>	<p>Protection of Forests and Wild Life</p> <ul style="list-style-type: none"> • Indian Forest Act, 1927 <ol style="list-style-type: none"> 1. Kinds of forest – Private, Reserved, Protected and Village Forests • The Forest (Conservation) Act, 1980 • The Wild Life (Protection) Act, 1972 <ol style="list-style-type: none"> 1. Authorities to be appointed and constituted under the Act 2. Hunting of Wild Animals 3. Protection of Specified Plants 4. Protected Area 5. Trade or Commerce in wild animals, animal articles and trophies; Its prohibition • The Wild Life (Protection) Act, 1972 <ol style="list-style-type: none"> 1. Authorities to be appointed and constituted under the Act 2. Hunting of Wild Animals 3. Protection of Specified Plants 4. Protected Area 5. Trade or Commerce in wild animals, animal articles and trophies; Its prohibition 	<p>Case laws</p> <ul style="list-style-type: none"> • T.N. Godavarman Thirumalpad v. Union of India (2006) 5 SCC 47 • State of Kerala v. P.S. Mathew (2012) 4 SCC 457 • Banwasi Seva Ashram V. State of U.P. (1987) 3 SCC 304 • Vilas Shankar Donode v. State of Maharashtra AIR 2008 Bom.10 • Lafrage Umiam Mining (P) Ltd. v. Union of India (2011) 7 SCC 338 • Tarun Bharat Sangh v. Union of India 1992 Supp(2) SCC 448 • Maheshkumar Virjibhai Trivedi v. State of Gujarat AIR 2006 Guj.35 • Sterlite Industries (India) Ltd. v. Union of India (2013) 4 SCC 575 • Ajay Dubey v. National Tiger Conservation Authority (2012) 13 SCC 782



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- Indian handicrafts
Emporium v. Union of India
(2003) 7 SCC 589

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Unit V 12 Hrs.	General Legislation for Environmental Protection <ul style="list-style-type: none">• Environmental (Protection) Act, 1986• Public Liability Insurance Act, 1991• The National Appellate Environmental Authority Act, 1997• The National Environment Tribunal Act, 1995	Case laws <ul style="list-style-type: none">• Pakkale v. P. Aiyasami Ganapathi AIR 1969 Mad. 351• M.C. Mehta v. Union of India (2000) 6 SCC 213• Ram Rattan v. Munna Lal AIR 1959• Krishna Gopal v. State of M.P. 1986 Cri. LJ 396 (MP)• M.P. SEB v. Collector, AIR 2003 MP 156• Deepak kumar v. State of Haryana (2012) 4 SCC 629• G Sunderrajan v. Union of India (2013) 6 SCC 620• F.B. Taraporwala v. Bayer India Ltd. (1996) 6 SCC 58• Research Foundation for Science v. Union of India (2007) 8 SCC 583
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<p>Unit- VI 14 Hrs.</p>	<p>Judicial Trends & Public Interest Initiatives Introduction to Public Interest Litigation</p> <ul style="list-style-type: none">• Leading Case Laws• K.M. Chinnappa vs. UOI AIR 2003 SC 724, 731• M.C.Mehta vs UOI [1987] 4 SCC 463• Chhetriya Pardushan Mukti vs. State Of U.P And Ors. 1990 AIR 2060.• M. C. Mehta vs. Kamal Nath (1997)1 SCC 388• Karnataka Industrial Areas Development Board vs. C. Kenchappa, AIR 2006 SC 2038• Goa Foundation, Goa v. Diksha Holdings Pvt. Ltd., AIR 2001 SC184• M.C. Mehta v. Union of India, AIR 2002 SC 1696 (CNG Vehicles case)• Rural Litigation and Entitlement Kendra v. State of U.P., AIR 1982 SC 652 (Dehradun-Mussorie Hills quarrying case)• M.C. Mehta v. Union of India,	
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	<p>AIR 1997 SC 734 (Taj Trapezium case)</p> <ul style="list-style-type: none">• M.C. Mehta v. Union of India, (2006) 3 SCC 399 (Closure of industries in Delhi)• A.P. Pollution Control Board v. M.V. Nayudu, AIR 1999 SC 812• Narmada Bachao Andolan v. Union of India, AIR 2000 SC 3751• Vellore Citizens' Welfare Forum v. Union of India, AIR 1996 SC 2715	
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Prescribed Books:

1. Paras Diwan: Studies on Environmental Cases.
2. S.N. Jain (ed.): Pollution Control and the Law.
3. A. Agarwal (ed.): Legal Control of Environmental Pollution Page 27 of 70
4. Chetan Singh Mehta: Environmental Protection and Law
5. V.K. Krishna Iyer: Environment Pollution and Law
6. Shah : Environmental Law
7. Paras Diwan : Environmental Law and Policy in India, 1991
8. Armin Rosencranz and Shyam Diwan: Environmental Law and Policy in India.
9. Dr. N. Maheshwara Swamy, Environmental Law, Asia Law House, Hyderabad.
10. Environmental Law & Policy in India – Shyam Diwan, Armin Rosencranz

Text Books

1. Environmental Law – Dr. S. C. Tripathi
2. Environmental Law in India – P. Leelakrishnan
3. Environmental Law- N. V, Paranjape

References:

1. Environmental Law in India – Gurdip Singh
2. Environmental Administration, Law and Judicial Attitude – Paras Diwan, Peeyushi Diwan

Statutes



1. The Water (Prevention and Control of Pollution) Act, 1974
2. The Air (Prevention and Control of Pollution) Act, 1981
3. The Indian Forest Act, 1927
4. The Forest (Conservation) Act, 1980
5. The Wild Life Protection Act, 1972
6. The Environment (Protection) Act, 1986
7. The Public Liability Insurance Act, 1991
8. The National Environment Tribunal Act, 1995
9. The National Environment Appellate Authority Act, 1997
10. National Green Tribunal Act

 Marwadi University	Faculty of Law B.A.LL.B. (Hons.) Semester IV				
Subject Name	Family Law II	Credit	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code	10FL0403	5	4	0	2

Course Objectives

1. To understand the various concepts and institutions of Hindu Joint Family system.
2. To analyze the concept of succession and its forms i.e., Intestate and testamentary succession.
3. To examine the women's estate under different Religious system and statutory provisions.
4. To understand the concept of bequest under different religious system.

Course Outcomes



On completion of this course, students will be able to:

1. Describe various concepts and institutions under family law, i.e., JHF, HUF, wakf and religious Endowment.
2. State the law and procedures of intestate succession.
3. Compare right to property of women under different Religious and Statutory Law.

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4. Relate testamentary succession under various religious and statutory Law.
5. Interpret the right of pre-emption under various personal laws.
6. Develop Wakf and other Religious Endowment.

Detailed Syllabus

Unit/ Sessions (in hours)	Descriptions	Case Laws
UNIT I: Joint Hindu Family: (12 hours)	<ul style="list-style-type: none">• Institution of Joint Family and Joint Family Property and Business;• Coparcenaries; Dyabhaga & Mitakshara succession;• Karta – power & function, Karta's right of alienation of property;• Pious Obligation;• Principle of Consanguinity and Primogeniture,• Principle of Survivorship and Succession	<ul style="list-style-type: none">➤ Pushpalatha N.V. v. V.Padma , AIR 2010 Kar.124➤ Gurnam Singh v. Pritam Singh & others, AIR 2010, P & H,NOC 938



<p>UNIT II: Intestate Succession: (12 hours)</p>	<ul style="list-style-type: none">• General Principles of Succession under Hindu Law, Islamic Law, Christian Law and others• Statutory conditions of disinheritance and disentitlement;• Dwelling house;• Partition.	<ul style="list-style-type: none">➤ Anudhar & Others v. Chandrapati, AIR 2003 SC 4389➤ Kenchegowda v. K.B. Krishnappa AIR 2009 NOC 277 Kar➤ Devidas Udhao Gaurkar and others v. Smt. Vithabai and others, AIR 2008 Bombay 183➤ Satyendra Kumar v. Shakuntala Kumari Verma, AIR 2012 Pat.45➤ Nand Kishore and others v. Smt. Rukmani Devi, AIR 2012 NOC Raj.190➤ Gundari Koteshwaramma v. Chaukiri Yaandi, AIR 2012 SC 169➤ Prakash & Ors. V. Phulavati & Ors., (2016) 1 SCC (Civ) 549.➤ Vineeta Sharma vs
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		Rakesh Sharma, SLP no.17661767 of 2020
UNIT III: Women's Property: (12 hours)	<ul style="list-style-type: none"> • Stridhan – concepts and characteristics; • Sources, principle of succession, • Comparative analysis of right to property of women under different Religious and Statutory Law. 	<ul style="list-style-type: none"> ➤ Ashok Laxman Kale v. Ujwala Ashok Kale,AIR 2007 Bom.1093 (NOC) ➤ Smt.Indra Kali v. Ravi Bhan,AIR 2012 M.P.,NOC 256
UNIT IV: Testamentary Succession: (12 hours)	<ul style="list-style-type: none"> • Power of testamentary succession under various religious and statutory Law under Hindu and Islamic, • Abetment of legacy; • Will and Administration of will – Probate, Codicil, attestation, alteration and revival of Will • Kinds of Will, Execution of privileged and unprivileged Will 	<ul style="list-style-type: none"> ➤ Abdul Manan Khan vs Mirtuza Khan AIR 1991 ➤ Syed Bazayet Hussein v. Dooli Chand, (1878) 5 I.A. 211)
UNIT V: Right of Pre-emption: (12 hours)	<ul style="list-style-type: none"> • Pre-emption, meaning, nature, • Constitutionality, classification; who can claim the right, • Formalities and legal effect; • Legal devices of evading right of pre-emption,; when is the right lost. 	<ul style="list-style-type: none"> ➤ Inayatullah vs Gobind Dayal (1885) ILR 7 All 775 ➤ Bishan singh v. khazan singh, 1959 SCR 878. ➤ Avadh Behari v. Gujadhar 1954 AIR 417
UNIT V: Gift under Islamic Law: (8 hours)	<ul style="list-style-type: none"> • Hiba – nature and characteristics Kinds of Hiba, • Conditional and Future Gift, • Types of Hiba; • Death-bed gift, • Revocation of Hiba 	<ul style="list-style-type: none"> ➤ Smt Hussenabi v Husensab Hasan AIR 1989 Kant 218. ➤ Mahboob Sahab v. Syed Ismail and others (1995) 3 SCC 693,



<p>UNIT VI: Wakf and Hindu Religious Endowment: (7 hours)</p>	<ul style="list-style-type: none">• Meaning, character,• Formalities for creation, Administration,• Mutawali: Power of Mutawali; Muslim Religious Institutions and Offices• Traditional religious principles of creation of Hindu Religious Endowments	<ul style="list-style-type: none">➤ Khaliluddin vs Shri Ram 1934➤ Garib Das vs M A Hamid AIR 1970➤ Md. Ismail vs Thakur Sabir Ali AIR 1962➤ Abdul Sakur vs Abu Bakkar 1930
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	<ul style="list-style-type: none"> • Administration and offices; Statutory methods of creation of Trust; • Trustees: Powers and functions of the Trustees 	<ul style="list-style-type: none"> ➤ Smt.Sarjoo v. Ayodhya Pd.,AIR 1981 SC 798. ➤ Radha Kant Deo v. The Commissioner of Hindu Religious Charitables, AIR 1981 SC 798
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Text Books

- Family Law Lectures - Family Law II, LexisNexis, 4th Edition
- Aqil Ahmad, Mohammedan Law, Central Law Agency, 21st Edition.

Reference Books

- Satyajeet A. Desai, Mulla's Principles of Hindu Law, Vol. I & II (20th ed., 2007)
- Paras Diwan, Law of Marriage and Divorce (5th ed., 2008)
- M. Hidayatulla and Arshad Hidayatulla, Mulla's Principles of Mohammedan Law (19th ed., 2006)
- Tahir Mahmood, Fyzee's Outlines of Mohammedan Law (3rd ed., 2008)
- Dr. U.P.D. Kesari, Modern Hindu Law, Central Law Publication, 9th Edition 2013.

 Marwadi University	<p>Faculty of Law B.A.LL.B. (Hons.) Semester IV</p>				
Subject Name	Constitutional Law II	Credit	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code	10FL0404	5	4	0	2

Course Objectives



Constitutional Law carries a very important role in today's curriculum of every law school. Its study has following objectives:

1. To understand the organs of government and importance of these organs in the governance of the country;
2. To understand the inter relationship and check and balance mechanism among the organs of government;

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3. To analyse the role of judiciary in the governance of the country in the light of judicial review power;
4. To evaluate the mechanism and Power of Legislature to amend the constitution in terms of Peoples' welfare and also the restrictions on amending power of Legislature.
5. To understand the circumstances and situations which aid in the conversion of parliamentary forms of government to the presidential form of government;

Course Outcomes

After completion of the course, student will be able:

1. To be able to define the role of the Indian Legislature both the Union and the State
2. To compare and contrast the different organs of the Government.
3. To identify the role, power and function of President, Council of ministers and its responsibility
4. To analyse the role of legislature and also the distribution of legislative powers between Union and State; Indian Judicial System, various types of emergency and effects
5. To evaluate the legislative, administrative functions of the Government.
6. Develop the higher thinking order in relation to the basic structure theory as restriction on amending power of the parliament.

Detailed Syllabus

Unit/ Sessions (in hours)	Descriptions	Case Laws
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<p>Unit 1: Union and the State Legislature</p> <p>10 hours</p>	<p>Union & State Legislature</p> <p>The Union Legislature – Parliament</p> <ul style="list-style-type: none">• Composition of Parliament & Houses of Parliament• Duration & Sessions of the Houses of Parliament• Qualification for Membership of Parliament• Powers of Speaker, Deputy speaker & Chairman	<ul style="list-style-type: none">• Rao v Indira, AIR 1971 SC 1002,• Indira v Rajnarayan AIR 1975 SC 2299• Pashupati v Nem AIR 1984 SC 399,• Dilip v State of MP AIR 1976 SC 133,• Bhagwati v. Rajeev AIR 1986 SC 1534,• Union v. Gopal AIR 1978 SC 694,• Kiran v Sanjiva, AIR 1970 SC 1573,• Bhargav v Jigar AIR 2001 SC 1678• Ramdas Athawale v UOI AIR 2010 SCC 1310• Jaya Bachhan v UoI (2006) 5 SCC 266• Consumer Education and Research Society v UoI (2009) 9 SCC 648
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	<ul style="list-style-type: none">• Ordinary, Money Bills & Financial Bills• Parliament's Control over Financial System- Committee on Estimates, Committee on Public Accounts, Consolidated Fund of India & Contingency Fund of India <p>The State Legislature</p> <ul style="list-style-type: none">• Composition & Duration of State Legislature• Qualification of Membership of State Legislature	<ul style="list-style-type: none">• G.S. Iqbal v K.M. Khader (2009) 11 SCC2116
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<p>Unit 2:</p> <p>The Union and The State Executive</p> <p>The President and the Governor</p> <p>7 hours</p>	<p>The Union Executive –</p> <p>The President</p> <ul style="list-style-type: none"> • Election, Qualifications & Terms of Office of President • Privileges, Powers and Duties of President • Impeachment of President <p style="padding-left: 40px;">• The Vice – President</p> <ul style="list-style-type: none"> • Qualifications & Election of Vice-President • Functions & Terms of Office of Vice – President <p style="padding-left: 40px;">• Council of Ministers</p> <ul style="list-style-type: none"> • Appointment of Ministers • Council of Ministers & Cabinet • The Individual, Collective, Legal & Ministerial Responsibility • President’s relation with the Council of Ministers <p>Attorney General of India & Comptroller and Auditor-General of India</p> <p>The State Executive</p> <ul style="list-style-type: none"> • Appointment, Powers & Qualifications of Governor • The Council of Ministers • The Advocate General 	<ul style="list-style-type: none"> • Samsher v. State of Punjab AIR 1974 SC 2192; • S.P.Gupta v. Union of India AIR 1982 SC 149; • K.M.Sharma v. Devi Lal AIR 1990 SC 528; • State of Karnataka v. Union of India AIR 1978 SC 68] • S.P Anand v H .D. Devegodra, • S.R. Chauhan v State of Punjab(2001)6 233 • Lily Thomas v Union of India,(2000)6 SCC224 • In re Presidential Election (1974) 2 SCC 33 • Purno Agitok Sangma v Pranab Mukherjee (2013) 2 SCC 239 • Charan Lal Sahu v APJ Abdul Kalaam AIR 2003 SC 548 • State (Govt. Of NCT of Delhi) v Prem Raj (2003) 5 SC 522 • State of UP v Sanjay Kumar (2012) 8 SCC 537 • State of Haryana v Jagdish (2010) 4 SCC 216
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Unit 3: The Union and the State Judiciary 7 hours	Union & State Judiciary The Union – Supreme Court <ul style="list-style-type: none">• Composition of Supreme court• Qualifications & Appointment of Supreme Court Judges & National Judicial Appointment Commission	<ul style="list-style-type: none">• In Re Presidential Reference, AIR 1999 SC 1,• S.P.Gupta v Union AIR 1982 AIR SC 149,• Pedda Narayana v UP AIR 1975 SC 1252,• Rajan v State of Bihar AIR 1991 SC 1377,• Mahesh v State of Delhi AIR 1991 SC 1108,
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	<ul style="list-style-type: none">• Impeachment of Judge of Supreme court• Jurisdiction of Supreme court- Original, Writ, Appellate, Advisory• Powers to Punish for Contempt & Concept of Curative Petition <p>The State – High Court</p> <ul style="list-style-type: none">• Appointment, Transfer of Judge of High Court• Terms of Office & Removal of Judge of High Court• Jurisdiction & Powers of High Court	<ul style="list-style-type: none">• Balakrishna v Matha (1991) 2 SCC 203,• J.Ranga Swamy v AP AIR 1990 SC 535• Ashish Handa v Chief Justice, P & H High Court, AIR 1996 SC 1308,• K Asoka Reddy v Government of India AIR 1994 SC 1207,• Sodhi v Union of India (1991) 2 SCC 382,• A.K.Roy v Union of India AIR 1982 SC 710,• Kanu Sanyal v District Magistrate AIR 1973 SC 2684,• S.P.Gupta v Union of India AIR 1982 Sc 149,• P. Ramachandra Rao v State of Karnataka (2002) 4 SCC 578• S.D Joshi v High Court of Judicature at Bombay (2011) 1SCC 252• In Re: Presidential Reference (1998) 7 SCC 739• Mahesh Chandra Gupta v UoI (2009) 8 SCC 273• Amicus Curiae v Prashant Bhushan (2010) 7 SCC 592• State of Punjab v state of Haryana (2011) 12 SCC 726
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<p>Unit 4: Legislative Relations Between the Union and the State</p> <p>8 hours</p>	<ul style="list-style-type: none"> • Legislative Relations • Territorial Jurisdiction • Theory of Territorial Nexus • Delegated legislation • Factors responsible for the growth of delegated Legislation • Limits of Delegated legislation. • Distribution of Legislative Powers- Subject Matter • The Residuary Powers • Pith and substance • Colourable Legislation • Repugnancy between Central and State Law. 	<ul style="list-style-type: none"> • State of Bombay v RMDC AIR 1957 SCJ 607 • Hindusthan Lever v State of Maharastra (2004)9 SCC 438 • State of MP v Rakesh Kohli (2012) 6 SCC 312 • India Cement Ltd v State of Tamil Nadu (1990) 1 SCC 12 • Goa Glass Fibre Ltd v State of Goa (2010) 6 SCC 499 • State of HP v Narain Singh AIR 2009 SC 2541 • State of Kerela v PUCL (2009) 8 SCC 46 • State of Tamil Nadu v P. Krishnamurthy (2006) SCC 517 • Offshore Holding (P) Ltd v Bangalore Development Authority (2011) 3 SCC 139
<p>Unit 5:</p>	<ul style="list-style-type: none"> • Administrative Relations 	<ul style="list-style-type: none"> • Jay Engineering Works Ltd v State of West Bengal AIR 1968 Cal 407



<p>Administrative relations between the Union and the State 8 hours</p>	<ul style="list-style-type: none"> • Control of Union over States • Direction by the Centre to the States • Delegation of Union function to the states • All India services • Grant in Aid • Full faith and Credit Clause 	<ul style="list-style-type: none"> • G.V.K. Industries Ltd v ITO 2011 SCW 2047 • T.N Cauvery v UOI AIR 1990 SC1316 • In re Networking of Rivers , (2012) 4 SCC 51
<p>Unit 6: Financial Relations between Union and the State 8 hours</p>	<ul style="list-style-type: none"> • Financial relations • Taxation only by the authority of law • Tax and Fee distinguished • Distribution of revenue between Union and States • Finance Commission 	<ul style="list-style-type: none"> • Consumer Online Foundation v UOI (2011) 9 SCC 1 • TataSky Ltd v State of M.P (2013) 4 SCC 656 • Saurashtra Cement and Chemical Industries Ltd v UOI (2001) 1 SCC 91 • State of M.P. v Rakesh Kohli (2012) 6 SCC 312 • State of Assam v Naresh Chandra Ghose (2001) 1 SCC 515 • State of Gujarat v Akhil Gujarat Pravasi V.S. Mahamandal (2004) 5 SCC 155 • State of West Bengal v Kesoram Industries Ltd. (2004) 10 SCC 201 • All India, Federation of Tax Practitioners v UOI (2007) 7 SCC 763 • State of AP v National Thermal Power Corpn Ltd (2002) 5 SCC 203 • Bhim Singh v UOI (2010) 5 SCC 538
<p>Unit 7: Emergency Provision 8 hours</p>	<ul style="list-style-type: none"> • Proclamation of Emergency, • Kinds of Emergency, • Grounds of Emergency • Effect of Emergency 	<ul style="list-style-type: none"> • S.R.Bomma V Union of India AIR 1994 SC 1918 • Naga People's Movement of Human Rights v UOI AIR 1998 SC 109 • P.B. Samant v UOI 1988 (1) SCJ 122 • Sarbananda Sonowal v UOI (2005) 5 SCC 665 • Badrinath v State of Tamil Nadu AIR 2000 SC 3243



<p>Unit 8:Inter- State Trade and Commerce</p>	<ul style="list-style-type: none">• Freedom of trade and commerce and intercourse• Power of Parliament to impose restrictions on trade and commerce.• Power of the parliament to impose	<ul style="list-style-type: none">• Atiabari Tea Co. Ltd v State of Assam(1961) 1 SCR 809• B.R. Enterprises v State of U.P (1999) 9 SCC 700• State of Punjab v Devams Modern Breweries Ltd, (2004) 11 SCC 26• Ch. Tika Ram v State of UP 1956 SCR 393
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<p>8 hours</p>	<p>restrictions on trade and commerce and intercourse</p> <ul style="list-style-type: none"> • State's power to regulate trade and commerce • Appointment of Authorities for carrying out the purpose of Articles 301 and 304. 	<ul style="list-style-type: none"> • The Automobile Transport (Rajasthan) Ltd. v State of Rajasthan (1962) 2 SCA 35 • Jindal Stainless Steel v State of Haryana (2006) 7 SCC 271 • State of Mysore v H. Sanjeeviah AIR 1967 SC 1189
<p>Unit 9: Constitutional Bodies</p> <p>7 hours</p>	<ul style="list-style-type: none"> • Constitutional bodies • Election Commission • Finance Commission • Controller and Auditor General of India 	<ul style="list-style-type: none"> • S.Subramaniam Balaji v. State of Tamil Nadu (2013) 9 SCC 659 • CAG v Mohan Lal Mehrotra 1 SCC 20 • Arvind Gupta v. UoI (2013) 1 SCC 393 • UoI v Amrik Singh (1994) 1 SCC 269 • Arun Kumar Agarwal v UoI (2013) 1 SCC 1 • Centre for Public Interest n Litigation v UoI (2012) 3 SCC 1 • In re: Natural Resources Allocation, Special Reference (2012) 10 SCC 1 • PUCL v UoI (2013) 10 SCC 13 • T.N. Sheshan v UOI (1995) 4 SCC 611 • S. Subramaniam Balaji v State of Tamil Nadu (2013) 9 SCC 659 • Desiya Murpokku Dravida Kazhagan v. ECI (2012) 7 SCC 340.

Text Books

- H.M Seervi Constitutional Law of India, 4th Edition, Universal Law Publishing
- M. P Jain, Indian constitutional Law, 6th Edition, reprint 2012, LexiNexis

Reference Books



- N. Shukla, Constitution of India, Eastern Book Agency, 2014
- P. Jain, Indian Constitutional Law, Lexis Nexis, 2013
- D. Basu, Introduction to the Indian Constitution of India, (20th Ed. 2009)
- M. Seervai, Constitutional Law of India, Universal Law Publishing Co., Reprint 2013
- Glanville Austin, Indian Constitution – cornerstone of the Nations, Oxford University Press, 1999

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- M. Bakshi, The Constitution of India, Universal Law Publishing Co., 2014
- D. Basu, Shorter Constitution of India (14th Ed. 2008, reprint 2010)

 Marwadi University	Faculty of Law B.A.LL.B. (Hons.) Semester IV				
Subject Name	Law of Crimes- II (IPC) (Specific Offences)	Credit	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code	10FL0405	5	4	0	2

Course Objectives:

The course shall have the following objectives:

- To provide the conceptual understanding of the specific principles of Criminal Law.
- To develop analytical understanding with respect to Offence affecting Human body such as offences against human life and Offences against women.
- To develop analytical thinking with respect to Offence affecting Property (Movable and Immovable).
- To develop analytical thinking with respect to Offence affecting peace and tranquillity of State.

Course Outcome

On Completion of this course, students will be able to:

- Define offense affecting human body.
- Explain offences against women.
- Interpret offences against property.
- Examine other offence against property.
- Weigh offences against state, fabricating false documents and defamation.



Marwadi
University

Detailed Syllabus



FACULTY OF
LAW

Unit/ Sessions (in hours)	Descriptions	Case Laws
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Dean
Faculty of Law
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Rajkot



<p>Unit 1: Offences affecting human body</p> <p>15 hrs</p>	<ul style="list-style-type: none"> • General Introduction to specific offences • Culpable Homicide and Murder • Causation – Distinction between culpable homicide and Murder • Attempt <ul style="list-style-type: none"> ○ to commit murder ○ to commit culpable homicide ○ Suicide and its Constitutionality: Attempt and abetment. • Homicide by Rash or Negligent act not amounting to Culpable Homicide • Unnatural offence • Miscarriage and injuries to unborn children • Hurt and Grievous Hurt, Acid attacks • Kidnapping and Abduction • Assault and Criminal force • Wrongful restraint and wrongful confinement 	<ol style="list-style-type: none"> 1. Paul vs The State of Kerala on 21 January, 2020. 2. Rajinder V. State of Haryana SC 2006. 3. Rampal Singh V. State of U.P SC 2012. 4. Sushil Sharma vs State (Nct) Of Delhi on 8 October, 2013. 5. Baiju Kumar Soni v. State of Jharkhand SC 2019. 6. Manoharan v. State by Inspector of Police, Variety Hall Police Station, Coimbatore, SC 2019. 7. Balwan Singh v. State of Chhattisgarh, SC 2019. 8. Anand Ramachandra Chougule v. Sidarai Laxman Chougala SC 2019. 9. Dr. Tp Senkumar Ips vs Union Of India And Ors on 24 April, 2017 SC 10. Sandeep Kumar vs The State Of Uttarakhand on 2 December, 2020 SC 11. Alister Anthony Pareira vs State Of Maharashtra on 12 January, 2012 SC 12. Ravi Kapur vs State Of Rajasthan on 16 August, 2012 SC 13. Suresh Kumar Koushal & Anr vs Naz Foundation & Ors on 11 December, 2013 SC 14. Meeru Bhatia Prasad Vs. State” (2002) Cr LJ 1677 15. Akhil Kumar Vs. State of M.P., (1992) Cr LJ 2029 16. Tulsi Devi Vs. State of U.P (1996) Cr. LJ 940 17. Jacob George Vs. State of Kerala (1994) 3 SCC 43 18. SurendraChawanVs. State of M.P AIR (2000) SC 1436 19. TelengaMunda Vs. State of Bihar” (2001) Cr LJ 3094 20. Maqbool vs The State Of Uttar Pradesh on 7 September, 2018 SC <p>Legislation: Medical Termination of Pregnancy Act, 1971</p>
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**Unit 2 :
Offence
against
women (With
2013
amendment)**

15 hrs

- Outraging the modesty of women, (354, 507),
- Obscene act and songs,
- Rape and attempt to Rape
- Dowry Death, Cruelty by husband or relatives
- Offences relating to marriage
- Sexual Harassment at Workplace

1. Tarun Jit tejpai v. State of Tamil Nadu, 2019 Sc 1053.
2. Sasikala Pushpa v. State of Rajasthan 2019, SCC 477
3. Atma Ram v. State of Rajasthan 2019(2) Crimes(SC) 144.
4. Chaitu v. State of Uttarakhand CrI.A. No. 2127 of 2009 SC, decided on 2019.
5. Secretary Lucy Sequerin v. Kailash Ramesh Tandel 2019 SCC 155.
6. Vineek Kumar v. State of Karnatak 2017 SC.
7. S.M. Srinivas v. State of Karnataka 2017 SC.
8. S.P.S. Rathore v. CBI & Ors 2016 SCC 985.
9. State of Rajasthan v. Sri Chand 2015 SC.
10. State of M.P. v. Madanlal 2015 SCC 681.
11. State of Maharashtra v. Pravin Mahadeo Gadekar 2015 SC 289.
12. In Re v. Indian Women Says Ganged Raped 2014 SC.
13. P. Ramaswamy v. State (U.T) of Andaman & Nicobar 2013 SCC 577.
14. Ajahar Ali v. State of West Bengal 2013 SCC 31.
15. *State of Punjab v. Gurmit Singh* (1996) 2 SCC 384 165
16. *Tukaram v. State of Maharashtra*, AIR 1979 SC 185 154
17. *Sakshi v. Union of India* (2004) 5 SCC 518 178
18. *Bhupinder Sharma v. State of Himachal Pradesh* (2003) 8 SCC 551 189
19. *Priya Patel v. State of Madhya Pradesh* (2006) 6 SCC 263 193
20. *Bhupinder Singh v. UT of Chandigarh* (2008) 8 SCC 531 196
21. *Shanti v. State of Haryana*, AIR 1991 SC 1226 95
22. *Satvir Singh v. State of Punjab* (2001) 8 SCC 633 99
23. *Ram Badan Sharma v. State of Bihar* (2006) 10 SCC 115 105
24. Bodhisattwa Gautam vs Miss SubhraChakraborty, 1996 SCC (1) 490
25. RupanDeol Bajaj & Anr vs Kanwar Pal Singh Gill & Anr 1995 SCC (6) 194
26. The Chairman Railway Board and Others v Mrs Chandrima Das and Others AIR 2000 SC



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<p>Unit 3: Offence against property</p> <p>10 hrs</p>	<ul style="list-style-type: none"> • Theft • Extortion • Robbery • Dacoity 	<ol style="list-style-type: none"> 1. Jayant v. State of M.P. 2020 SCC 989 2. Govind Prasad Kejriwal v. State of Bihar 2020 3. Birla Corporation Ltd v. Adventz Investment and Holdings 2019 SC 403 4. Surajsinh Alias v. State of Gujarat 2017 5. Vikramsingh & Ors v. UOI 2015 6. State(NCT) of Delhi v. Sanjay 2014 SCC 772. 7. <i>Pyare Lal Bhargava v. State of Rajasthan</i>, AIR 1963 SC 1094 200 8. <i>Jadunandan Singh v. Emperor</i>, AIR 1941 Pat. 129 203 9. <i>Sekarv. Arumugham</i>(2000) Cr.L.J. 1552 (Mad.) 205 10. <i>State of Karnataka v. Basavegowda</i>(1997) Cr.L.J. 4386 (Kant.) 208
<p>Unit 4: Other Offences against property</p> <p>20 hrs</p>	<ul style="list-style-type: none"> • Criminal Misappropriation of property • Criminal Breach of Trust • Cheating • Receiving stolen property • Mischief • Criminal trespass 	<ol style="list-style-type: none"> 1. Purushottam Dashrath Boate & Anr v. State of Maharashtra 2015 SCC 652. 2. Ramaswami Nadar v. State of Madras AIR 1958 SC 56. 3. State of Orissa v. Bishna Charan Muduli 1985 Cr LJ 1573 SC. 4. <i>JaikrishnadasManohardas Desai v. State of Bombay</i>, AIR 1960 SC 889 213 5. <i>Mahadeo Prasad v. State of West Bengal</i>, AIR 1954 SC 724 218 6. <i>Akhil Kishore Ram v. Emperor</i>, AIR 1938 Pat. 185 221 7. <i>Shri Bhagwan S.S.V.V. Maharaj v. State of A.P.</i>, AIR 1999 SC 2332 225



<p>Unit 5: Other offences</p> <p>15 hrs</p>	<ul style="list-style-type: none">• Offences against the State• Giving or fabricating false Evidence• Offences relating to documents• Defamation	<ol style="list-style-type: none">1. M/S Bandekar Brothers Pvt. Ltd v. Prasad Vassudev Keni 2020 SCC 7072. State of Gujarat v. Anwar Osman Sumbhaniya 2019 SC 18343. National Investigation Agency v. Zahoor Ahmed Shah Watali (2019) 2 MLJ (CrI) 730 (SC)4. Sh. Narendra Kumar Srivastav v. State of Bihar 2019 SCC 318.5. Prem Sagar Manocha v. State (NCT of Delhi) 2016 SCC 5716. Perumal v. Janaki 2014 SCC 3777. <i>Asokkumar Sarkar v. Radhakant Pandey</i>, AIR 1967 Cal 1788. <i>Ram Jethmalani v. Director, CBI</i> 1987 Cr.L.J 570 (Del)9. <i>S.Mohinder Singh Salujav. Vansan Shoes Delhi</i>, (1987)1Crimes 57 (61) (Del)
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		<ol style="list-style-type: none">10. <i>J.Jayalalitha v. Arcot N. Veeraswamy</i> 1997 Cr.L.J 4585 (Mad)11. <i>Kedar Nath Singh v. State Of Bihar</i>AIR 1962 SC 95512. <i>Keho Bam Hazarika v The Government Of Assam</i> 1951 CriLJ 6813. <i>Manubhai Tribhovandas Patel And Ors. v. State Of Gujarat And Anr</i> 1972 Cri.L.J 38814. <i>Uttamrao S/O Keshavrao Patwari v. State Of Maharashtra And Anr</i>,1990 (1) BomCR 32115. <i>State Of Madhya Pradesh v. Baleshwardayal And Ors.</i>1967 Cr.L.J 111016. <i>Bilal Ahmed Kaloov. State of Andhrapradesh</i> AIR 1997SC 348317. <i>Balwant Singh v. State of Punjab</i> (995) 3 SCC 21418. <i>Binayak Sen case</i>
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Reading Material



A. Text Books:

- K. D. Gaur, *A text Book on the Indian Penal Code*, 7th Edition, 2020, Lexis Nexis Publication.
- P. S. Achuthan Pillai, *Criminal Law*, 2017, Eastern Book Co.

B. Reference Books

- KENNY *on Outlines of Criminal Law*, 19thEdn. Cambridge University Press.
- K.N.C. Pillai & Shabistan Aquil (Rev.), *Essays on the Indian Penal Code* (The Indian Law Institute, 2005)
- K. D. Gaur, *Criminal Law Cases and Materials*, Butterworths, India
- Ratanlal & Dhirajlal's *Indian Penal Code*, Butterworths Wadhwa, Nagpur
- B. M. Gandhi, *Indian Penal Code*, Eastern Book Co,
- Codification, Macaulay and the Indian Penal Code (Wing-Cheong Chan, Barry Wright & Stanley Yeo eds., 1st ed. Ashgate 2011).
- R.C. Nigam, *Law of Crimes in India*(Vol. I) (1965)
- V.B. Raju, *Commentary on Indian Penal Code*, 1860 (Vol. I & II) (4th ed., 1982)
- K.I. Vibhute (Rev.), P.S.A. Pillai's *Criminal Law*, (10th ed., 2008)

C. Suggested readings

- An Open Letter to the Chief Justice of India (1979) 4 SCC (J) 17 160
- Justice Verma Committee Report-2013
- 42nd Report of the Law Commission of India
- 84th Report of the Law Commission of India
- 91st Report of the Law Commission of India
- 156th Report of the Law Commission of India
- 172nd Report of the Law Commission of India
- 202nd Report of the Law Commission of India
- 243rd Report of the Law Commission of India



- Flavia Agnes, “Law, Ideology and Female Sexuality-Gender Neutrality in Rape Law”, Economic and Political Weekly 844, 2002

D. Legislation:

- The Indian Penal Code, 1860 (Bare act)
- The Protection of Children against Sexual offence Act, 2012
- Criminal Law (Amendment Act, 2013)
- Criminal Law (Amendment Act), 2005, Criminal Law (Amendment Act), 2013

E. Websites:

- <http://thelawdictionary.org>
- <http://indiacode.nic.in/>
- <http://www.prsindia.org/>
- <http://lawcommissionofindia.nic.in/>
- <http://judis.nic.in/>
- <http://www.law.cornell.edu/>
- <http://www.worldlii.org/>
- <http://liiofindia.org/>

 Marwadi University	<h2>Faculty of Law</h2> <h3>B.Com.LL.B. (Hons.)</h3> <h3>Semester IV</h3>				
	Subject Name Basics of French Language French- II	Credit	Teaching Scheme		
Subject Code	10SL0402	2	Theory 2	Practical 0	Tutorial 0

Objectives:

1. To familiarize students with basic French sentence structures
2. To enable students to ask basic questions and answers

Outcomes:



The students will get basic exposure to the French language and they will be able to:

1. Read basic instructions in French
2. Ask basic questions in French
3. Answer basic questions in French

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Detailed Syllabus

Unit	Descriptions	Sessions (in hours)
I	<ol style="list-style-type: none"> 1. Verb conjugation (1st, 2nd and a few of 3rd group i.e. être, faire, aller etc. 2. Questions with « Que-est-ce-que, Quand, Quoi, Quel, Pourquoi, Où » 3. Asking/Responding politely 4. Negative sentences 	15
II	<ol style="list-style-type: none"> 1. Possessive Adjectives and Pronouns 2. Past tense 3. Future proche 4. Reading Comprehension 5. Listening activities 	15

Teaching Scheme

Teaching Scheme (Hours per week)	Evaluation Scheme					Total Marks
	ESE	IA	CSE	Viva	Term Work	
2 Hours	00	30	20	25	25	100

1.) IA will consist of the following components (30 marks):

a. **Assignments (20 Marks):** Students will prepare three oral assignments.

b. **In-Class Participation (10 Marks)**

2.) CSE (20 marks):

a. **(Term End Simulation):** Students will carry out simulated tasks at the end of the semester. It would comprise of individual and group tasks.

3.) Viva (25 Marks): Viva will be conducted at the end of the semester. It will be based on the CSE, Term Work, Assignments and topics covered in the syllabus.

4.) Term Work (25 Marks):



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(Term-End Presentation): Students will make a presentation based on topics provided by the faculty, at the end of the semester.

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Text Books: (Readings)

1. AI ECHO Methode de francaise, J. Girardet, CLE International
2. Cahier Personnel D'apprentissage, J. Girardet, CLE International

Additional Texts:

NA

 Marwadi University	<h2>Faculty of Law</h2> <h3>B.A.LL.B. (Hons.)</h3> <h3>Semester IV</h3>				
	Lower Court II (4 weeks) Internship	Credit	Teaching Scheme		
Subject Name			Theory	Practical	Tut orial
Subject Code	10FL0406	2	0	0	0

Course Objectives:

The course is designed to achieve Following Objectives:

- To familiarize students with law in practice at local level
- To enable student's enormous exposure to lower court

Learning Outcomes:

After completion of the course, students would be able to :

- Understand the basic requirement of depth knowledge of the subject matter in a case.
- Analyse the most basic legal cases.
- Create an alignment of curriculum with enormous practical exposure.

Detailed Syllabus:

Sessions (in hours)	Nature of Work done	Learning Outcome	Remarks
1 st week			
2 nd week			





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3 rd week			
4 th week			

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RULES

1. All Internships mentioned in the above-mentioned table shall be completed by a student in order to be eligible for the award of the degree of B.A.LL.B.(Hons.)/B.Com.LL.B. (Hons.).

2. An internship can be arranged by a student or the same can be arranged by Faculty of Law, Marwadi University, Rajkot.

2.1 Procedure to be followed when student is self-arranging internship

a. Student shall submit the details of the internship office to the internship committee before beginning the internship as per the internship calendar notified by the Internship Committee.

b. Student shall obtain a recommendation letter from Dean, Faculty of Law before starting the internship.

c. Student shall submit the Internship Confirmation Letter before starting the internship.

d. If a student is self-arranging the Internship, the parameters set up by Faculty of Law, Marwadi University, Rajkot shall be fulfilled by the Organisation / Lawyer / Company.

e. Student shall not change the internship office without obtaining approval from the Internship Committee at Faculty of Law, Marwadi University, Rajkot.

f. If a student changes the internship office without obtaining the approval from the Internship Committee, such internship shall not be considered for any purpose by Faculty of Law, Marwadi University, Rajkot.

g. Student shall be informing the internship office regarding issuing of Confidential Internship Certificate and Internship Completion Certificate. If the internship office refuses to issue any of the documents mentioned above, the internship committee shall not make any communication to the internship office, it shall be the sole responsibility of the student to get documents mentioned above.

2.2 Procedure to be followed when Faculty of Law, Marwadi University, Rajkot will arrange the Internship

a. Student shall submit the request in writing of arranging internship to the Internship Committee at Faculty of Law, Marwadi University, Rajkot three months prior from the starting the internship, failing which Faculty of Law shall not be responsible to arrange the internship, Student shall be responsible for self-arranging the internship and he/she shall be following all the steps mentioned in

b. The internship office arranged by Faculty of Law, Marwadi University Rajkot, shall be final. The student shall be joining the internship office on time. No request for change of internship office shall be entertained.

c. No preferences from a student with regard to place of internship or internship office shall be entertained by Internship Committee, Faculty of Law, Marwadi University, Rajkot.

d. Student shall bear the cost of stay, travel and any other expenses during the time of internship. Student will have to arrange his/her accommodation. e. If a student does not join the Internship office



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as provided to him by Internship Committee, Faculty of Law, Marwadi University, Rajkot, in future no assistance what so ever shall be provided by Internship Committee to that student except providing him a recommendation letter.

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PROCESS DURING AND AFTER COMPLETION OF INTERNSHIP

3. Student shall maintain daily record of work as per the format provided below and submit weekly progress report to their Faculty Coordinator allocated by the Internship Committee.
4. Format of Weekly Report: Name of the Student:
Course: B.A.LL.B.(Hons.)/B.Com.LL.B.(Hons.) Semester:
Name of the Internship: NGO/LC-1/LC-2/HC-1/HC-2/SC-1/SC-2/Placement
Name of the Internship Office:
Name of the Reporting Head at Internship Office:
Week: 1/2/3/4 Dates: DD/MM/YYYY to DD/MM/YYYY
Sr. No. Date Nature of Work done Learning Outcome 1 2 3 4
2. There shall be a separate weekly report for each week of internship. The weekly report in soft copy shall be submitted to Faculty Coordinator as per the schedule notified by the Internship Committee.
3. At the end of the internship a Final Report both in hard copy as well as in soft copy prepared by the student shall be submitted to the Faculty Coordinator.
4. Late submission of weekly reports and Final Reports shall attract deduction of the marks by the Faculty Coordinator.
5. If weekly report submission is delayed by more than seven days from the due date, it shall be considered as no weekly report submission on the part of the student.
6. The mode (google form, email etc.) of Weekly and Final Internship report submission shall be notified by the Faculty Coordinator. Submission in any other mode shall be considered as no submission on the part of student.
7. The Final Report of the Internship shall be submitted in hard copy to the Faculty coordinator, while submitting the Final report in hard copy the Student shall sign the sheet of final report submission available with Faculty coordinator.
8. The student must make sure that the weekly and final report submitted by him/her shall not be a plagiarised, copied or similar to the work submitted by any other student of Faculty of Law, Marwadi University, Rajkot.
9. In case weekly or final report have been found to be plagiarised, copied or similar to the work submitted by any other student of Faculty of Law, Marwadi University, Rajkot then such case shall be considered to be a case of use of unfair means in examination. A committee shall be constituted by the Dean, Faculty of Law to inquire into the cases of use of unfair means. The decision shall be taken by Dean, Faculty of Law, Marwadi University based on the recommendations made by the inquiry committee.
10. The student shall submit a copy of the Internship Certificate counter signed by the her/him to the Faculty Coordinator allocated by the Internship Committee.
11. Non-submission of the certificate shall lead to cancellation the Internship and the student shall be repeating the same internship again in future.
12. A student shall make sure the internship office is submits the Confidential Internship Certificate to the Faculty Coordinator via mail or post in a sealed envelope.
13. Internship Confidential Certificate must be signed and seal of the Internship office/Advocate must be there on it, without signature and seal Internship Confidential Certificate shall not be considered



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for any purpose.



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14. After the submission of final internship report, a viva-voce examination shall be conducted in which the student shall be examined by external/internal examiner. Students shall be evaluated based on the work they have done during the internship, presentation and practical knowledge gained.

15. If a student fails to complete internship, such student shall be declared fail. He/she shall have to complete the same internship in future in order to become eligible for the award of Degree of B.A.LL.B./B.Com.LL.B.

16. In case any misconduct or unprofessional behaviour of a student during internship is being reported by the internship office to the Internship Committee, Faculty of Law, Marwadi University, Rajkot, the same shall be inquired by a committee constituted by the Dean, Faculty of Law, Marwadi University, Rajkot and the decision shall be taken by the Dean, Faculty of Law, Marwadi University, Rajkot based on the recommendations made by the inquiry committee.

17. The format of the Final Internship Report is as follows

List of Contents

Sr.No.

Title Page No.

1 Acknowledgement

2 Table of Statutes

3 Abbreviations

4 Introduction

5 Internship Work Overview

6 Conclusion

7 Experience sharing

8. Evaluation Scheme:

CONFIDENTIAL CERTIFICATE

Name of the Student:

Institute/Organization:

Name & Address of the Supervisor:

STUDENT PERFORMANCE

Specific remarks about the overall performance of the student toward tasks: (Enthusiastic; eager to learn; receptive; diligent; highly engaged; conscientious; indifferent; disinterested)

Skill of the student in executing tasks: (Well developed critical thinking & analytical skills; shows initiative; learns quickly; productive; meets deadlines; needs to ask more questions; often fails to understand or follow directions; requires close supervision)



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How far the student is Dependable: (Conscientious; exercises good judgment; follows through consistently on tasks; persistent with difficult tasks; hesitant to make decisions; careless in meeting obligations)

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General Conduct & Character: (Positive attitude; suitable dress & grooming; prompt; accepts praise and criticism appropriately; accountable; makes excuses; overly casual in approach)

Maintaining relationships with others: (Respectful; cooperative; receives suggestions well; open; mature; tactful; friendly; shy; impolitic; argumentative)

Merit Based Overall Evaluation of the Interns Performance:

- Outstanding (performed beyond expectations)
- Very good (high quality performance)
- Good (performed all tasks as expected)
- Average (marginal performance)
- Unsatisfactory (performance mostly inadequate)

(SIGNATURE OF THE SUPERVISOR WITH OFFICE SEAL)

DATED

 Marwadi University	Faculty of Law B.Com. LL.B. (Hons) Semester V				
	Subject Name	Principles of Marketing	Credit	Teaching Scheme	
Subject Code	10BC0501	4	3	0	2
			Theory	Practical	Tutorial

Course Objectives

- The objective of this course is to help the students understand fundamental concepts and principles of marketing and marketing management.
- The course will be useful to real understand basic marketing decision.
- The topics in the course should be discussed in relation to real marketing practices.





Course Outcomes

After studying this course, students will be able to:

- Define different marketing concepts.
- Demonstrate the process of new product mix, product line and product development.
- Relate various theories of pricing methods.
- Critiques the marketing techniques for promotion.
- Construct the basics of distribution channels.

Detailed Syllabus:

Sessions (in hours)	Descriptions	Core Reading
Unit I (15 hrs)	<p>EVOLUTION OF MARKETING</p> <ul style="list-style-type: none"> • Production Concept, Product Concept, Selling Concept, • Marketing Concept and Social Concept. Introduction to Marketing mix (4Ps). 	Marketing Management: Global Perspective, Indian Context, Ramaswamy, 2009
Unit II (15 hrs)	<p>PRODUCT DECISIONS</p> <ul style="list-style-type: none"> • Concept of product mix and product line, • New Product Development: Process and Reasons of failure, • Introduction to Product Life Cycle (PLC), • Consumer adaptation stages and managerial implications. 	Marketing Management, Philip Kotler, Kevin Lane Keller, Subramanian Sivaramakrishnan, 2012
Unit III (15 hrs)	<p>PRICING DECISIONS</p> <ul style="list-style-type: none"> • Concept and Objectives of Pricing, • Types of pricing, • Pricing Process, Importance of Pricing, • Concept of Price setting methods, • Factors affecting on pricing, Some key concept of pricing: • Psychological Price, Premium Pricing, • Discount and allowances and Price Discrimination. 	Case Studies in Marketing Management, S. Ramesh Kumar, 2012
Unit IV (15 hrs)	<p>PROMOTION DECISIONS</p> <ul style="list-style-type: none"> • Advertising: Concept, features, importance, media. • Personal Selling: Concept, features, importance, difference between personal selling and advertising. • Sales Promotion: Concept, features, importance, types. 	Marketing Management: Text and Cases: Indian Context, Tapan Kumar Panda · 2009



<p>Unit V (15 hrs)</p>	<p>DISTRIBUTION DECISIONS</p> <ul style="list-style-type: none">• Concept, features, importance, types, factors affecting on channel decision,• Channel design decision, Channel management decision,	<p>Marketing Management, R S N Pillai, 2010</p>
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- | | | |
|--|--|--|
| | <ul style="list-style-type: none"> • Primary idea about Amazon, Flipkart, Snapdeal and another online store distribution network. | |
|--|--|--|

Textbooks:

- Philip Kotler, Marketing Management, Pearson Education. 2016
- S A Sherlekar, Marketing Management, Himalaya Publishing House. 2010
- V S Ramaswamy, Marketing Management, Macmillan Publisher India Ltd. 4th ed. 2009

Reference Books:

- R. B. Rudani. Basics of Marketing Management, S. Chand & Company. 2009
- John Quelch. Marketing Management, Macmillan Publisher India Ltd. 5th ed. 2005
- R. Shrinivasan and Kasturi Rangan, Marketing Management, PHI Learning. 2004

 Marwadi University	Faculty of Law B.A.LL.B. (Hons.) Semester V				
Subject Name	Human Rights & International Humanitarian Law	Credit	Teaching Scheme		
Subject Code	10BB0501	5	Theory	Practical	Tutorial
			4	0	2

Objectives:

- To understand the meaning and scope of International Humanitarian law and human Rights Law
- To understand the Principles of distinction, precaution and proportionality
- To provide students with knowledge and appreciation of the interplay between International Humanitarian Law and Human Rights Law
- To provide students with awareness of implementation of International Humanitarian Law and Human Rights Law



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Outcomes:


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- To be able to define the concept of jus in bello and jus ad bellum
- To be able to demonstrate the principle of proportionality, precaution and distinction
- To be able to identify the meaning of customary international law in International Human rights law and International Humanitarian Law.
- To compare the International Humanitarian Law and Human Rights Law
- To be able to explain the law regarding warfare and the modern developments in it.
- To be able to able to develop a critical thinking regarding the International humanitarian law and human rights law

Detailed Syllabus

Unit / Sessions (in hours)	Descriptions
Unit I 9 Hours	<p>Introduction to International Humanitarian Law</p> <ul style="list-style-type: none"> • Historical background, early origins and historical development • <i>Jus ad bellum</i> and <i>Jus in bello</i> • International Armed Conflict and Applicable Law • Non International Armed Conflict and Applicable Law • Customary International Humanitarian Law
Unit II 10 Hours	<p>Combatants and Civilians: Definitions, Privileges and Liabilities</p> <ul style="list-style-type: none"> • Who is a combatant? • Who is a Civilian • Privileges of Combatant Status • Privileges of Civilian Status • Definition of Military Objects • Definition of Civilian Objects • 'Dual Use' Objects
Unit III 9 Hours	<p>Proportionality</p> <ul style="list-style-type: none"> • Principle of Proportionality • Incidental Harm • Force Protection • Direct Military Advantage • Indiscriminate Attacks



Unit IV
9 Hours

Precautionary Measures

- Principle of Distinction
- Duty of Care
- Feasible Standard



	<ul style="list-style-type: none">• Effective Warning
Unit IV 9 Hours	Implementation of International Humanitarian law <ul style="list-style-type: none">• Respect for International Humanitarian Law• Reciprocity• Ensuring implementation of International Humanitarian Law Egra Omnes• Regional Cooperation• Interplay of IHL and Human Rights Law
Unit V 10 Hours	Introduction to Human Rights <ul style="list-style-type: none">• Meaning and Concept of Human Rights• Theoretical Foundation of Human Rights-Natural Law and Natural Rights• History and Development of Human Rights: Ancient– Medieval, 17th&18th Century ,19th & 20thCentury , Modern Developments• Generations of Human Rights-Civil and Political Rights- Economic, Social and Cultural Rights - Solidarity Rights
Unit VI 9 Hours	International Human Rights Instruments <ul style="list-style-type: none">• International Bill of Human Rights• Universal Declaration of Human Rights, 1948• International Covenant on Civil and Political Rights, 1966• First Optional Protocol• Second Optional Protocol to ICCPR• International Covenant on Economic, Social and Cultural Rights, 1966• Optional Protocols to ICESCR
Unit VII 9 Hours	Human Rights and Vulnerable Groups <ul style="list-style-type: none">• Women• Children• Elderly Groups• Disabled Persons



Unit VIII
10 Hours

Implementation of Human Rights

- UN Commission on Human Rights
- The Human Rights Committee
- The Committee on Economic, Social and Cultural Rights
- Application of International Human Rights Law in India
- Role of Judiciary
- National Human Rights Commission

Books Prescribed



- S.K.Avesti and R.P. Kataria, *Law Relating to Human Rights*, Orient Publications, New Delhi (2000)
- Justice Palok Basu, *Law Relating to Protection of Human Rights*, Modern Law Publications, Allahabad (2002).
- Sircar, V.K. ,*Protection of Human Right in India*, Asia Law House, Hyderabad (2004-05.)
- S C Tripathi, *Law Relating to Woman and Children*, Central Law Publishers, Allahabad, (2001)
- Mamata Rao, *Law Relating to Woman and Children*, Eastern Book Co., Lucknow (2008)
- V.S. Mani (ed.), *Handbook of International Humanitarian Law in South Asia*, Oxford University Press, 2007

Reference Books:

- Alston, Phillip, *The United Nations and Human Rights*, Clarendon Press, London (1995).
- Bajwa, G.S.and D.K. Bajwa, *Human Rights in India: Implementation and Violations*, D.K. Publishers, New Delhi (1996).
- Basu, D. D., *Human Rights in Constitutional Law*, Prentice Hall, New Delhi (1994).
- Sehgal, B. P .Singh, ed., *Human Rights in India: Problems and Perspectives*, Deep and Deep Publications, New Delhi (1999).
- Symmonides, J., *Human Right: International Protection, Monitoring and Enforcement*, Rawat publications, New Delhi (2005)
- G B Reddy, *Womanand the Law*, Gogia Law Agency, Hyderabad (2001)
- MarcoSassoli, Antoine A. Bouvier &Anee Quintin, *How does Law Protect In War?-Cases, Documents and Teaching Material on Contemporary Practice in International Humanitarian Law*, ICRC, 3rd Ed., 2011
- Md. Jahid Hossain Bhuiyan, Prof. Louise Doswald Beck, Prof. Azizur Rahman Chowdhury (ed.), *International Humanitarian Law-An Anthology*, LexisNexis Butterworths Wadhwa, Nagpur, First Ed., 2009
- Larry Maybee & Benarji Chakka (ed.), *International Humanitarian Law-A Reader for South Asia*, ICRC, New Delhi, 2007
- Anthony Cullen, *The Concept of Non-International Armed Conflict in International Humanitarian Law*, Cambridge University Press, 2010
- Frederic De Mulinen, *Handbook on the Law of War for Armed Forces*, ICRC, 1987
- Yves Sandoz, Christophe Swinarski& Bruno Zimmermann (ed.),*Commentary on Geneva Conventions*, ICRC, MartinusNijhoff Publishers, Geneva, 1987
- Frits Kalshoven & Liesbeth Zegveld, *Constraints on the Waging of War-An Introduction to International Humanitarian Law*, ICRC, 4th Ed., 2001
- SK Kapoor, *Human Rights under International and Indian Law*, Central Law Agency, Allahabad, (1999)
- H O Agarwal, *Human Rights*, Central Law Publications, Allahabad, (12thEdn. - 2012)



 Marwadi University	Faculty of Law B.A.LL.B. (Hons.) Semester V				
Subject Name	Criminal Procedure Code	Credit	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code	10BB0502	5	4	0	2

Course Objectives

The objectives of the course are:

1. The course will enable the students to understand the various concepts and functioning of Criminal Courts.
2. Through this course students will find how to analyse maintenance under Criminal Procedure Code and also will have a clear picture about the crucial aspects relating to investigation and trial of offences.
3. This course will sensitize the students about critical issues in administration of criminal justice.

Course Outcomes

On completion of this course, students will be able to:

1. Identify the stages in investigation and procedure of trial in criminal cases
2. Explain the powers, functions, and duties of police and criminal courts.
3. Evaluate the provisions relating to maintenance of Wife, Children and Parents.

Detailed Syllabus

Unit/ Sessions (in hours)	Descriptions	Case Laws
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<p>UNIT I: Introduction (6 hours)</p>	<p>1. The Rationale of Criminal Procedure and the importance of fair trial</p> <p>2. Role of Various Authorities in administration of criminal justice</p> <p>3. Basic Concepts: Bailable Offence, Non-Bailable Offence, Cognizable Offence, Non- cognizable Offence, Complaint, Charge, Police Report,</p>	<ul style="list-style-type: none">• Lalita Kumari v. Govt. of Uttar Pradesh, 2013 (13) SCALE 559 05• Lalita Kumari v. Govt. of Uttar Pradesh, CrI.M.P. no.5029 of 2014 in Writ Petition (CrI.) No.68 of 2008• Youth Bar Association of India v. Union of India and Others WRIT PETITION (CRL.) NO.68 OF
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	<p>Investigation, Inquiry and Trial, 4. Constitution & Powers of Criminal Courts & Offices</p>	<p>2016</p> <ul style="list-style-type: none"> • State of Orissa v. Sharat Chandra Sahu, (1996) 6 SCC 435 • Madhu Bala v. Suresh Kumar, (1997) 8 SCC 476 • Sakiri Vasu v. State of Uttar Pradesh, (2008) 2 SCC 409 • Mahendra Singh Dhoni v Yerraguntla Shyamsuder (2017)7 SCC 760
<p>UNIT II : Information to the police and investigation, Arrest and Bail (8 hours)</p>	<ul style="list-style-type: none"> • Information in Cognizable Offences • Information in non-cognizable Offences • Procedure for investigation • Who can Arrest? • Arrest How made • Rights of Arrested person • Provisions as to Bail and Bond • Conditions Requisite for Initiation of Proceedings 	<p>Case Laws-</p> <ul style="list-style-type: none"> • D.K.Basu v. State of West Bengal, (1997) 6 SCC 642 30 • State of Haryana v. Dinesh Kumar, (2008) 3SCC 222 33 • Arnesh Kumar v. State of Bihar, (2014) 8 SCC 273 • State v. Captain Jagjit Singh, (1962) 3 SCR 622 46 • Moti Ram v. State of M.P., (1978) 4 SCC 47 49 • Gurcharan Singh v. State (Delhi Admn.), (1978) 1 SCC 118 • Sanjay Chandra v. Central Bureau of Investigation, (2012)1 SCC 40 • Shri Gurbaksh Singh Sibbia v. State of Punjab, (1980) 2 SCC 565 • State (Delhi Administration) v. Sanjay Gandhi, (1978) 2 SCC 411 • Sangitaben Shaileshbhai • Rakesh Kumar Paul v State of Assam, (2017)15 SCC 67 • Datanta v. State of Gujarat, 2018 SCC Online SC 2300



UNIT III: Complaints to Magistrates and commencement of Proceedings before Magistrates (8 hours)	<ol style="list-style-type: none">1. Examination of Complaints2. Procedure by Magistrate3. Issue of Process4. Commitment of Case	<ul style="list-style-type: none">• Mohan Singh v. State of Bihar, (2011)9 SCC 272• Ajay Kumar Parmar v. State of Rajasthan, (2012)9 SCALE 542
UNIT IV: The Charge (6 hours)	<ol style="list-style-type: none">1. Form of Charge2. Joinder of Charges	<ul style="list-style-type: none">• Rukmini Narvekar v. Vijaya Satardekar AIR 2009 SC 1013• Nitya Dharmanand v. Gopal Sheelum Reddy, (2018) 2 SCC 93• State v. Selvi (2018)13 SCC 455
UNIT V: Trial Procedures (10 hours)	<ol style="list-style-type: none">1. Sessions Trial2. Warrant Trial<ol style="list-style-type: none">i) Cases Instituted upon a Police Reportii) Cases Instituted otherwise than on a Police Reportiii) Conclusion of Trial3. Summons Trial by Magistrates4. Summary Trial	<ul style="list-style-type: none">• Abdul Karim v. State of Karnataka, (2000) 8 SCC 710• State of Jharkhand v Lalu Prasad Yadav (2017)8 SCC 1• Harbeer Singh v Sheeshpal (2016)16 SCC 418• B.A. Umesh v High Court of Karnataka (2017) 4 SCC 124• State of Goa v jose Maria Albert Vales (2018)11 SCC 659



<p>UNIT VI: Evidence in Inquiries and Trials (15 hours)</p>	<ol style="list-style-type: none">1. Mode of taking and recording evidence2. Commission for the Examination of witnesses3. General Provisions as to Inquiries and Trials	<ul style="list-style-type: none">• Sunil v State of M.P., (2017)4 SCC 393• Amir Hamza Shaikh v State of Maharashtra (2019) 8 SCC 357• Rajesh v State of Haryana (2019)6 SCC 368• Rekha Murarka v State of West Begal, 2019 Supreme (SC) 1286• Swapna Kumar Chatterji v CBI, (2019)14 SCC 328• Bhagyan Das v State of Uttarakhand, (2019) 4 SCC 354
<p>UNIT VII:</p>	<ol style="list-style-type: none">1. Discharge and acquittal	<ul style="list-style-type: none">• Edmund S. Lyngdoh v State of



<p>Judgment (15 hours)</p>	<p>2. Conviction 3. Hearing on sentence 4. Content of judgments</p>	<p>Meghalaya, (2016)15 SCC 572 • Ratanlal v Prahlad Jat, (2017)9 SCC 340</p>
<p>UNIT VIII: Other Important Provisions (15 hours)</p>	<p>1. Submission of Death Sentence for Confirmation 2. Appeals 3. Reference and Revision 4. Execution, Suspension, Remission and Commutation of Sentences 5. Plea Bargaining 6. Provisions relating to Maintenance 7. Salient features of The Juvenile Justice (Care and Protection of Children) Act 2015 8. Salient features of Probation of Offenders act, 1958</p>	<p>• Raju Jagdish Paswan v State of Maharashtra (2019)16 SCC 380 • D. Velusamy v D. Patchaiammal (2010) 10 SCC 469 • Md. Sajjad @Raju@ Salim v State of West Bengal 2017 (1) RCR (Criminal) 748 • Union of India v Dharam Pal, (2019) 15 SCC 388 • Mahesh Dube v Shivbodh Dubel (2019) 4 SCC 160 • Accused X v State of Maharashtra, Cr. Appeal no. 680/2007 on 12.04.2017/ 2019 SCC online SC 543</p>

*** Prescribed Legislation: The Code of Criminal Procedure, 1973**

Text Book

- S. N. Mishra, The Code of Criminal Procedure, Central Law Publication, Allahabad, 2017

Reference Books

- K.N. Chandrasekharan Pillai, R.V. Kelkar's Lectures on Criminal Procedure, Eastern Book Company, 2013
- K.N. Chandrasekharan Pillai, Criminal Procedure, Eastern Book Company, 2004
- Aiyer, Mitter, Law of Bails- Practice and Procedure, Law Publishers(India) Pvt. Ltd., 2012
- Ratanlal & Dhirajlal, Criminal Procedure, Lexis Nexis Butterworths Wadhwa, Nagpur, 2012
- S.C. Sarkar, The Law of Criminal Procedure, Wadhawa & Co. , Nagpur, 2007
- P.V. Ramakrishna, Law of Bail, Bonds, Arrest and Custody, Lexis Nexis, 2008



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Faculty of Law
B.A.L.L.B. (Hons)
Semester V

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Subject Name	Corporate Law – I	Credit	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code	10BB0503	5	4	0	2

Course Objectives

The course is designed to achieve Following Objectives:

To acquire knowledge and develop understanding of the regulatory framework of incorporation of companies, company affairs, various compliances through various provisions of Companies Act and its schedules, rules, notifications, circulars, clarifications there under including case laws and Secretarial-legal standards.

Course Outcomes

On completion of this course, the learners will be able

- To recall basic concepts and Characteristics of company.
- To demonstrate Incorporation procedure and its Consequences.
- To apply provisions relating to various prospectus and types of share issuance.
- To classify and compare various types of debentures.
- To evaluate membership and modes of acquiring membership.
- To formulate high standards relating to the directors and key managerial personals.

Detailed Syllabus



<p>Module: 1. Introduction 7 hours</p>	<ol style="list-style-type: none">1 Historical Development of Concept of Corporate Law in India2 Company – Definition, Meaning, Nature and its Characteristics3 Nature and Forms of Business4 Company vis-à-vis other Forms of Business5 Concept of Corporate Personality, Corporate Veil, Limited Liability and Citizenship	<p>Case Laws:</p> <ul style="list-style-type: none">● Anuj Jain vs. Axis Bank Limited and Ors. (26.02.2020 - SC): MANU/SC/0228/2020● State of Karnataka and Ors. vs. Selvi J. Jayalalitha and Ors. (14.02.2017 - SC): MANU/SC/0157/2017● New Horizons Limited and Ors. vs. Union of India (UOI) and Ors. (09.11.1994 - SC) : MANU/SC/0564/1995● C.V. Raman vs. Management of Bank of India and Ors. (21.04.1988 - SC): MANU/SC/0059/1988
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		<ul style="list-style-type: none">● ArcelorMittal India Private Limited vs. Satish Kumar Gupta and Ors. (04.10.2018 - SC): MANU/SC/1123/2018● Laurel Energetics Pvt. Ltd. vs. Securities and Exchange Board of India (13.07.2017 - SC): MANU/SC/0864/2017● Collector of Customs vs. East African Traders (02.12.1999 - SC):MANU/SC/1235/1999● State of Rajasthan and Ors. vs. Gotan Lime Stone Khanji Udyog Pvt. Ltd. and Ors. (20.01.2016 - SC):MANU/SC/0058/2016● Salomon v. Saloman & Co. Ltd (1859-99) -(Personality of a Company)● Kondolia Tea Co. Ltd. ReILR(1886)● Lee v. Lee's Air Farming Ltd. (1960)● Bacha F. Guzdara v. CIT Bombay (1955)● Chamundeeswari v. CTO, Vellore Rural (2007)
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<p>Module: 2. Incorporation and its Consequences 19 hours</p>	<ol style="list-style-type: none">1 Types of Companies and their incorporation2 Promoters – Meaning, Position, Duties, Rights, Responsibilities and Liabilities3 Formation of Companies – Procedural Aspects4 Memorandum of Association & Articles of Association and their Alteration5 Contracts and Conversion of Companies6 Commencement of Business	<p>Case Laws:</p> <ul style="list-style-type: none">● Securities and Exchange Board of India and Ors. vs. Gaurav Varshney and Ors. (15.07.2016 - SC):MANU/SC/0778/2016● Commissioner of Income Tax, Tamil Nadu vs. City Mills Distributors (P) Ltd. (05.02.1996 - SC):MANU/SC/0747/1996● Darius Rutton Kavasmaneck vs. Gharda
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	<p>7 Doctrine of Ultra-Vires, Constructive Notice, Indoor Management, Alter Ego</p>	<p>Chemicals Limited (28.10.2014 - SC): MANU/SC/0968/2014</p> <ul style="list-style-type: none">● Securities and Exchange Board of India vs. Ajay Agarwal (25.02.2010 - SC): MANU/SC/0137/2010● Premium Global Securities Pvt. Ltd. and Ors. vs. Securities and Exchange Board of India and Ors. (09.12.2015 - SC): MANU/SC/1443/2015● ArcelorMittal India Private Limited vs. Satish Kumar Gupta and Ors. (04.10.2018 - SC): MANU/SC/1123/2018● Board of Control for Cricket Vs. Cricket Association of Bihar and Ors. (18.07.2016 - SC): MANU/SC/0781/2016● Darius Rutton Kavasmaneck vs. Gharda Chemicals Limited (28.10.2014 - SC): MANU/SC/0968/2014● Oil and Natural Gas Corporation Ltd. vs. Nippon Steel Corporation Ltd. (07.11.2006 - SC): MANU/SC/8629/2006● State of Karnataka and Ors. vs. Shreyas Papers Pvt. Ltd. and Ors. (05.01.2006 - SC): MANU/SC/0084/2006● Ashbury Railway Carriage and Iron Co., Ltd., v. Riche (Object Clause in Memorandum of Association)● In Re Jon Beauforte London Ltd., (Memorandum of association)
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		<ul style="list-style-type: none">• Bell House Ltd., City Wall Properties Ltd., (Ultra Vires)
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	<ul style="list-style-type: none">● Dr. A. Lakshmanaswami Mudalliar v. Life Insurance Corporation of India (Object Clause)● Royal British Bank v. Turquand (Doctrine of Indoor Management)● Free Man v. BuckHurst k Properties Ltd., (Articles of Association)● Daimler Co., Ltd., Continental Tyre and Rubber Co., (Lifting of a corporate veil)● Re FG Films Ltd., (Lifting up of a corporate veil)● Gilford Motor Company v. Home (Lifting of a corporate veil)● Wood v Odessa Waterworks Co., (Binding force of Memorandum and Articles of Association)● Eley v. Positive Government Security Life Assurance Co., Ltd., (Binding force of Memorandum)● Rayfields v. Hands (Binding force of Memorandum of Association)● Allen v. Gold Reefs of West Africa Ltd., (Alternation of Articles)● A-G v. Great Eastern Railway Company, (Object clause)● Cotman v. Broughar (Object Clause)● Royal British Bank v. Tarquand. (Doctrine of Indoor Management)● Mohony v. East Holy ford Mining Co., (Constructive Notice)● Newbome v. Sensolid
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		<p>(Great Britain) Ltd., (Duty of Promoters)</p> <ul style="list-style-type: none">• Natal Land Co., Ltd.,
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		<p>Pauline Colliery Syndicate Ltd., (Duty of promoter)</p> <ul style="list-style-type: none">● Erlanger v. New Sombrero Phosphate Co., (Duties of Promoters)● Gluckstein v. Barnes (Duties of promoters)● Lee v. Lee's Air Farming Co., Ltd., (Personality of a company)● Derry v. Peek (1889) 14 AC 337 (Misrepresentation of Facts by Promoters)
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Module: 3.
Financial
Structure-I
13 hours

1. Concept of Capital and Financing of Companies– Sources of Capital- GDR, ADR, IDR
2. Prospectus– Definition; Abridged Prospectus; Red–Herring Prospectus; Shelf Prospectus; Information Memorandum; Contents, Registration; Misrepresentations and Penalties
3. Nature and classification of company securities.
4. Classes and Types of Shares; Equity Shares with Differential Rights; Issue of Shares at Par, Premium and Discount; Forfeiture and Surrender of Shares; Bonus Issues; Rights Issues; Issue of Sweat Equity Shares; Employees Stock Option Scheme; Private Placement; preference shares and other forms of securities
5. Shares and General Principles of Allotment.

Case Laws:

- Ram Parshotam Mittal and Ors. vs. Hotel Queen Road Pvt. Ltd. and Ors. (10.05.2019 - SC)
:MANU/SC/0741/2019
- Nirma Industries Ltd. and Ors. vs. Securities and Exchange Board of India (09.05.2013 - SC)
:MANU/SC/0536/2013
- Aruna Oswal vs. Pankaj Oswal and Ors. (06.07.2020 - SC):
MANU/SC/0507/2020
- Mackintosh Burn Limited vs. Sarkar and Chowdhury Enterprises Private Limited (27.03.2018 - SC):
MANU/SC/0299/2018
- Cheran Properties Limited vs. Kasturi and Sons Limited and Ors. (24.04.2018 - SC):
MANU/SC/0427/2018
- Sahara India Real Estate Corpn. Ltd. V. SEBI (2012)
- Pramatha Nath Samyal v. kali Kumar Dutt (1929)
- Nash v. Lynde (1929)



		<ul style="list-style-type: none"> ● Rattan Singh v. MD, Moga Transport Co. Ltd. (1959) ● Govt. Stock Securities Investment Co. Ltd. V. Christopher (1956)
<p>Module: 4. Financial Structure- II 13 hours</p>	<ol style="list-style-type: none"> 1. Debt Capital – Debentures, Debenture Stock, Bonds; Recent Trends and Dynamics of Corporate Debt Financing; Debenture Trust Deed and Trustees; Conversion of and Redemption of Debentures 2. Securing of Debts: Charges ; Creation, Modification and Satisfaction of Charges 3. Share Certificates & The Depositories Act 1996 4. Transfer of Shares 5. Share Capital, Reduction of Share Capital, Rights Issues 6. Statutory provisions to protect interests of creditors and shareholders 7. Types of Debentures, remedies available to debenture holders in case of Company default 8. Dividends – Payments, Capitalization and Profit 	<p>Case Laws:</p> <ul style="list-style-type: none"> ● Vinay Kumar Mittal and Ors. vs. Dewan Housing Finance Corporation Ltd. and Ors. (31.01.2020 - SC):MANU/SC/0118/20 20 ● Berger Paints India Ltd. vs. C.I.T., Delhi-V (28.03.2017 - SC): MANU/SC/0319/2017 ● Securities and Exchange Board of India (SEBI) and Ors. vs. Sahara India Real Estate Corpn. Ltd. and Ors. (19.06.2015 - SC):MANU/SC/0714/20 15 ● Manish Kumar vs. Union of India (UOI) and Ors. (19.01.2021 - SC):MANU/SC/0029/20 21 ● Ramesh Parsram Malani and Ors. vs. The State of Telangana and Ors. (22.10.2019 - SC): MANU/SC/1451/2019 ● Re. Florence Land & Public Works Ltd. (1955) ● Royal British Bank v. Turquand (1856) ● UTI v. Om Praksah Berlia (1983) ● Gackson v. Turquand (1869) ● In re, Indian Iron & Steel Co. ltd (1957) ● Bagia & San Francisco Railway Co. (1868)



Module: 5.
Membership
10 hours

1. Definition of a member
2. Member v. Shareholder
3. Modes of acquiring membership
4. Who may become a member &

Case Laws:

- Arcelor Mittal India Private Limited vs. Satish Kumar Gupta and Ors.



	<p>termination</p> <ol style="list-style-type: none">5. Impersonation of membership6. Duties & Liabilities of members7. Members v. contributory8. Expulsion of a member	<p>(04.10.2018 - SC): MANU/SC/1123/2018</p> <ul style="list-style-type: none">● Mallina Bharathi Rao vs. The Gowthami Solvent Oils Limited and Ors. (29.12.2000 - CLB): MANU/CL/0056/2001● K. Balagangadharan and Ors. vs. Gurukripa Ayurvedic Heritage P. Ltd. and Ors. (05.02.2020 - NCLT - Kochi): MANU/NC/6982/2020● Saroj Hashmukh Patel and Ors. vs. Kantilal Pranlal Patel and Ors. (23.10.2007 - CLB): MANU/CL/0075/2007● Sant Chemicals (p.) Ltd. V. Aviat Chemicals (p) Ltd. (2000) 25 SCL 473 (Bom.)● Kumaran Potty v. Vinod Pharma & Chemicals Ltd. (1996) 2 Comp. L.J. 288 (Ker.)● Mohri Bibi. V. Dharmadas Ghose (1903) 30 ILR Cal. 539. (PC)● LIC vs. Escorts Ltd. (1986)● Raja Surrindar Singh v. P.B. & A Products Co. Ltd. (1956) 26 Comp. Cas. 41.
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<p>Module: 6. Corporate Administration-I 13 hours</p>	<ol style="list-style-type: none">1. Appointment and Qualifications of Directors2. Directors – Kinds, Powers and Duties, Legal Liability (Civil & Criminal)3. Distinction between Managing Director, Whole Time Director & Manager, KMP4. Appointment & Remuneration of Managerial Personnel	<ul style="list-style-type: none">• Balmer Lawrie and Co. Ltd. and Ors. vs. Partha Sarathi Sen Roy and Ors. (20.02.2013 - SC) : MANU/SC/0171/2013• Ram Parshotam Mittal and Ors. vs. Hotel Queen Road Pvt. Ltd. and Ors. (10.05.2019 - SC) : MANU/SC/0741/2019• Hari Sankaran vs. Union
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		<p>of India (UOI) and Ors. (04.06.2019 - SC): MANU/SC/0802/2019</p> <ul style="list-style-type: none"> • Tin Plate Dealers Association Pvt. Ltd. and Ors. vs. Satish Chandra Sanwalka and Ors. (07.10.2016 - SC): MANU/SC/1270/2016 • ArcelorMittal India Private Limited vs. Satish Kumar Gupta and Ors. (04.10.2018 - SC): MANU/SC/1123/2018
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Text Books
1. Avatar Singh on Company Law, Eastern Publication Pvt. Ltd.
Reference Books
1. Saharay, H. K. on Company Law 7 th Edition, LexisNexis Publication Pvt. Ltd.
2. Davies, Paul L. on Principles of Modern Company Law, 8th Edition, Thomson Reuters South Asia Private Limited.
Online Resources
1. Ministry of Corporate Law - http://www.mca.gov.in/ 2. Serious Fraud Investigation Office- http://www.sfiio.nic.in/ 3. The Indian Institute of Corporate Affairs (IICA)- http://www.iica.in/ 4. National Foundation for Corporate Governance (NFCG)- http://www.nfcgindia.org/ 5. The Institute of Charter Accounts of India- http://www.icai.org/ 6. The institute of Companies Secretaries of India- http://www.icsi.edu/

 Marwadi University	Faculty of Law B.A.LL.B. (Hons.) Semester V				
Subject Name	Law of Evidence	Credit	Teaching Scheme		
Subject Code	10BB0504	5	Theory	Practical	Tutorial
			4	0	2

Objectives:



Marwadi
University



FACULTY OF
LAW

- To understand the importance of Evidence in Law and Legal Proceedings
- To create an understanding about admissibility of different kinds of Evidence
- To ensure students learn how to approach a piece of evidence and convince the court about its admissibility or inadmissibility

A handwritten signature in blue ink, appearing to read 'Dareb'.

Dean
Faculty of Law
Marwadi University
Rajkot



➤ To be able to objectively judge the strength of evidence even if it is admissible.

Outcomes:

After completion of the course, students will be able to-

1. State various concepts in Law of Evidence.
2. Interpret relevancy of facts.
3. Describe admissions and confessions.
4. Criticize dying declarations.
5. Interpret the other Statements by Persons who cannot be called as Witnesses.
6. Identify the relevance of Judgments.
7. Relate Expert Testimony.
8. Describe Oral and Documentary Evidence.
9. Witnesses, Examination and Cross Examination
10. Judge the concepts relating to Burden of Proof.
11. Identify the doctrine of Estoppel.

Detailed Syllabus

Unit/ Sessions (in hours)	Descriptions	Case Laws
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Unit I
Introductory
units and
Central
Conceptions
in Law of
Evidence

6 Hours

- The main features of the Indian Evidence Act 1861.
- Other acts which deal with evidence (special reference to CPC, CrPC).
- Problem of applicability of Evidence Act.
- Administrative Tribunals.
- Industrial Tribunals.
- Commissions of Enquiry.
- Court-martial.
- Disciplinary authorities in educational institutions.
- Interpretation Clause (section 3) - Court, Relevant Fact, Facts in Issue, Document, Evidence, Proving, Not Proving, Disproving.
- Presumption (section 4) - May Presume, Shall Presume and Conclusive Proof.
- Evidence: oral and documentary.
- Circumstantial evidence and direct evidence.
- Witness.
- Appreciation of evidence.
- Queen v. Golam Ismail, All. 1 FB p. 13, Union of India v. D.R. Verma, 1958 SCR 498
- Ayaub Khan Noorkhan Pathan v. State of Maharashtra, AIR 2013 SC 58.
- Govaranyaz v. Emperor, AIR 1930 Nag. 242.
- Dalpat Singh v. State, 2005 / Cr. L J 749 (Raj).
- Sanjay Kumar Jain v. State of Delhi, AIR 2011 SC 363 : (2011) 11 SCC 733.
- Ramachandran v. State of Kerala, 2005 Cr. L J 1843 (Ker) : 2005 (4) Crimes 339 (Ker).
- Prakash v. State of Rajasthan 2013 CR. L J 2040 (SC) : AIR 2013 SC 1474.
- Mustkeem v. State of Rajasthan, AIR 2011 SC 2769 : (2011) 11 SCC 724.
- Registrar General, High Court of Karnataka v. Prakash Yadav, 2006 Cr. L J 3393 (kant).



		<ul style="list-style-type: none">• Anant Chintaman Lagu v. State of Bombay AIR 1960 SC 500: 1960 SCJ 779.• M.S. Narayana Menon V. State of Kerala, AIR 2006 SC 3366: (2006) 6 SCC 39: 2006 (6) JT 72.• Father Bennidict v. State of Kerala 1967 KLT 466.• Kumar Experts v. Sharma Carpets, Air 2009 SC 513: (2009) 2 SCC 513.
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Unit II
Relevancy of
Facts
7 Lectures

- The Doctrine of res gestae (Section 6, 7, 8, 10).
- Evidence of common intention (Section 10).
- The problems of relevancy of "Otherwise" irrelevant facts (Section 11).
- Relevant facts for proof of custom (Section 13).
- Facts concerning bodies & mental state (Section 14, 15).

- State of Maharashtra v. Kamal Ahmed Mohd. Vakil Ansari & Ors AIR 2013 SC 1441.
- Tejram Patil v. State of Maharashtra 2015 SCJ 710.
- Arjun Panditrao Khotra v. Kailash Khushanro Gorantyal 2020 SC 18.
- Aliathammunda v. Pattakal Cheriyakoya 2019 SC 464.
- Khaja Hussain v. Inspector of Police, Coimbatore, 2006 Cr. L J 3975 (Mad).
- Rijo v. State of Kerala, 2010 Cr. L J 1315 (ker) (DB).
- Nanuram v. State, 2005 Cr. L J 4586 (MP).
- G. Vijay avaradhan Rao v. State of A.P. 1996 Cr. L J 4151 (SC): 1996 (3) Crimes 197 (SC).
- State of Maharashtra v. Kamal Ahmed Mohammed Vakil Ansari 2013 Cr. L J 2069 (SC): AIR 2013 SC 1441.
- Vinod Kumar Baderbhai Patel v. State of Gujrat, 1999 Cr. L J 1650, 1662 (Guj).
- Chotka v. State AIR 1958 CAL. 482.
- Sheikh Rashid v. State of Maharashtra 2012 Cr. L J 1352 (Bom) (DB).
- Indru v. State of H.P. 1989 Cr. L J 2239 (HP).
- Visa Chandrasekhar Rao v. Ponna Satyanarayana, AIR



		<p>2000 SC 2138 : (2000) 6 SCC 286 : 2000 Cr. L J 3175 : 2000 (2) Crimes 328 (SC).</p> <ul style="list-style-type: none">• Hadu Samanta v. State of Orissa, Air 1951 Orissa 53.• Manish Dixit v. State of Rajasthan, AIR 2001 SC 93: (2001) 1 SCC 596 : 2001 Cr. L J 133 : 2000 (4) Crimes 171 (SC).• Gulzar Muhammad v. State of H.P., 2008 Cr. L J 1350 (HP).• State of West Bengal v. Sukesh Naskar, 2009 Cr. L J 2370 (Cal) (DB).• Rattan Singh v. State of H.P., 1997 Cr. L J 833, 837 (SC): AIR 1997 SC 768: (1997) 4 SCC 161.• Krishan Kumar Malik v. State of Haryana, AIR 2011 SC 2877: (2011) 7 SCC 130: 2011 Cr. L J 4274.• Dr. Sunil Clifford Daniel v. State of Punjab, 2012 Cr. L J 4657 (SC): (2012) 11 SCC 205.• Alagupandi v. State of Tamil Nadu, 2012 Cr. L J 3363 (SC): AIR 2012 SC 2405: (2012) 10 SCC 451.• Darbara Singh v. State of Punjab, AIR 2013 SC 840: 2012 Cr. L J 4757 (SC): (2012) 10 SCC 476.• Paramjeet Singh v. State of Uttarakhand, AIR 2011 SC 200: 2011 Cr. L J 663 : (2010) 10 SCC 439.
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Unit III
Admissions
and
confessions
6 Lectures

- General principles concerning admission (Section 17, 23).
- Differences between "admission" and "confession."
- The problems of non-admissibility of confessions caused by "any inducement, threat or promise' (Section 24).
- Inadmissibility of confession made before a police officer (Section 25).

- State of Maharashtra v. Kamal Ahmed Mohd. Vakil Ansari & Ors AIR 2013 SC 1441.
- Dipak Jagdishchandra Patel v. State of Gujarat 2019 SC 588.
- Dharnidhar v. State of U.P. 2010 AIR SCW 5658.
- Sandeep v. State of U.P. 2012 SCC 107.
- Ashok Debbarma v. State of Tripura 2014 SCC 747.



	<ul style="list-style-type: none">• Admissibility of custodial confessions (Section 26).• Admissibility of "information" received from accused person in custody; with special reference to the problem of discovery based on "joint statement" (Section 27).• Confession by co-accused (Section 30).• The problems with the judicial action based on a "retracted confession".	<ul style="list-style-type: none">• Goru Satyarajulu v. T.C. Panigrahi, ILR 1964 Cuttack 274.• Kamta Prasad v. Chait Narain, AIR 1934 All. 531.• Mst. Hussani v. Mst. Sahib Noor, 1910 (7) JC 505; Monilal v. Umacharan, AIR 1914 Cal. 832; Hickman v. Berens, 1895 2 CH 638.• Keshav Ram v. Pyarelal, 21 ALJ 209.• K.M. Singh v. Secy. Asscn. Of Indian Universities, AIR 1992 SC 1356: (1992) 3 SCC 129.• R. v. Abdullah, ILR (1885) 7 All. 385.• Pakala Narayan Swamy v. King Emperor, Jurnail Singh v. State of Punjab, AIR 2011 SC 964 : 2011 Cr. L J 1738 : (2011) 3 SCC 521.• Palvinder Kaur v. State of Punjab, AIR 1952 SC 354: 1953 Cr. L J 154 (SC) : 1953 SCR 94.• Deepak Panyang v. State of Arunachal Pradesh, 2010 Cr. L J 2567 (Gau) (DB).• Chhabu Ram v. State of H.P, 2006 Cr. L J 723 (HP).• Siddique v. State of Kerala, 2006 Cr. L J 1109 (Ker).• Sahoo v. State of U.P., AIR 1966 SC 40: 1966 Cr. L j 68 (SC).• Suhadevan v. State of Tamil Nadu, 2012 Cr. L J 3014 (SC): (2012) 6 SCC 403 : AIR 2012 SC 2435; Patel Manabhaj Mavjibhai v. State of Gujrat, 2013 Cr. L J 1213 (Guj).• Velayuda Pulavar v. State, (2009) 14 SCC 436.• State of Karnataka v.
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		<p>Paniyeravara Mani, 2012 Cr. L J 582 (Karn).</p>
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		<ul style="list-style-type: none">• R. Kuppusamy v. State, 2013 Cr. L J 1513 (SC).• Mohaammed Ajmal Mohammad Amir Kasab v. State of Maharashtra, 2012 Cr. L J 4770 (SC): (2012) 9 SCC 234.• Kulvinder Singh v. State of Haryana, AIR 2011 SC 1777: 2011 Cr. L J 2633: (2011) 5 SCC 258.• Sirima Narasimha Rao v. State of A.P., 2010 Cr. L J 769 (AP) (DB).• Kusuma Ankama Rao v. State of A.P., 2008 Cr. L J 3502 (SC) : AIR 2008 SC 2819 : (2008) 13 SCC 257
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Unit IV
Dying
Declarations
4 lectures

- The justification for relevance on dying declarations (Section 32).
- The judicial standards for appreciation of evidentiary value of dying declarations.
- Purshottam Chopra v. State (NCT of Delhi) 2020 SCC 6
- Bhagwan v. State of Maharashtra 2019 SCC 95.
- Jagbir Singh v. State (NCT of Delhi) 2019 SCC 779.
- Bhagwat v. State of Maharashtra 2018
- Satish Chandra & Ors v. State of M.P. 2014 SCC 723.
- Bhagwan Tukaram Dane v. State of Maharashtra 2014 SCC 217.
- Prempal v. State of Haryana 2014 SCC 336.
- Pream Kumar Gulati v. State of M.P. 2014ACC 885, SC.
- State of Maharashtra v. Dal Singh 2013 SC 2059
- Kaliya v. State of M.P. 2013 SCC 758.
- Hiranman v. State of Maharashtra 2013 SCC 586.
- Putchalapalli Naresh Reddy v. State of A.P. 2013 SC 733.
- Parbin Ali & Ors v. State of Assam 2013 SCC 81.
- Bhadragiri Venkata Ravi v. Public Prosecutor 2013 SCC 145



		<ul style="list-style-type: none">• Narain Singh v. State of Haryana, 2004 Cr. L J 1409 (SC): 2004 (1) Crimes 398 (SC) : 2005 SCC (Cri) 185 : AIR 2004 SC 1616; D. Vijay Kumar v. State of P.P., 2010 Cr. L J 968 (AP).• Shakuntala v. State of Haryana, 2007 Cr. L J 3747 (SC): (2007) 10 SCC 168: AIR 2007 SC 2709.• Surender v. State of Haryana, 2012 Cr. L J 3458 (P & H) (DB).• Motilal S. Rathod v. State of Maharashtra, 2007 Cr. L J 837 (Bom).• Moti Singh v. State of U.P., AIR 1964 SC 900: 1964 (1) Cr. L J 727 (SC).• Sudhakar v. State of Maharashtra, AIR 2000 SC 2602: (2000) 6 SCC 671 : 2000 Cr. L J 3490 : 2000 (3) Crimes 122 (SC).• Gokulchandra v. State, AIR 1950 Cal. 306 see Also Ram Kumar v. State of M.P., 1998 Cr. LJ 952 (MP).• State of A.P. v. Kalidindi Sahadevudu, 2012 Cr. L J 2302 (AP).• Dhan Singh v. State of U.P., 2012 Cr. L J 3156 (All).• Abdul Sattar v. State of Mysore, AIR 1956 SC 168, 169: 1956 Cr. L J 334.• Lose v. State of Kerala, 2013 Cr. L J 3232 (SC): AIR 2013 SC 2284.• J. Ramulu v. Dtate A.P., 2008, Cr. LJ 1918 (SC) : (2009) 16 SCC 432 : AIR 2008 SC 1505.• State of Orissa V/. Parasuram Naik, AIR 1997 SC 3569 : (1997) 11 SCC 15 : 1997 Cr. LJ
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		<p>4404 see also Sita ram v. State of Rajasthan , 1998 Cr.LJ 287, 268 (DB) (Raj) .</p>
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		<ul style="list-style-type: none">• Dinanath Patwa V. State of Bihar, 2006 Cr.LJ 4424 (Pat).• Shaikh RajfiQ V. State of Maharashtra.2008 Cr.LJ 1592 (SC): AIR 2008 SC 1362: (2008) 3 SCC 691.• State v. Antony Nikolas, 206 Cr. LJ 1582 (Kant).• Lallubhai V. State of Gujrat, AIR 1972 SC 1776: 1972 Cr. L J 828 (SC): Babu v. State of Maharashtra, 2007 Cr. L J 310 (SC): (2006) 12 SCC 73; Vithal v. State of Maharashtra, 2007 Cr. L J 317 (SC): (2006) 13 SCC 54.• Acit Boran Sam v. State, 2006 Cr. L J 3786 (Mad).• Kanrala v. State of Punjab, 1993 Cr. L J 68 (SC): AIR 1993 SC 374 (1993) 1; Samadhan Dhudaka Koli v. State of Maharashtra, AIR 2009 SC1059: (2008) 16 SCC 705.• Sudhakar v. State of M.P., 2012 Cr. L J 3985 (SC) : AIR 2012 SC 3265 : (2012) 7 SCC 569
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Unit V
Other
Statements by
Persons who
cannot be
called as
Witnesses
2 lecture

- General principles.
- Special problems concerning violation of women's rights in marriage in the law of Evidence.

- V. Kalyanasmay (D) by Lrs v. L. Bakthavatsalam (D) Thr. Lrs 2020.
- Sonu@Amar v. State of Haryana 2017 Sc 765.
- Dolgobinda Paricha v. Nimai Charan Misra, AIR 1959 SC 914: 1960 SCJ 879.
- Chandranath Raj v. Nil Madhab Battacharjee, ILR 26 Cal. 236.
- Mukund Ram v. Daya Ram, AIR 1914 Nag. 44.
- Vithoo v. Thakurdas, AIR 1949 Nag. 414, 415.
- Chandradhar Goswami v. Gauhati Bank Ltd., AIR 1967 SC 1058: 1967 (1) SCR 898.
- Jagat Ram v. State of H.P., 2009 Cr. LJ 3271 (HP).
- B.S. Dhuliwal v. State of Punjab, AIR 1967 SC 752:



		(1967) 1 SCR 211: 1967 Cr. LJ 656 (SC).
Unit VI Relevance of Judgments 2 lectures	<ul style="list-style-type: none">• General principles.• Admissibility of judgments in civil and criminal matters (Section 43).• "Fraud" and "Collusion" (Section 44).	<ul style="list-style-type: none">• Vidya Drolia v. Durga Trading Corporation 2020 SCC SC 1018.• Musheer Khan @ badshahkhan & Anr v. State of M.P. 2010 AIR SC 762.• Venkat Raman v. Union of India, AIR 1954 SC 375 : (1954) /scr 1150 L 1954 /cr, K H 993 (SC).• Syed Askari Hadi Ali Augustine Iman v. State (Delhi Admn), AIR 2009 SC 3232: (2009) 5 SCC 528.• Satya v. Teja Singh, AIR 1975 SC 105: 1975 Cr. L J 52 (SC).• Hamza Haji v. State of Kerala, AIR 2006 SC 3028: (2006) 7 SCC 416.



Unit VII
Expert
Testimony
4 lectures

- General principles.
 - Who is an expert? : Types of expert evidence.
 - Opinion on relationship especially proof of marriage (Section 50).
 - The problems of judicial defence to expert testimony..
- Padum Kumar v. State of U.P. 2020 SC 29.
 - Rattan Singh v. Nirmal Gill 2020 SCC SC 936.
 - Prem sagar Manoch v. State (NCT of Delhi) 2016(1) 211 SC.
 - Safi Mohd v. State of Rajasthan 2013 (8) SCC 601.
 - Chennadi Jalapathi Reddy v. Baddam Pratap Reddy 2019.
 - Ramesh Chandra Agrawal v. Regency Hospital Ltd., (2009) 9 SCC 709: AIR 2010 SC 806.
 - State v. Susheel Sharma, 2007 Cr. LJ 4008 (Del) (DB).
 - State of M.P. v. Sanjay Rai, 2004 Cr. LJ 2006 (SC): (2004) 10 SCC570: 2004 SCC (Cri) 1913 : AIR 2004 SC 2174.
 - Prakash v. State of M.P., 2007 Cr. LJ 798 (SC): (2006) 13 SCC 508.



		<ul style="list-style-type: none">• Bhargav K. Salunkhe v. State of Maharashtra, 1996 Cr. LJ 1228 (Bom).• Ayyab Ali v. State of Madhya Pradesh, 2008 Cr. LJ 2216 (MP).• Ayyappan v. State of Kerala, 2005 Cr. LJ 57 (Ker).• Hanumant v. State of Madhya Pradesh, Suresh v. State (NCT) of Delhi, 2010 Cr. LJ 3675 (Del) (DB).• Kamalbai Laxman Jadhav v. State of Maharashtra, 2007 Cr. LJ 835 (Bom). (DB).
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Unit VIII
Oral and
Documentary
Evidence
5 lectures

- General principles concerning oral evidence (Sections 59-60).
- General principles concerning Documentary Evidence (Sections 67-90).
- General Principles Regarding Exclusion of Oral by Documentary Evidence.
- Special problems: re-hearing evidence.
- Issue estoppels.
- Tenancy estoppel (Section 116).
- Shri Partap Singh (Dead) Thr LRs v. Shiv Ram (Dead) Thr LRs 2017.
- Anvar P.V. v. P.K. Basheer & Ors 2014
- Ugar Ahir v. State of Bihar, AIR 1965 SC 277: 1965 (1) Cr. LJ 256.
- Bhagwan Tana Patil v. The State of Maharashtra, AIR 1974 SC 21: 1974 Cr. LJ 145; Mallikarjun Ningappa Ragati v. State of Karnataka, 2006 Cr. LJ 4298 (Kant).
- Arjun v. State of Rajasthan, 1995 Cr. LJ 410 (SC): AIR 1994 SC 2506: 1994 (3) Crimes 383. See also Dalsinger v. State of U.P., 1995 Cr. LJ 275 (All).
- Prem Chand S. Bansode v. State of Maharashtra, 2007 Cr. LJ 142 (Bom).
- Ranjit Singh v. State of M.P., AIR 2011 SC 255: 2011 Cr. LJ 283: (2011) 4 SCC 336.
- Nandyala Venkataramana v. State of A.P., AIR 2011 SC 567 : (2010) 13 SCC 653,
- Nanuram v. State, 2005 Cr. LJ 4586 (MP).



		<ul style="list-style-type: none">• Sowam Kisku v. State of Bihar, 2006 Cr. LJ 2526 (Jhar).• Joseph M. Puthussery v. T.S. John, AIR 2011 SC 906: (2011) 1 SCC 503.• Md. Yakub Ali v. State, 2004 Cr. LJ 3315 (Gau): 2005 (1) Crimes 605 (Gau).• H. Siddiqui v. Ramalingam, AIR 2011 SC 1492: (2011) 4 SCC 240.• Atul Products Ltd. V. V.P. Mehta, AIR 2009 Bom 84.• H. Siddiqui v. Ramalingam, AIR 2011 SC 1492: (2011) 4 SCC 240.• M Chandra v. M. Thangmuthu, AIR 2011 SC 146: (2010) 9 SCC 712.• Sushila Devi v. Additional District of Session Judge, Jaipur, AIR 2007 Raj 241 (DB).• Manda Laxmi Rajan v. Kanaparthi, AIR 2008 AP 255.• Muni Ammal v. Govindarajan, AIR 1958 Mad. 393.• Biswanth Agarwala v. Dhapu Debi Jajedia, AIR 1966 Cal. 13, 22.• Nathmal v. Urban Improvement Trust, Bikaner, AIR 2009 Raj 60.• Bank of India v. Allibhoy Mohammed, AIR 2008 Bom 81.
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Unit IX
Witnesses,
Examination
and Cross
Examination
5 lectures

- Competency to testify (Section 118).
- State privilege (Section 123).
- Professional privilege (Section 126, 127, 128).
- Approval testimony (Section 133).
- General principles of examination and cross examination (Section 135-166).
- Leading questions (Section 141-143).
- State of Rajasthan v. Chandagiram 2014.
- Ganga Singh v. State of M.P. 2013 SCC 278
- R. Dinesh Kumar v. State (Rep. By Inspector of Police) 2015
- Galsingh & Ors v. State of M.P. 2014
- Manoharlal Sharma v. Narendra Damodardas Modi 2019



	<ul style="list-style-type: none">• Lawful questions in cross-examination (Section 146).• Compulsion to answer questions put to witness.• Hostile witness (Section 154).• Impeaching of the standing or credit of witness (Section 155).	<ul style="list-style-type: none">• Nisha Priya Bhatia v. Ajit Seth And Ors 2016• Virendra v. State of U.P., (2008) 16 SCC 582 : (2010) 4 SCC (Cri) 339; Goulla Appaiah v. State of A.P., 2009 Cr. LJ 4377 (AP) (DB).• Daman Bedia v. State, 2003 (2) JCR 734: 2004 Cr. LJ (NOC) 3 (Jhar).• Sanjay Bag v. State, 2004 Cr. LJ 4714 Cr.LJ 4714 (Ori) : 2004 (4) Crimes 285 : 2004 (29) Ori CR 189.• Promode Dey v. State of West Bengal, 2012 Cr. LJ 2086 (SC): AIR 2012 SC 1598: (2012) 4 SCC 559.• Panchhi v. State of U.P., AIR 1998 SC 2726: (1998) 7 SCC 17: 1998 Cr. LJ 4044.• Khomanlal v. State of Chattisgarh, 2013 Cr. LJ 924 (Chh) (DB).• Prakash v. State of Kerala, 2009 Cr. LJ 2930 (Ker) (DB).• Suresh v. State, 2004 (2) Crimes 329 (Bom).• State of Rajasthan v. Darshan Singh, 2012 Cr. LJ 2908 (SC): AIR 2012 SC 1973 : 2012 (2) Crimes 318 (SC).• Sunil Kumar v. State of Himachal Pradesh, 2012 Cr. LJ 1743 (HP).• Jwala Sahai v. The Crown, 32 PR 1914 Cr. 108.• In Nagaraj v. State of Karnataka, 1996 Cr. LJ 2901 (Kar).• In Ram Bharose v. State of U.P.,• Kaikobad v. F. Khambatta, AIR 1930 Lah 280.• State of Punjab v. Sodhi Sukhdev Singh. AIR 1961 SC
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		493: 1961 (2) SCR 371.
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		<ul style="list-style-type: none">• State of U.P. v. Raj Narain, AIR 1975 SC 865: (1975) 4 SCC 428.• S.P. Gupta v. President of India, (the judges Transfer case). AIR 1982 SC 149: 1982 (2) SCR 365: 1981 Supp. SCC 87.• Mandesan v. State of Kerala, 1995 Cr. LJ 61 (Ker).• Veerasekharan v. State of Tamil Nadu, 1992 Cr. LJ 2168 (Mad).• Yacoob v. Emperor, AIR 1933 Rang 199; Jagannath v. Emperor, AIR 1942 Oudh 221.
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Unit X
Burden of
Proof
8 lectures

- The general conception of onus probandi (Section 101).
- General and special exceptions to onus probandi.
- The justification of presumption and of the doctrine of judicial notice.
- Justification as to presumptions as to certain offences (Section 111A).
- Presumption as to dowry death (Section 113-B).
- The scope of the doctrine of judicial notice (Section 114).
- Rattan Sing v. Nirmal Gill 2020 SCC SC 936.
- Sandeep Kumar v. State of Uttarakhand 2020 (Crl. Appeal Nos. 1512-1513 of 2017)SC.
- Girish Sing v. State of Uttarakhand 2019.
- Mohanlal v. State of Maharashtra 2018.
- Bajjnath Sing v. State of M.P. 2016.
- Sher Singh @ Pratapa v. State of Haryana 2015.
- Ashok v. State of Maharashtra 2015.
- Bhim Singh And Ors v. State of Uttarakhand 2015
- Major Singh v. State of Punjab 2015.
- State of Maharashtra v. Wasudeo Ramchandra Kaidalwar, (1981) 3 SCC 191 : AIR 1981 SC 1186 : 1981 Cr. LJ 884 (SC).
- Robins v. national Trust Co., 1927 AC 505 at p. 510 (PC).
- Nasir Skkander Shaikh v. State of Maharashtra, 2005 Cr. LJ 2621 (SC) : (2005) 2 Crimes 218 (SC) : AIR 2005 SC 2533 : (2005) 10 SCC J.



		<ul style="list-style-type: none">• Rangammal v. Kuppaswami, AIR 2011 SC 2344: (2011) 12 SCC 220.• Kammi Sahuna v. Purna Chandra Sahoo, AIR 1987 Orissa 134: 1987 Cur. CC 779.• Savthri v. Karthyayani Amma, AIR 2008 SC 300: (2007) 11 SCC 621.• Paramjeet Singh v. State of Uttarakhand, AIR 2011 SC 200: Cr. LJ 663: (2010) 10 SCC 439.• Karali Bauri v. Subhas Das Musib, 1983 Cr. LJ 1474 (Cal); Krishna v. State of U.P., 2007 Cr. LJ 3525 (SC) : (2007) 15 SCC 320 : AIR 2007 SC 2452.• Dahyabhai Chhagan bhai Thakkar v. State of Gujrat, AIR 1964 SC 1563, 1568: (1964) 2 Cr. LJ 472.• Bhikari v. State of U.P., AIR 1966 SC 1: 1966 Cr. LJ 63 (SC); Madhukar G. Nigade v. State of Maharashtra, 2006 Cr. LJ 1305 (Bom); Bihari Lal v. State of H.P., 2006 Cr. LJ 3832 (HP).• Shrikant Anandrao Bhosle v. State of Maharashtra, AIR 2002 SC 3399 : (2002) 7 SCC 748 : 2002 Cr. LJ 4356 : 2002 (4) Crimes 365 (SC).• State of M.P. v. Rangaswamy, AIR 1952 Nag. 268.• Shambhu Nath Mehra v. State of Ajmer, AIR 1956 SC 404: 1956 Cr. LJ 794 (SC).• Nitambi v. State, AIR 1957 All. 357.• Arvindkumar Anupalal Poddar v. State of Maharashtra, 2012 Cr. LJ 4007 (SC): (2012) 11 SCC 172.• P. Mani v. State of Tamil Nadu, 2006 Cr. LJ 1629 (SC) :
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		<p>(2006) 3 SCC 161 : AIR 2006 SC 1319.</p>
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		<ul style="list-style-type: none">• Surjit Kaur v. Jhujhar Singh, AIR 1980 P&H 274.• Mohammed Shareef v. Bande Ali, Bhabani Prasad Jena v. Convenor Secretary, Orissa State Commission for Women, AIR 2010 SC 2851 2010) 8 SCC 633.• Harishchander v. Ghisa Ram, AIR 1981 SC 695: 1981 SCC 431.• Patinhare Purayil Nabeesumma v. Miniyatan Zacharias, AIR 2008 SC 1456.• Sethu v. Palani, AIR 1926 Mad. 628: (1925) 49 Mad. 553.
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Unit XI
Estoppel
6 lectures

- Why estoppel? The rationale (Section 115).
- Estoppel, res judicata and waiver and presumption.
- Estoppel by deed.
- Estoppel by conduct.
- Equitable and promissory estoppels.
- Questions of corroboration (Section 156-157).
- Sirdar K.B. Ramachandra Raj v. Sarah C Urs 2019.
- Satyendra Kumar & Ors v. Raj Nath Dubey & Ors 2016.
- Dr. G. Sarana v. State of Lucknow, AIR 1976 SC 2428 : (1976) 3 SCC 585 : 1977 (1) LLj 68.
- Amlan Jyoti Borooah v. State of Assam, AIR 2009 SC (Supp) 1903.
- Bhaiya Ram Munda v. Anirudh Patar, AIR 1971 SC 2533 : 1971 (1) SCR 804.
- University of Madras v. Sundara Shetty, 1956 MLJ 25.
- Smt. Geeta Mishra v. Utkal University, AIR 1971 Ori 276.
- Bal Krishna v. Rewa University, AIR 1978 MP 86.
- Bansraj Laltaprasad Mishra v. Stanley Paker Jones, (2006) 3 SCC 91 : 2006 (2) Supreme 437.
- Green Wood v. Martin's Bank Ltd. Case 1933 AC 51.
- P.S. Gopinathan v. State of Kerala, AIR 2008 SC 2768 : (2008) 7 SCC 70.
- Ganges Manufacturing Co. v. Sooraj Mal, 1880 ILR 5 Cal. 669.



		<ul style="list-style-type: none"> • Motilal Padampat Sugar Mills v. State of U.P. AIR 1979 SC 621 : (1979) 2 SCC 409. • Union of India v. Anglo Afghan Agencies. AIR 1968 SC 718 : 1968 (2) SCR 366. • Hardwari Lal v. G.C. Taple. AIR 1982 P&H 439.
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Reading Material

A. Text Books:

- Woodroof and Amir Ali, Law of Evidence 21st Edition 2020 (Lexis Nexis)
- Krishnamachari V, Law of Evidence (2015), S. Gogia & Co, Hyderabad

B. Reference Books:

- Sarkar and Manohar, Sarkar on Evidence (1999), Wadha & Co., Nagpur
- Indian Evidence Act 1872 (With all latest amendments)
- Rattan Lal, Dhiraj Law: Law of Evidence (1994), Wadhwa, Nagpur
- Polein Murphy, Evidence (5th Edn. Reprint 2000), Universal, Delhi.
- Albert S.Osborn, The Problem of Proof (First Indian Reprint 1998), Universal, Delhi.
- Avtar Singh, Principles of the Law of Evidence (1992), Central Law Agency, New Delhi.

 Marwadi University	<p>Faculty of Law B.A.LL.B. (Hons.) Semester V</p>				
Subject Name	Administrative Law	Credit	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code	10BB0503	5	4	0	2

Objectives:



- To understand the meaning and scope of Administrative law.
- To understand the Rule of Law, Rule against Bias and Principles of Natural Justice.
- To provide students with knowledge and appreciation of the differences between constitutional law administrative law and judicial process.
- To provide students with awareness of principles underpinning legal doctrine of the emerging trend in administrative law.

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Outcomes:

After completion of the course, students will be able to-

- Define the meaning and scope of administrative law and delegated legislation.
- State the principles of natural justice.
- Explain administrative adjudication.
- Discuss administrative discretion and remedies.
- Interpret the liability of administration.
- Compare administrative process and judicial review.
- Argue on emerging trends in administrative law.



Detailed Syllabus

Unit/ Sessions (in hours)	Descriptions
<p>UNIT I INTRODUCTION 9 HOURS</p>	<ul style="list-style-type: none"> • Meaning, Definition, Scope and Significance of Administrative Law • Evolution and Development of Administrative Law India, UK, USA and France • Rule of Law- Concept, Evaluation of Dicey’s concept of Rule of Law, Modern conception of Rule of Law, Rule of Law in U.K., U.S.A. and India, Rule of Law vis-à-vis Administrative Law. • Doctrine of Separation of Powers Meaning, Origin, Montesquieu’s Doctrine of Separation of Powers, System of checks and balances, position in U.K., U.S.A., and India. • Relationship between Constitutional Law and Administrative Law
<p>UNIT II DELEGATED LEGISLATION 9 HOURS</p>	<ul style="list-style-type: none"> • Meaning of Delegated Legislation and its Growth • Delegated Legislation in USA, UK, and in India: Pre and Post Constitutional Period • Types of Delegated Legislation and Constitutionality of Delegated Legislation, Delegated Legislation and Conditional Legislation, Restraints on Delegation of Legislative Power • Rules and Principles of Administrative Rule making/ Delegated Legislation • Control Mechanisms of Delegated Legislation: Parliamentary, Procedural and Judicial Sub-delegation • Doctrine of Excessive Delegation- Control over Delegated Legislation • Judicial, Procedural and Legislative Control-Administrative directions and Delegated Legislation



UNIT III

PRINCIPLES OF
NATURAL JUSTICE
10 HOURS

- Concept, Evolution and Importance
- Natural Justice in India
- Application of Natural Justice
- Principles of Natural Justice- Audi Alteram Partem or the Rule of Fair Hearing Rule against Bias.
- Meaning, Object, Ambit and Ingredients of Fair Hearing, Institutional Decision, Post-Decision Hearing-Reasoned Decisions-Exceptions
- Exceptions to Natural Justice
- Violation of Natural Justice



<p>UNIT IV ADMINISTRATIVE ADJUDICATION 9 HOURS</p>	<ul style="list-style-type: none">• Reasons for the growth of Administrative Adjudication and its need• Problems of Administrative Adjudication• Mechanism for Administrative Adjudication• Statutory and Domestic Tribunals• Administrative Tribunals.• Civil Service in India - Nature and Organization of civil service in India (from Colonial relics to democratic aspiration, accountability and responsiveness (problems and perspective)
<p>UNIT V ADMINISTRATIVE DISCRETION AND REMEDIES 9 HOURS</p>	<ul style="list-style-type: none">• Meaning and Definition of Administrative• Discretion Control of Administrative Discretion• Judicial and Other remedies:<ul style="list-style-type: none">➤ Judicial Review➤ Prerogative Remedies➤ Constitutional Remedies➤ Supervisory Jurisdiction of High Courts➤ Statutory Remedies➤ Equitable Remedies➤ Common Law Remedies
<p>UNIT VI LIABILITY OF THE ADMINISTRATION 9 HOURS</p>	<ul style="list-style-type: none">• Contractual Liability of the Administration Constitutional and other provisions• Tortious Liability of the Administration –Constitutional and other provisions• Doctrine of Estoppel• Doctrine of Legitimate Expectation• Doctrine of Proportionality• Liability of Public Corporations



UNIT VII
ADMINISTRATIVE
PROCESS AND
JUDICIAL REVIEW
10 HOURS

- Meaning and need for Judicial Review
- Scope of Judicial Review
- Jurisdiction of the Supreme Court
- Writ Jurisdiction
- Appeal by Special Leave (Art. 136), Scope and Object of Article 136
- Judicial Review of Administrative Action through Writs, Scope of the Writ Jurisdiction Against whom the Writ lies, Territorial extent of Writ Jurisdiction, Relief against an Interim Order, Interim Relief [Art. 226(3)]-*Locus-standi*-
- Kinds of Writ -Grounds for issue of Writs
- Alternative Remedy-Laches or *Dela-Res Judicata*
- Public Interest Litigation and *Locus-Standi*



UNIT VIII EMERGING TRENDS IN ADMINISTRATIVE LAW 10 HOURS	<ul style="list-style-type: none"> • Administration and Good Governance • Corruption - Prevention of Corruption Act. • Right to know: Right to Information Act, 2005 • Need for Reforms • Ombudsman – Lok Pal and Lokayukta • Central Vigilance Commission. • Informal Methods of Settlement of Disputes and Grievance Redressal Procedures - Conciliation and mediation through social action groups, Public inquiries and commissions of inquiry.
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Text Books:

- M.P. Jain and S.N. Jain – Principles of Administrative Law.
- S.P. Sathe – Administrative Law.
- I.P. Massey – Administrative Law.
- Kant Mani- Principles of Administrative Law.
- C.K. Takwani, Administrative Law, Eastern Book Company.
- D.D. Basu, Comparative Administrative Law, Lexis Nexis India.

Reference Books :

- Wade – Administrative Law
- De Smith – Administrative Law
- Foulkes – Administrative Law
- Indian Law Institute – Cases and Material of Administrative Law
- Markose – Judicial Control of Administrative action
- Griffith and Street – Administrative Law
- Report of the Law Commission – First Report Second Report – Fourteenth Report, 215th Report and 272nd Report.

 Marwadi University	Faculty of Law B.A.LL.B. (Hons.) Semester V			
Subject Name	Legal Writing (Enrichment course)	Credit	Teaching Scheme	
			Theory	Practical
			Tutorial	



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Subject Code		2	0	0	2
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Objectives:

- To understand the meaning and scope of Legal Writing as a Discipline
- To identify the importance of linguistics in legal writing
- To help students analyse the differences between academic and non academic writing
- To demonstrate the importance of ethics in legal writing and research.

Outcomes:

After completion of the course, students will be able to-

1. To understand the meaning and scope of legal writing and Legal English
2. To be able to identify the different paradigms of legal writing
3. To be able to demonstrate, scope and forms of research
4. To be able to analyse the ethical standards in legal writing

Detailed Syllabus

Unit / Sessions (in hours)	Descriptions
Unit I 9 Hours	<p>Introduction</p> <ul style="list-style-type: none"> • The Meaning and Concept of Legal Writing • History and Evolution of Legal Writing • Understanding the objective of legal writing • Basics of legal writing • Importance of language as an effective tool • Difference between plain writing and legal writing
Unit II 9 Hours	<p>Importance of Legal Writing as a Distinct discipline</p> <ul style="list-style-type: none"> • Types of Legal writing • Academic Legal Writing • Non Academic Legal Writing • Different styles of legal writing • Principles of Legal Writing • Mistakes to avoid [Ambiguity, Inconsistency, Jargon, etc.]



Unit III 9 Hours	Importance of Language in Legal Writing <ul style="list-style-type: none">• Linguistics in Legal Language• Effective modes of communication• Latin words and phrases• Use of Latin words and phrases• Prevalence of Latin terms in the modern legal writing• Editing as a tool to polish legal writing
Unit IV 10 Hours	Drafting of Legal documents



	<ul style="list-style-type: none">• Meaning and importance of drafting of legal documents• Importance in the use of words and sentences• Importance of prewriting [Identifying the Source Law, Reading the Law, Analyzing the Law, Applying Law, Evaluating the Law]• Steps in legal drafting• Principles of legal drafting• Structure of legal documents
Unit V 10 Hours	Importance of Research <ul style="list-style-type: none">• Meaning and objective of legal research• Types of legal research• Steps in legal research• Tools of legal research• Analysis in legal Research
Unit VI 10 Hours	Ethics in Legal drafting <ul style="list-style-type: none">• Meaning and scope of Ethics in Legal drafting• Need for professionalism• Omission and Errors• The concept of Plagiarism• Rule against Plagiarism• Code of Conduct for legal professionals
Unit VII 10 Hours	Forms of Legal Documents and Drafting <ul style="list-style-type: none">• Notices• Plaint• Written Statement• Case Briefs• Legal Articles• Legal Correspondence [Memo, Opinion, etc.]

Text Books:



- Legal Writing in Plain English, 2nd Edition: A Text with Exercises (Chicago Guides to writing, Editing and Publishing), University of Chicago Press, 2013, Bryan A. Garner,
- Legal Drafting and writing by Nayan Joshi
- Legal Language, Legal Writing and General English by B.M. Gandhi

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Reference Books:

- Bryan A. Garner, A Dictionary of Modern Legal Usage, 2nd Edition, Oxford University Press.
- Richa Kachhwaha, The Art of Legal Writing, Oakbridge Publishing
- H.L.Kumar, Legal Drafting, Do it yourself, 5th Edition, Universal Law Publishing
- Rodney D Ryder, Legal Writing and Contract Drafting, 1st Edition, Bloomsbury India

 Marwadi University	Faculty of Law B.A.LL.B. (Hons.) Semester V				
Subject Name	High Court I (4 weeks) Internship	Credit	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code		2	0	0	0

Course Objectives:

The course is designed to achieve Following Objectives:

- To familiarize students with law in practice at higher level
- To enable student's participation in the legal practice

Learning Outcomes:

After completion of the course, students would be able to :

- Identify and articulate legal issues in context
- Chose and implement an effective strategy, selecting and employing authoritative resources to locate relevant legal authority

Detailed Syllabus:

Sessions (in hours)	Nature of Work done	Learning Outcome	Remarks
1 st week			
2 nd week			
3 rd week			





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4 th week			
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RULES

1. All Internships mentioned in the above-mentioned table shall be completed by a student in order to be eligible for the award of the degree of B.A.LL.B.(Hons.)/B.Com.LL.B. (Hons.).

2. An internship can be arranged by a student or the same can be arranged by Faculty of Law, Marwadi University, Rajkot.

2.1 Procedure to be followed when student is self-arranging internship

a. Student shall submit the details of the internship office to the internship committee before beginning the internship as per the internship calendar notified by the Internship Committee.

b. Student shall obtain a recommendation letter from Dean, Faculty of Law before starting the internship.

c. Student shall submit the Internship Confirmation Letter before starting the internship.

d. If a student is self-arranging the Internship, the parameters set up by Faculty of Law, Marwadi University, Rajkot shall be fulfilled by the Organisation / Lawyer / Company.

e. Student shall not change the internship office without obtaining approval from the Internship Committee at Faculty of Law, Marwadi University, Rajkot.

f. If a student changes the internship office without obtaining the approval from the Internship Committee, such internship shall not be considered for any purpose by Faculty of Law, Marwadi University, Rajkot.

g. Student shall be informing the internship office regarding issuing of Confidential Internship Certificate and Internship Completion Certificate. If the internship office refuses to issue any of the documents mentioned above, the internship committee shall not make any communication to the internship office, it shall be the sole responsibility of the student to get documents mentioned above.

2.2 Procedure to be followed when Faculty of Law, Marwadi University, Rajkot will arrange the Internship

a. Student shall submit the request in writing of arranging internship to the Internship Committee at Faculty of Law, Marwadi University, Rajkot three months prior from the starting the internship, failing which Faculty of Law shall not be responsible to arrange the internship, Student shall be responsible for self-arranging the internship and he/she shall be following all the steps mentioned in

b. The internship office arranged by Faculty of Law, Marwadi University Rajkot, shall be final. The student shall be joining the internship office on time. No request for change of internship office shall be entertained.

c. No preferences from a student with regard to place of internship or internship office shall be entertained by Internship Committee, Faculty of Law, Marwadi University, Rajkot.

d. Student shall bear the cost of stay, travel and any other expenses during the time of internship. Student will have to arrange his/her accommodation. e. If a student does not join the Internship office as provided to him by Internship Committee, Faculty of Law, Marwadi University, Rajkot, in future no



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assistance what so ever shall be provided by Internship Committee to that student except providing him a recommendation letter.

PROCESS DURING AND AFTER COMPLETION OF INTERNSHIP

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5. Student shall maintain daily record of work as per the format provided below and submit weekly progress report to their Faculty Coordinator allocated by the Internship Committee.
6. Format of Weekly Report: Name of the Student:
Course: B.A.LL.B.(Hons.)/B.Com.LL.B.(Hons.) Semester:
Name of the Internship: NGO/LC-1/LC-2/HC-1/HC-2/SC-1/SC-2/Placement
Name of the Internship Office:
Name of the Reporting Head at Internship Office:
Week: 1/2/3/4 Dates: DD/MM/YYYY to DD/MM/YYYY
Sr. No. Date Nature of Work done Learning Outcome 1 2 3 4
2. There shall be a separate weekly report for each week of internship. The weekly report in soft copy shall be submitted to Faculty Coordinator as per the schedule notified by the Internship Committee.
3. At the end of the internship a Final Report both in hard copy as well as in soft copy prepared by the student shall be submitted to the Faculty Coordinator.
4. Late submission of weekly reports and Final Reports shall attract deduction of the marks by the Faculty Coordinator.
5. If weekly report submission is delayed by more than seven days from the due date, it shall be considered as no weekly report submission on the part of the student.
6. The mode (google form, email etc.) of Weekly and Final Internship report submission shall be notified by the Faculty Coordinator. Submission in any other mode shall be considered as no submission on the part of student.
7. The Final Report of the Internship shall be submitted in hard copy to the Faculty coordinator, while submitting the Final report in hard copy the Student shall sign the sheet of final report submission available with Faculty coordinator.
8. The student must make sure that the weekly and final report submitted by him/her shall not be a plagiarised, copied or similar to the work submitted by any other student of Faculty of Law, Marwadi University, Rajkot.
9. In case weekly or final report have been found to be plagiarised, copied or similar to the work submitted by any other student of Faculty of Law, Marwadi University, Rajkot then such case shall be considered to be a case of use of unfair means in examination. A committee shall be constituted by the Dean, Faculty of Law to inquire into the cases of use of unfair means. The decision shall be taken by Dean, Faculty of Law, Marwadi University based on the recommendations made by the inquiry committee.
10. The student shall submit a copy of the Internship Certificate counter signed by the her/him to the Faculty Coordinator allocated by the Internship Committee.
11. Non-submission of the certificate shall lead to cancellation the Internship and the student shall be repeating the same internship again in future.
12. A student shall make sure the internship office is submits the Confidential Internship Certificate to the Faculty Coordinator via mail or post in a sealed envelope.
13. Internship Confidential Certificate must be signed and seal of the Internship office/Advocate must be there on it, without signature and seal Internship Confidential Certificate shall not be considered for any purpose.
14. After the submission of final internship report, a viva-voce examination shall be conducted in



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which the student shall be examined by external/internal examiner. Students shall be evaluated based on the work they have done during the internship, presentation and practical knowledge gained.

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15. If a student fails to complete internship, such student shall be declared fail. He/she shall have to complete the same internship in future in order to become eligible for the award of Degree of B.A.LL.B./B.Com.LL.B.

16. In case any misconduct or unprofessional behaviour of a student during internship is being reported by the internship office to the Internship Committee, Faculty of Law, Marwadi University, Rajkot, the same shall be inquired by a committee constituted by the Dean, Faculty of Law, Marwadi University, Rajkot and the decision shall be taken by the Dean, Faculty of Law, Marwadi University, Rajkot based on the recommendations made by the inquiry committee.

17. The format of the Final Internship Report is as follows

List of Contents

Sr.No.

Title Page No.

1 Acknowledgement

2 Table of Statutes

3 Abbreviations

4 Introduction

5 Internship Work Overview

6 Conclusion

7 Experience sharing

8. Evaluation Scheme:

CONFIDENTIAL CERTIFICATE

Name of the Student:

Institute/Organization:

Name & Address of the Supervisor:

STUDENT PERFORMANCE

Specific remarks about the overall performance of the student toward tasks: (Enthusiastic; eager to learn; receptive; diligent; highly engaged; conscientious; indifferent; disinterested)

Skill of the student in executing tasks: (Well developed critical thinking & analytical skills; shows initiative; learns quickly; productive; meets deadlines; needs to ask more questions; often fails to understand or follow directions; requires close supervision)

How far the student is Dependable: (Conscientious; exercises good judgment; follows through consistently on tasks; persistent with difficult tasks; hesitant to make decisions; careless in meeting obligations)



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General Conduct & Character: (Positive attitude; suitable dress & grooming; prompt; accepts praise)

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and criticism appropriately; accountable; makes excuses; overly casual in approach)

Maintaining relationships with others: (Respectful; cooperative; receives suggestions well; open; mature; tactful; friendly; shy; impolitic; argumentative)

Merit Based Overall Evaluation of the Interns Performance:

Outstanding (performed beyond expectations)

Very good (high quality performance)

Good (performed all tasks as expected)

Average (marginal performance)

Unsatisfactory (performance mostly inadequate)

(SIGNATURE OF THE SUPERVISOR WITH OFFICE SEAL)

DATED

 Marwadi University	Faculty of Law B.Com.LL.B. (Hons) Semester VI				
Subject Name	Essentials of E-Commerce	Credit	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code	10BC0601	4	3	0	2

Course Objectives

- The objective of this course is to help the students understand fundamental concepts of E-Commerce.
- To enable the students to understand E-Business mechanisms.
- The course will be useful to real understand basic decision related to E-Commerce.





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Course Outcomes


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After studying this course, students will be able to:

- Define the basics of E-Business and E-Commerce.
- Demonstrate the requirement of infrastructure for E-Business.
- Relate different business strategies for E-Business.
- Critiques the need of supply chain management and E-Marketing.
- Formulate customer relationship management and change management in E-Commerce.

Detailed Syllabus

Unit/Sessions (in hours)	Descriptions	Core Readings
Unit I (15 hrs)	<p>INTRODUCTION TO E-BUSINESS AND E-COMMERCE</p> <ul style="list-style-type: none"> • Introduction, Difference between-Business and E-Commerce, • Drivers of Consumer Internet Adoption, • Barriers to Consumer Internet Adoption, E-Commerce Environment, • Market Channel Structures in E-Commerce, • Different types of online intermediary, Publisher Revenue Models in E-Commerce, Internet Start-Up Companies. 	The Complete E-Commerce Book, Janice Reynolds, 2004.
Unit II (15 hrs)	<p>E-B BUSINESS INFRASTRUCTURE AND E-ENVIRONMENT:</p> <p>E-Business Infrastructure:</p> <ul style="list-style-type: none"> • Concept of Internet, • Intranets and extranets, HTTP Protocol, • Uniform Resource Locators (URLs), • Domain Names, Managing Hardware and Systems Software Infrastructure, • Web Services and Service-Oriented Architecture (SOA). <p>E-Environment:</p> <ul style="list-style-type: none"> • Factors Governing Internet Adoption, • Assessing Demand for E-Commerce Services, • Political Factors, • Internet Governance, • E-Government • FDI Policies related to E-Commerce 	E-Commerce in India, Pralok Gupta SAGE Publications,



Unit III	E-B BUSINESS STRATEGY <ul style="list-style-type: none">• Difference E-Business Strategies:	E-Commerce Strategy, Sanjay
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(15 hrs)	<ul style="list-style-type: none"> • E-Business Channel Priorities, Organizational Restructuring and Capabilities, • Business and Revenue Models, Market Place • Restructuring, Market and Product Development Strategies, • Positioning and Differentiation Strategies. • Reasons for Failure of E-Business Strategies, • E-Business Strategy Implementation Success Factors for SMEs. 	Mohapatra, 2012
Unit IV (15 hrs)	<p>SUPPLY CHAIN MANAGEMENT AND E-MARKETING</p> <p>Supply Chain Management in E-Business:</p> <ul style="list-style-type: none"> • Introduction, Logistics in E-Commerce, Benefits of E-Supply Chain Management. <p>E-Marketing:</p> <ul style="list-style-type: none"> • Meaning, E-Marketing Planning, • Inputs to the E-Marketing, Situation Analysis: • Demand Analysis, Competitor Analysis, • Intermediary Analysis, Internal Marketing Audit. 	Contemporary Research in E-marketing, Sandeep Krishnamurthy, 2005
Unit V (15 hrs)	<p>CUSTOMER RELATIONSHIP MANAGEMENT AND CHANGE MANAGEMENT IN E-COMMERCE</p> <p>Customer Relationship Management:</p> <ul style="list-style-type: none"> • Introduction to E-CRM, • Benefits of E-CRM, Customer Profiling, • Online Marketing Communications, • Customer Retention Management. <p>Change Management:</p> <ul style="list-style-type: none"> • Introduction, Challenges of E-Business Transformation, • Human Resource Requirements, • Knowledge Management: Objectives, • Implementing and Technologies for Implementing Knowledge Management. 	E-business Innovation and Change Management, Mohini Singh, Dianne Waddell, 2004

Text Book:

- Dave Chaffey, E-Business and E-Commerce Management Pearson, Third Edition, 2007

Reference Books:

- Becker, S. Ann (ed.), Electronic Commerce: Concepts, Methodologies, Tools and Applications Information Science, 2007



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- K. Bajaj & D. Nag, E-Commerce, The Cutting Edge Of Business, McGraw Hill Education (India) Private Limited, 2005

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 Marwadi University	Faculty of Law B.A.LL.B. (Hons.) Semester VI				
	Subject Name Labour & Industrial Laws - I	Credit 5	Teaching Scheme		
Theory 4			Practical 0	Tutorial 2	
Subject Code 10FL0601					

Course Objectives:

Labour & Industrial Laws seek to regulate the relations between the employer and the employees. The objectives of this course are as following: -

- To acquaint the students of law with theoretical as well as practical knowledge of labour & Industrial legislations.
- To enable the students of law, understand the importance of implementing Labour & Industrial Laws as its non-adherence attracts penal provisions and it also severely affects the reputation of the establishment.

To be familiar with the provisions of various labour laws relating to industrial relations, wages and social security and how there has been judicial precedents in this regard.

Course Outcome:

On completion of this course, students will be able to:

- State the philosophy of labour laws.
- Explain occupational health, safety and working conditions.
- Interpret various provisions of Industrial Relation.
- Compare provisions of new industrial relation code with the existing law.

Detailed Syllabus

Unit/ Sessions (in hours)	Descriptions	Case Laws





Unit 1

**Philosophy
of Labour
Laws**

• Labour Laws
• Industrial
Relations, its Issues
& Difficulties and

• State of Bombay v United Motors (1953) SCJ 373
• Hussainara Khatoona v State of Bihar (1978) 1 SCC
238
• SP Gupta v Union of India AIR 1982 SC 149



<p>(10hours)</p>	<p>Human Resource Management</p> <ul style="list-style-type: none">• Changing Dimensions of Industrial Relations (post covid)• Labour Laws: Concept, Origin, Objectives & Classification• International Labour Organisation and Indian Labour Legislations• Constitutional Framework and Industrial Relations Labour Policy, Emerging Issues and Future Trends	<ul style="list-style-type: none">• Vishakha v Union of India 1997 LLR 991• Management of the Barara Cooperative Marketing cum- Processing Society Ltd. v. Workman Pratap Singh on 4 January 2019• State Bank Of India v. Ram Narayan Pathak on 23 July, 2018• Baldev Raj v. The Management of Dtc & Anr. on 12 October, 2017• Maharashtra General Kamgar Union v Pix Transmissions Ltd. (Bombay HC) (2011) II LLJ 246 Bom
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Unit 2
Occupational
safety, health
and working
condition
code 2020
(20 hours)

- Factories Act
- Registration
- Duties of employer and employees etc.
- Occupational safety and health, health and working conditions.
- Welfare provisions.
- Hours of work and annual leave with wages.
- Maintenance of registers, record and return etc.
- Special provisions relating to employment of women.
- Contract labour and Inter - state migrant worker – Part I, Part II (Audio – Video Worker), offences, penalties and procedure.
- Comparison with the Code on Occupational safety,

- SUBIR BOSE vs. INSPECTOR OF FACTORIES, Citation : 2019 Latest Caselaw 863 SC
- LancoAnpara Power Limited v. State of Uttar Pradesh &Ors; (Civil Appeal No 6223 of 2016)
- Uttaranchal Forest Development ... vs Jabar Singh And Ors on 12 December, 2006
- State vs Ardeshir Hormusji Bhiwandiwalla on 10 October, 1955
- Mahindra And Mahindra Ltd. vs General Employees' Union And Ors. on 26 July, 2006
- Union Of India vs A.K. Biswas And Ors. on 31 January, 2006
- Mangesh G. Salodkar vs Monsanto Chemicals of India Ltd.on 13 July, 2006
- Jay Engineering Works Ltd. v Staff AIR 1968 Cal 407,
- Rohtas Industries Staff Union v State of Bihar AIR 1979 SC 425,
- Federation of Western India Cine Employees vs Filmalaya Pvt Ltd.
- Indian Bank vs Federation of Indian Bank Employees Union
- Tamil Nadu Electricity Board vs Tamil Nadu Electricity Board Accounts and Executive Staff Union
- Key issues in labour reforms – simplification of labour laws.
- Facilitating job creation while protecting Covering of establishment under labour laws.



	health and working condition.	
Unit 3 Industrial Relation Code 2020 (10hours)	<ul style="list-style-type: none"> • Trade Union • Chapter III (section 5 to 27). • Standing Orders – Chapter IV (section 28 to section 39). • Comparison with the code on Industrial Relation Code 2020. 	<ul style="list-style-type: none"> • Premier Automobiles Limited vs Kamalakar Shantaram Wadke and Others. • Workmen of Hindustan Lever Ltd. vs Hindustan Lever Ltd. • M/s Village Papers Pvt Ltd. Vs State of Himachal Pradesh. • Western India Automobiles Assn. v Ind. Tribunal, Bombay, AIR 1949 FC 111. • Cipla Limited vs Maharashtra General Kamgar Union. • Dimakuchi Tea Estate Karamchari Sangh vs Dimakuchi Tea Estate. • Standard Vaccum Refining Co. of India Ltd. vs Their Workmen. • Newspapers Ltd. Vs State Industrial Tribunal. • Bombay Union of journalists vs The Hindu. • J. H. Yadav vs M/s Forbes Gokak. • State of Bombay vs Kripa Shankar Jaiswal. • Workmen vs M/s Dharampal Prem Chand. • J. N. K. Pradhan vs Industrial Tribunal. • Baroda Municipality vs. Its workmen. • Corporation of City of Nagpur vs Its Employees. • Bangalore Water Supply v A Rajappa AIR 1978 SC. • State of Bombay vs Hospital Mazdoor Sabha. • Management of Safdarjung vs. Kuldeep Singh Sethi. • Harinagar Cane Farm vs. State of Bihar. • National Union of Commercial Employees vs M. R. Mehar. • University of Delhi vs Ram Nath. • Madras Gymkhana Club Employees Union vs Gymkhana Club. • Dharangadhra Chemicals Works Ltd vs State of Saurashtra. • Chintaman Rao vs State of Madhya Pradesh. • Bridhichand Sharma vs First Civil Judge. • S. K. Verma vs Mahesh Chandra & Others. • Union Carbide India Ltd vs D. Samuel. • Surendra Kumar vs Union of India. • May & Baker India Ltd vs Their Workmen. • Hindustan Paper Corporation vs Purnendu Chkraborty and Others. • Tata Chemicals Ltd vs Kailash C. Adhvaryar. • Buckingham and Carnatic Co. vs. Venkatayga. • M.P. Vidyut Karamchari Sangh vs. M. P. Electricity Board.



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- Jabalpur Development Authority vs Sharad Shrivastav.
- Rohtak and Hissar Electric Supply Co. Ltd vs. U.P.
- S. K. Sheshadari vs H.A.L.

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		<ul style="list-style-type: none"> • Guest Keen Williams Pvt Ltd. Vs P. J. Sterling. • Salem Erode Electricity Supply Co. vs Their Employees Union. • Agra Electricity Supply Co. vs Alladin. • Falcon Tyres Ltd. Vs Falcon Tyres Employees Union, Mysore. • Shri Ganpati Mills Co. Ltd. Vs Presiding Officer, Labour Court. • Ashok Leyland Ltd, Madras vs Presiding Officer, Second Additional Labour Court, Madras. • U. P. State Bridge Corporation vs U. P. Rajya Setu Nigam S. Karamchari Sangh. • International Relation Code 2020 – Exemptions, standing orders, closure, lay – off, retrenchment and negotiating union and council.
<p>Unit 4 Industrial Relation Code 2020 (15hours)</p>	<ul style="list-style-type: none"> • Industrial Dispute • Chapter VI – voluntary reference and dispute to arbitration. • Mechanism for resolution of industrial dispute. • Strikes and lock – outs. • Lay – off. • Retrenchment and closure. • Special provision for lay – off, retrenchment and closure in certain establishment. • Comparison with the code on Industrial Relation Code 2020. 	<ul style="list-style-type: none"> • Steel Authority of India Ltd. & ANR. Vs. Jaggu & Ors. Etc. 2019 Latest Case law 539 SC. • The Director, Steel Authority of India Ltd. v. Ispat Khandan Janta Mazdoor Union, Citation: 2019 Latest Case law 538 SC. • Ragini Sinha Vs. State of Bihar Citation: 2019 Latest Case law 15 SC. • Union of India Vs. M/s. Varindera Constructions Ltd. Etc. [APRIL 19, 2018] Citation: 2018 Latest Case law 295 SC. • Avishek Raja & Ors. Vs. Sanjay Gupta [JUNE 19, 2017] Citation: 2017 Latest Case law 430 SC. Lanco Anpara Power Limited Vs. State of Uttar Pradesh & Ors. [OCTOBER 18, 2016] Citation: 2016 Latest Case law 752 SC

Text Books

1. Srivastava S.C., Industrial Relations and Labour Laws, Delhi, Vikas, (2012).
2. O.P. Malhotra, The Law of Industrial Dispute, Universal, Delhi
3. K.D. Srivastava, Commentaries on Factories Act, 1948, Eastern, Lucknow.

Reference Books



- BD Singh, Labour Law for Manager, Excel Book, Chapter I
- Bruce E. Kaufman, Industrial Relations, 2006
- EM Rao, Industrial Jurisprudence, Lexis Nexis, Chapter I
- GM Kothari, A Study of Industrial Law, 5th Edition – 2000 Wahdwa Publications
- GB Pai, Labour Law in India, Butterworth's India, Vol. 1, Chapter 1
- SC Srivastava, Industrial Relations and Labour Laws, 5th Edition – 2007, Vikas Publishing House, part 1
- SN Mishra, Labour and Industrial Laws, 25th Ed. – 2009, central law publications
- KM Pillai, Labour and Industrial Law, Allahabad Law Agency
- SN Mishra, Labour and Industrial Law, Central Law Publication

 Marwadi University	Faculty of Law B.A.LL.B. (Hons.) Semester VI				
Subject Name	Interpretation of Statutes	Credit	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code	10FL0602	5	4	0	2

Course Objectives

1. Acquaint with the concept of Statutes and how is it different from other sources of laws.
2. Learn the mechanism to find out the real intent of the Statutes.
3. Understand the relevancy of Internal and External Aids of Interpretation.
4. Apply the various doctrines of Constitutional Interpretation.

Course Outcomes



On completion of this course, students will be able to

- To be able to define and the concept of Interpretation and its difference with construction
- To be able to demonstrate the different rules of interpretation
- To apply the relevancy of various principles of interpretation
- To be able to analyse the internal aids to construction and external aids to construction.

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- To evaluate the roles of judiciary along with extent in ascertaining meaning of any statute and to develop a higher thinking order through identifying the new judicial trend.
- To be able to elaborate on the interpretation of constitution and its importance.

Detailed Syllabus

Unit/ Sessions (in hours)	Descriptions	Case Laws
Unit: 1 Introduction (10 hours)	<ul style="list-style-type: none"> • Meaning, Objects, Nature and Scope of 'Interpretation' and 'Construction' • Types of Interpretation and Statute • Difference between Interpretation and Construction • General theories of Interpretation of Statutes • Nature and Kinds of Indian Laws: Statutory, Non-statutory, Codified, State-made and State-recognized laws. • Act should be read as a whole (Ex Viceribus Actus) • Ut Res Magis Valeat Quam Pereat 	<ul style="list-style-type: none"> • P. Ramachandra Rao v. State of Karnataka (2002) 4 SCC 578 • Padma Sundara Rao v. State of Tamil Nadu (2002) 3 SCC 533 • Bhatia International v. Bulk Trading S.A. (2002) 4 SCC 105 • D.M., Aravali Golf Club v. Chander Hass, 2007 (14) SCALE 1 (the interpretation of this case is to understand the judicial restraint and judicial activism)
Unit: 2 Rules of Interpretation (15 hours)	<ul style="list-style-type: none"> • Basic Rules of Interpretation • Literal Rule or Plain Meaning Rule of Interpretation • Golden Rule of Interpretation • Mischief Rule of Interpretation (Heydon's 	<ul style="list-style-type: none"> • Jugal Kishore v. Raw Cotton Co. AIR 1955 SC 376 • Ram Avtar Budhai Prasad v. Assistant Sales Tax Officer, AIR 1961 SC 1325 • Lee v. Knapp (1967) 2 Q.B.442



	Rule) • Beneficial Rule of Interpretation • Rule of Purposive Construction • Harmonious Construction <i>Generalis Specialibus Non Derogant</i> • Subsidiary Rules of Interpretation • Ejusdem generis • Noscitur a sociis	• Nokes v. Doncaster Amalgamated Collieries (1940) AC 1014 • Heydon's case (1584) 3 Co. Rep. 7 • IPRS v Sanjay Dalia 2015 (recent case on Mischief Rule) • Abhiram Singh v CD Commachen 1996 -landmark case on Mischief rule) • R.M.D.C. v. Union of India, AIR 1957 SC 628
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	<ul style="list-style-type: none"> • Reddando Singula Singulis 	<ul style="list-style-type: none"> • Commissioner of Income-tax. v. Smt. Sodra Devi, AIR 1957 SC 832 • S.R. Chaudhuri v. State of Punjab (2001) 7 SCC 126 • All India Reporter Karamchari Sangh v. All India Reporters Ltd., AIR 1988 SC 1325 • Calcutta Municipal Corporation v. East India Hotels Ltd., AIR 1996 SC 419 • Oswal Agro Mills Ltd. v. CCE, 1993 Supp(3) SCC 716 • Ashbury Railway Carriage & Iron Co. v. Riche (1875) LR 7 HL 653s • Hamdard Dawakhana v. Union of India AIR 1960 SC 55 • State of Bombay v Hospital Mazdoor Sabha 1960 AIR 610
<p>Unit: 3 Internal Aids to Interpretation (10 hours)</p>	<ul style="list-style-type: none"> • Short and long titles, preamble, marginal notes, parts and their captions, chapters and their captions, section headings • Explanations, exceptions, examples, provisos and schedules • Defining legal expressions like ‘means’ ‘includes’, ‘that is to say’, etc. • Phrases like ‘grammatical variations and cognate expressions’ 	<ul style="list-style-type: none"> • Biswambhar Singh v. State of Orissa, AIR 1954 SC 139 : • M/s. Hiralal Rattanlal v. State of U.P. (1973) 1 SCC 216. • Manoharlal v. State of Punjab, AIR 1961 SC 418 (1961) 2 SCR 343
<p>Unit: 4 External Aids to Interpretation (12 hours)</p>	<ul style="list-style-type: none"> • Parliamentary History • Parliamentary proceeding • Later Developments • Dictionaries • Foreign Judgments 	<ul style="list-style-type: none"> • Shashi Kant Laxman Kale v. Union of India, AIR 1990 SC 2114 :(1990) 4 SCC 366 • S.R. Chaudhary v. State of Punjab (2001) 7 SCC 126 • State of Mysore v. R.V. Bidap, AIR 1973 SC 255



<p>Unit: 5 Applied Principles of Interpretation (13 hours)</p>	<ul style="list-style-type: none">• Fiscal Statutes• Interpretation of Contracts• Interpretation of Treaties• Travaux preparatoires or surrounding circumstances	<ul style="list-style-type: none">• The Empress Mills, Nagpur v. The Municipal Committee, Wardha, AIR 1958 SC 341• A.S.Sulochanav. C. v Dharmalingam, AIR 1987 SC 242
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<p>Unit: 6 Principles of Constitutional Interpretation (15 hours)</p>	<ul style="list-style-type: none"> • Doctrine of pith and substance • Colourable legislation • Ancillary powers • Residuary power • Doctrine of repugnancy • Doctrine of Presumption • Retrospective effect • Consequence of Repeals. 	<ul style="list-style-type: none"> • Prufulla Kumar v. State Bank of Khulna, AIR 1946 PC. • Atiabari Tea Co. Ltd. v. State of Assam AIR 1961 SC 232. • Bengal ImmModuley Co. v. State of Bihar, AIR 1955 SC 61. • Saurabh Choudhry v. Union of India AIR 2004 SC 361 • The Supreme Court Advocates on Record Association v. Union of India AIR 1994 SC 268. • Jagdish Sharan v. Union of India AIR 1980 SC 820
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Text Books

- B.M. Gandhi, *Interpretation of Statutes*, Eastern Book Company, 2nd Edition, 2014.
- T. Bhattacharya, *Interpretation of Statutes*, Central Law Agency, 6th Edition, 2013.
- Vepa P. Sarathi, *Interpretation of Statutes*, (Lucknow: Eastern Book Company) 2010
- G.P.Singh, *Principles of Statutory Construction*, (Nagpur: Lexis Nexis) 2010
- M.N.Rao and Amita Dhanda, *N.S.Bindra's Interpretation of Statutes*, (Delhi: Lexis Nexis) 2007

Reference Books

- Justice G.P. Singh, *Principles of Statutory Interpretation*, Lexis Nexis, 12th Edition, 2010
- N.S. Bindra's, *Principles of Interpretation*, Lexis Nexis, 10th Edition 2011.
- P. Singh "*Principles of Statutory Interpretation*, (9th Edition) 2008, Wadhwa, Nagpur.
- St. Langan (Ed.) *Maxwell on The Interpretation of Statutes* (1976), Lexis Nexis Butterworths, New Delhi.
- S. Bindras, *Interpretation of Statutes*, 2007, Lexis Nexis Butterworths, New Delhi.
- P, *Interpretation of Statutes*, (2008) Orient Publishing, New Delhi.
- Bakshi, P.M. *Interpretation of Statutes*. (2008) Orient Publishing, New Delhi.



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Faculty of Law
B.A. LL.B. (Hons)/ B.Com. LL.B.
Semester VI

Corporate Law – II

Credit

Teaching Scheme

Dean
Faculty of Law
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Rajkot



Subject Name			Theory	Practical	Tutorial
Subject Code	10FL0603	5	4	0	2

Course Objectives

The course is designed to achieve Following Objectives:

To acquire knowledge and develop understanding of the regulatory framework of incorporation of companies, company affairs, various compliances through various provisions of Companies Act and its schedules, rules, notifications, circulars, clarifications there under including case laws and Secretarial-legal standards.

Course Outcomes

On completion of this course, the learners will be able

1. To define the basic concepts & procedure of corporate administration.
2. To compare among inspection, inquiry and investigation of a company.
3. To evaluate Compromises, Arrangements and Amalgamations and their procedural aspect.
4. To identify Prevention of Oppression and Mismanagement through case laws.
5. To analyse Offences, Penalties and their compounding nature.
6. To elaborate the procedure & reasons for winding up.
7. To formulate the jurisdiction and application of National Company Law Tribunal and Appellate Tribunal on the dispute on corporate affairs of company.

Detailed Syllabus



<p>Module: 1. Corporate Administration- II</p> <p>11 hours</p>	<ul style="list-style-type: none">• Board Constitution and its Powers: Board composition; Restriction and Powers of Board; Board Committees- Audit Committee, Nomination and Remuneration Committee, Stakeholder relationship Committee and other Committees.• Meetings:<ul style="list-style-type: none">➤ Meetings of Board and Committees– Frequency, Convening, Proceedings, Video Conferencing of Board/Committee(s); Resolution by Circulation; Minutes and Evidence➤ General Meetings – Kinds of Meetings; Law,	<p>Case Laws:</p> <ul style="list-style-type: none">• Skylark Ithaca Buyers Welfare Association vs. Skylark Mansions Private Limited (07.02.2020 - NCLT - Bengaluru) : MANU/NC/4803/2020• Spade Financial Services Limited and Ors. vs. Hari Krishan Sharma and Ors. (27.01.2020-NCLAT): MANU/NL/0047/2020• M. Sridhar Reddy and Ors. vs. Rohini Auto Electricals Private Limited and Ors. (05.10.2016 - NCLT - Hyderabad) : MANU/NC/0137/2016• Kumar Dinesh Seth vs. MRO-TEK Limited and Ors.
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	<p>Practice and Procedure Relating to Convening and Proceedings at General and Other Meetings; Notice, Quorum, Chairman, Proxy, Voting including Voting through Electronic Means; Resolutions, Circulation of Members' Resolution, etc.; Postal Ballot; Recording, Signing and Inspection of Minutes;</p> <p>➤ Distribution of Powers of a Company – Division of Powers between Board and General Meetings; Acts by Directors in Excess of Authority; Monitoring and Management</p>	<p>(27.11.2019 - NCLT - Bengaluru): MANU/NC/11468/2019</p> <ul style="list-style-type: none"> • In Re: Housing Development Finance Corporation Ltd. and Ors. (04.09.2017 - NCLT-Mumbai): MANU/NC/1116/2017 • Jai Kumar Arya & Ors. vs Chhaya Devi & Anr. on 7 November, 2017, Delhi High Court • Shiv Kumar Jatia vs. State of NCT of Delhi, SC 2018 • Maksud Saiyed vs. State of Gujarat & Ors, SC 2015 • Sunil Bharti Mittal vs. CBI, SC 2015
<p>Module: 2. Inspection, Inquiry and Investigation</p> <p>13 hours</p>	<ul style="list-style-type: none"> • Inspection of Documents • Powers of the Inspector • Seizure of Books and Documents • Inspector's Report • Power of the Registrar of Companies • Investigation into Affairs of the Company 	<p>Case Laws:</p> <ul style="list-style-type: none"> ➤ Triveni Turbine Ltd. vs. GE Triveni Ltd. and Ors. (17.02.2020 - NCLAT) : MANU/NL/0120/2020 ➤ Deloitte Haskins and Sells LLP and Ors. vs. Union of India and Ors. (04.03.2020 - NCLAT) : MANU/NL/0162/2020 ➤ Asset Reconstruction Company (India) Limited vs. Surya Treasure Island Private Limited (17.08.2020 - NCLT - Mumbai) : MANU/NC/9037/2020 ➤ Serious Fraud Investigation Office and Ors. vs. Rahul Modi and Ors. (27.03.2019 - SC) : MANU/SC/0420/2019 ➤ Jiyajeerao Cotton Mills Ltd. v. Company Law Board (1969) 39 Comp. Cas. 856 (MP).



Module: 3. Compromises, Arrangements and Amalgamations	Compromises, Arrangements and Amalgamations	Case Laws: <ul style="list-style-type: none">• Dalmia Power Limited and Ors. vs. The Assistant Commissioner of Income Tax,
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17 Hours

- Circle 1, Trichy (18.12.2019 - SC): MANU/SC/1774/2019
- Karix Mobile Private Limited and Ors. vs. Tanla Corporation Private Limited (30.06.2020 - NCLT - Hyderabad) : MANU/NC/8010/2020
 - DLF Phase-IV Commercial Developers Limited and Ors. vs. DLF Limited (07.06.2019 - NCLT - Chandigarh): MANU/ND/9325/2019
 - ICICI Bank Limited vs. Supreme Infrastructure India Limited (27.07.2020 - NCLT - Mumbai) : MANU/NC/8276/2020
 - Miheer H. Mafatlal vs. Mafatlal Industries Ltd. (11.09.1996 - SC): MANU/SC/2143/1996
 - In the Matter of Scheme of Amalgamation ABC Infra Solutions Private Limited and Ors. (24.04.2019 - NCLT - Principal Bench): MANU/ND/5513/2019
 - 63 Moons Technologies Ltd. and Ors. vs. Union of India (UOI) and Ors. (30.04.2019 - SC): MANU/SC/0629/2019
 - Oceanic Steam Navigation Co. In re. (1939) 9 Com Cases 229 (Ch.D)
 - Mekaster Valves and Engineering Services P. Ltd., In re. [(2009) 149 Com Cases 593 (Guj)]
 - [Pioneer Dyeing House Limited v. Dr. Shanker Vishnu Marathe (1967) 2 Comp LJ 16].
 - Webneuron Services Ltd., In



		Re. [(2009) 149 Com Cases 61(Del)]
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		<ul style="list-style-type: none"> • T. Mathew v. Saroj Poddar (1996) 22 CLA 200 at 216 (Bom.)
<p>Module: 4. Prevention of Oppression and Mismanagement</p> <p>10 Hours</p>	<ul style="list-style-type: none"> • Meaning of Majority Rule and Minority Rights <ul style="list-style-type: none"> ➤ Law relating to Majority Powers and Minority Rights Shareholder Remedies – Actions by Shareholders; Statutory Remedies; Personal Actions ➤ Prevention of Oppression and Mis-Management 	<p>Case Laws:</p> <ul style="list-style-type: none"> • Cyrus Investments Pvt. Ltd. and Ors. vs. Tata Sons Ltd. and Ors. (18.12.2019 - NCLAT) : MANU/NL/0640/2019 • Usha Ananthasubramanian vs. Union of India (UOI) (12.02.2020-SC):MANU/SC/0202/2020 • Sri Ramdas Motor Transport Ltd. and Ors. vs. Tadi Adhinarayana Reddy and Ors. (01.05.1997 - SC):MANU/SC/1193/1997 • J.P. Srivastava and Sons Pvt. Ltd. and Ors. vs. Gwalior Sugar Co. Ltd. and Ors. (26.10.2004 - SC):MANU/SC/0927/2004 • Union of India (UOI) vs. Morepen Laboratories Limited and Ors. (01.07.2005 - CLB) : MANU/CL/0042/2005 • [Edwards v. Halliwell, (1950) 2 All. E.R. 1064 • North-West Transportation Co. v. Beatty (1887) L.R. 12 A.C. 589 • [Ashbury Rly. Carriage and Iron Co. v. Riche, (1875) L.R. 7 H.L. 653 • (Rule in Foss v. Harbottle) • Rajahmundry Electric Supply Co. v. Nageshwara Rao AIR 1956 SC 213 • Shanti Prasad v. Kalinga Tubes, (1965) 1 Comp. L.J. 193 at 204 • Bhagirath Agarwala v. Tara Properties P. Ltd. (2003) 51 CLA 57 (Cal.), • Indowind Energy Ltd. v. ICICI Bank Ltd. [2010] 153 Com Cases 394 (CLB)



Module: 5.
Offences,
Penalties and

- Regulatory Framework
- Offences penalty and

- Sunil Bharti Mittal vs. Central Bureau of Investigation



Their
Compounding

5 Lectures

compounding-2013

- Establishment of special court (Criminal Liability)
- Offences to be non-cognizable
- Appointment of company prosecutors
- Punishment for fraud
- Adjudication of penalties
- List of offences compoundable in nature
- Lesson Round-Up

(09.01.2015 - SC):

MANU/SC/0016/2015

- Aneeta Hada vs. Godfather Travels and Tours Pvt. Ltd. (08.05.2008 - SC):
MANU/SC/2118/2008
- Madhumilan Syntex Ltd. and Ors. vs. Union of India (UOI) and Ors. (23.03.2007 - SC):
MANU/SC/1620/2007
- Securities and Exchange Board of India and Ors. vs. Gaurav Varshney and Ors. (15.07.2016 - SC):
MANU/SC/0778/2016
- Sushil Sethi and Ors. vs. The State of Arunachal Pradesh and Ors. (31.01.2020 - SC):
MANU/SC/0119/2020
- Google India Private Limited vs. Visakha Industries and Ors. (10.12.2019 - SC):
MANU/SC/1708/2019
- Shiv Kumar Jatia vs. State of NCT of Delhi (23.08.2019 - SC):
MANU/SC/1154/2019
- Shailendra Swarup vs. The Deputy Director, Enforcement Directorate (27.07.2020 - SC) :
MANU/SC/0544/2020
- Serious Fraud Investigation Office vs. Nittin Johari and Ors. (12.09.2019 - SC) :
MANU/SC/1246/2019
- Fidaali Moiz Mithiborwala vs. Majolica Properties (P) Ltd. and Ors. (06.02.2017 - NCLT - Mumbai):
MANU/NC/0299/2017
- Kaledonia Jute and Fibres Pvt. Ltd. vs. Axis Nirman and



		Industries Ltd. and Ors. (19.11.2020 - SC): MANU/SC/0876/2020
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		<ul style="list-style-type: none">• Serious Fraud Investigation Office and Ors. vs. Neeraj Singal and Ors. (04.09.2018 - SC): MANU/SC/0975/2018• Deloitte Haskins and Sells LLP and Ors. vs. Union of India and Ors. (04.03.2020 - NCLAT): MANU/NL/0162/2020
Module: 6. Winding Up 14 Hours	<ul style="list-style-type: none">• Modes of Winding Up• Powers of Tribunal• Effect of Winding Up Order & Liquidator• Settlement of List of Contributories and Application of Assets	<ul style="list-style-type: none">• Jignesh Shah and Ors. vs. Union of India (UOI) and Ors. (25.09.2019 - SC): MANU/SC/1319/2019• Forech India Ltd. vs. Edelweiss Assets Reconstruction Co. Ltd. (22.01.2019 - SC): MANU/SC/0080/2019• Duncans Industries Ltd. vs. A.J. Agrochem (04.10.2019 - SC):MANU/SC/1385/2019• [Daulat Makanmal Luthrid v. Solatire Hotels (1993) 76 Comp. Cas. 215 (Bom. HCD)].• Shakti Agencies v. Manshuk Bhai Industries Ltd. [(2007), 74 SCL 332 (RAJ)• Mumbai Labour Union v.• Indo French Time Industries (2002) 38 SCL 924• Rishabh Agro Industries Ltd. v. PNB Capital Services Ltd. (2000) AIR SCW 1753,• Gramercy Emerging Market Fund v. Essar Steels (2002) 39 SCL 435 (Guj. HC)



Module: 7, National Company Law Tribunal and Appellate Tribunal 5 Hours	<ul style="list-style-type: none">• Orders of Tribunal• Appeal from Orders of Tribunal• Delegation of Powers• Limitation• Transfer of Certain Pending Proceedings	<ul style="list-style-type: none">• Madras Bar Association vs. Union of India (UOI) and Ors. (14.05.2015-SC): MANU/SC/0610/2015• Madras Bar Association vs. Union of India (UOI) (25.09.2014 - SC): MANU/SC/0875/2014
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		<ul style="list-style-type: none"> • Rojer Mathew vs. South Indian Bank Ltd. and Ors. (13.11.2019-SC): MANU/SC/1563/2019 • Union of India (UOI) vs. R. Gandhi and Ors. (11.05.2010 - SC):MANU/SC/0378/2010 • Union of India (UOI) vs. Namit Sharma (03.09.2013 - SC) : MANU/SC/0902/2013 • Embassy Property Developments Pvt. Ltd. vs. State of Karnataka and Ors. (03.12.2019 - SC) : MANU/SC/1661/2019 • Abhijit Guhathakurta vs. Royale Partners Investment Fund Ltd. (25.06.2020 - NCLAT) : MANU/NL/0286/2020 • Hari Sankaran vs. Union of India (UOI) and Ors. (04.06.2019 - SC): MANU/SC/0802/2019 • [B. R. Herman & Mohatta India Ltd. v. Ashok Rai (1948) 55 Comp. Cas. 61 (Delhi). • Lalit Jalan v. Bombay Gas Co. Ltd. (2003) 44 SCL 130/114 Comp. Cas. 515 (SC).]
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Text Books

3. Avatar Singh on Company Law, Eastern Publication Pvt. Ltd.

Reference Books

9. Saharay, H. K. on Company Law 7th Edition, LexisNexis Publication Pvt. Ltd.
10. Davies, Paul L. on Principles of Modern Company Law, 8th Edition, Thomson Reuters South Asia Private Limited.

11.

Online Resources

1. Ministry of Corporate Law -<http://www.mca.gov.in/>
2. Serious Fraud Investigation Office- <http://www.sfiio.nic.in/>
3. The Indian Institute of Corporate Affairs (IICA)- <http://www.iica.in/>
4. National Foundation for Corporate Governance (NFCG)- <http://www.nfcgindia.org/>
5. The Institute of Charter Accounts of India- <http://www.icai.org/>
6. The institute of Companies Secretaries of India- <http://www.icsi.edu/>



 Marwadi University	Faculty of Law B.A.LL.B. (Hons.) Semester VI				
Subject Name	Civil Procedure Code and Limitation Act	Credit	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code	10FL0604	5	3	0	2

Course Objectives

1. To study details of procedure for redressal of civil rights.
2. To study the nature and significance of pleadings and practical aspects relating to it.
3. To understand the execution proceeding.
4. To study with the law of limitation as applicable to civil proceedings.

Course Outcomes

On completion of this course, students will be able to

1. State the detail procedure for redressal of civil rights.
2. Identify the place of suing, procedure for institution of suit, the documents in support and against, evidence taking and trial, dimensions of an interim order, the peculiar nature of the suits, the complexities of executing a decree and provisions for appeal and revision.
3. Describe Parties of suits, Institution and Trial of suit.
4. Execute Complaint and written statement.
5. Compare Suits, Appeals, Review and Reference
6. Relate the law of limitation to civil proceedings.

Detailed Syllabus

Unit/Sessions (in hours)	Descriptions	Case Laws
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Unit I: Introduction
(6 hours)

1. The basic Concepts of civil procedure code.
2. Distinction between decree and judgment and between decree and order Jurisdiction.
3. Suit of civil nature-scope and limits.
4. Res-sub-judice and Res-judicata

- BALCO Employees Union v. Union of India AIR 2002 SC 350
- National Institute of MH & NS v. C. Parameshwara AIR 2005 SC 242



	<p>5. Place of suing 6. Foreign Judgments 7. Transfer of Suit</p>	<ul style="list-style-type: none"> • Pukhraj D. Jain v. G. Gopalkrishna AIR 2004 SC 3504 • National Institute of MH & NS v. C. Parameshwara AIR 2005 SC 242 • Paras Nath Rai v. State of Bihar AIR 2013 SC 1010, Rajinder Kumar v. Kuldeep • Singh & Ors. 2014(2) SCALE 135 • Ramji Gupta v. Gopi Krishna Agrawal, AIR 2013 SC 3099 • Ramji Gupta v. Gopi Krishna Agrawal, AIR 2013 SC 3099 • Vithal (P) Ltd. v. Union of India & Ors., AIR 2005 SC 1891 • Dabur India v. K.R. Industries (2008) 10 SCC 595
<p>Unit II: Parties of suits, Institution and Trial of suit (10 hours)</p>	<p>1. Parties to the suit: Joinder, mis-joinder or non-Joinder of parties 2. The rules under civil manual (divorce and judicial separation cases) 3. Process of suit, Rules under the Suit Valuation Act 1887 3. Representative suit. 4. Frame of suit: Importance of cause of action 5. Summons and modes of service of summons</p>	<ul style="list-style-type: none"> • Ranjeet Mal V. General Manager, Northern Railway, New Delhi & Anr., AIR 1977 SC 1701 • Chief Conservator of Forests, Government of A.P. V. Collector & Ors; AIR 2003 SC 1805 • Vidyawati Gupta V. Bhakti Hari Naik & Ors., AIR 2006 SC 1194



Unit III: Pleading
(12 hours)

1. Rules of pleading, signing and verification.
2. Plaint: rules and particulars
3. Admission of plaint and return and rejection of plaint
4. Written statement: particulars, rules of evidence
5. Set off and counter claim distinction
6. Discovery inspection and production of documents
7. Interrogatories
8. Privileged documents

- Usha Devi v Rijwan Ahmad, (2008) 3 SCC 717
- Rameshkumar Agarwal v. Rajmala Exports Pvt Ltd. (2012) 5 SCC 337
- B.K.N. Narayana Pillai v. P. Pillai and Ors. AIR 2000 SC 614
- Bharat Petroleum Corporations Ltd. v. Precious Finance Ltd. (2006) 6 Bom Cr 510



	9. Affidavits	<ul style="list-style-type: none"> • Rajesh Kumar Aggarwal & Ors v. K.K. Modi & Or AIR 2006 SC 1647,
Unit IV: Appearance, Examination and Trial (12 hours)	<ol style="list-style-type: none"> 1. Appearance 2. Ex-parte procedure 3. Summary and attendance of witnesses 4. Trial 5. Adjournments 6. Interim orders: commission, arrest or attachment before judgement, injunction and appointment of receiver. 7. Interest and costs. 8. Settlement of disputes outside the Court. 	<ul style="list-style-type: none"> • Union of India v. Era Educational Trust, (2000) 5 SCC 57 • Ajay Mohan & Ors. v. H.N. Rai & Ors., (2008) 2 SCC 507 • Food Corporation of India v. Sukha Deo Prasad, AIR 2009 SC 2330
Unit V: Execution (12 hours)	<ol style="list-style-type: none"> 1. Meaning of Execution 2. General principles (ss.52.54). 3. Power for execution of decrees. 4. Procedure for execution (ss.55.54) 5. Enforcement, arrest and detection (ss.55.59) 6. Attachment (ss.60-64). 7. Sale (ss.65-97). 8. Delivery of property. 9. Stay of execution. 	<ul style="list-style-type: none"> • State of Haryana v. Kartar Singh, (2013) 11 SCC 375) • Sangamesh Printing Press V. Chief Executive Officer, Taluk Development Board (1999) 6 SCC 44 • District collector, Srikakulam & Ors. V. Bagathi Krishna Rao & Anr. AIR 2010 SC 2617
Unit- VI: Suits, Appeals, Review and Reference (12 hours)	<ol style="list-style-type: none"> 1. First Appeal 2. Second Appeal 3. Appeal from Order 4. Powers of Appellate Court 5. Review 6. Reference 7. Revision 	<ul style="list-style-type: none"> • Swapna Mohanty v State of Odisha, (2018) 17 SCC 621 • Iyathammuda Beethathebiyappura Pookoya v Pattakal Cheriya Koya (2019) 16 SCC 1 • Menka Gupta v Umashree Devi (2019) (Civil Appeal No. S. 6163-6164/2019)



Unit-VII: Suits in particular cases (6 hours)

1. By or against government (ss.79-82)
2. By aliens and by or against foreign rulers or ambassadors (ss.83-87A)
3. Public nuisance (ss.91-93)
4. Suits by or against firm
5. Suits in forma pauperis
6. Mortgages
7. Interpleaded suits

- Salem Advocate Bar Association, Tamil Nadu V. Union of India, AIR 2005 SC 3353
- State of Kerala v. Sudhir Kumar Sharma, (2013) 4 SCC 706
- Vide Sudhir Ji
- Angur V. M. Sanjeev, AIR 2006 SC 351



	8. Suits relating to public charities 9. Summary Suit 10. Injunction 11. Salient features of Commercial Courts Act	<ul style="list-style-type: none"> • H. Siddiqui (dead) by LRs. v. A. Ramalingam, AIR 2011 SC 1492 • B.V. Nagesh & Anr. v. H.V. Sreenivasa Murthy, (2010) 10 SCC 55 • Jai Singh V. Shakuntala, AIR 2002 SC 1428
Unit VIII: Limitation Act (5 hours)	1. Condonation of delay 2. Expiry of prescribed period when court is closed 3. Computation of period of limitation 4. Acquisition of ownership by possession 5. Extinguishment of right to property	<ul style="list-style-type: none"> • Ravinder Kaur Grewal v. Manjit Kaur, 2019 SCC OnLine SC 975 • Punjab National Bank And Ors vs Surendra Prasad Sinha, 1992 AIR 1815 • B.K Educational Services Pvt Ltd vs Parag Gupta And Associates, 2018 • Rullia Ram Hakim Rai vs S. Fateh Singh S. Sham Sher Singh, AIR 1962 P H 256

Text Books

- C.K. Takwani, Civil Procedure Code, Eastern Book Company, Lucknow
- Sudipto Sarkar & V.R. Manohar, *Sarkar's Code of Civil Procedure* (2 Vols), LexisNexis India (11th Edn.)

Reference Book

- Mulla, Code of Civil Procedure (1999), Universal, Delhi
- B. M. Prasad & S. K. Sarvaria, Mulla's Code of Civil Procedure (17th ed., 2007)
- C.K. Thacker, Code of Civil Procedure (2000), Universal, Delhi
- Majumdar. P.K. and Kataria. R.P., Commentary on the Code of Civil Procedure, 1908 (1998), Universal, Delhi.
- Saha.A.N., The code of Civil Procedure (2000) Universal, Delhi
- Sarkar's Law of Civil Procedure, vols. (2000) Universal, Delhi.
- Universal's Code of Civil Procedure, (2000).
- M.R.. Mallick (ed.), B.B. Mitra on Limitation Act (1998), Eastern, Lucknow



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Faculty of Law

B.A.LL.B. (Hons.)
Semester VI

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Subject Name	Property Law	Credit	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code	10FL0605	5	4	0	2

Course Objectives

- To empower the students of law with theoretical as well as practical knowledge of property matters and its transfer vis a vis its importance in family disputes.
- To be familiar with the provisions of Transfer of Property Act and how there has been judicial precedents in this regard.

Course Outcomes

On completion of this course, students will be able to

1. Define the various kinds of properties.
2. Describe the principles of transfer of property applicable to both movable and immovable properties.
3. Identify the principles applicable to Transfer of Immovable Property
4. Relate the provisions of Sale and Mortgage.
5. Relate the provisions of Charge and lease.
6. Interpret provisions of Gift and Actionable Claim.
7. Describe the provisions of provisions of Indian Easement Act.

Detailed Syllabus

Unit/Sessions (in hours)	Descriptions	Case Laws
Unit I: Introduction (8 hours)	<ul style="list-style-type: none"> • Concept and meaning of property - new property. • Movable & Immovable Property • Instrument • Attestation • Registration • Actionable claim • Notice 	<ul style="list-style-type: none"> • Shantabai v. State of Bombay, AIR 1958 SC 532 • Anand Behera v. State of Orissa, AIR 1956 SC 17



Unit II: General Principles

(12 hours)

- Transferability and non-transferability of Property
 - Restrictions on Alienation of Property
 - Restrictions on Enjoyment of Property
- Sadhu madho das vs Pandit Mukund ram, 1955 AIR 481



	<ul style="list-style-type: none">• Transfer to Unborn Person• Rule against Perpetuity• Vested and Contingent Interests• Transfers with Conditions• Doctrine of Election• Apportionment of property	<ul style="list-style-type: none">• Mosammat Bibi Sayeeda v. State of Bihar (1996)9 SCC 516• Jagdish v Mangal Pandey AIR 1986 All. 18• Girjesh Dutt v. Datadin AIR 1934 Oudh 35• Saundara Rajan v. Natarajan A.I.R 1925 P.C. 244• Jai Narayan v. Kishun Dutta, (1924)ILR3PAT575
Unit III: Principles Applicable to Transfer of Immovable Property (15 hours)	<ul style="list-style-type: none">• Transfer by Ostensible Owner• Feeding the Grant by Estoppel• Doctrine of Lis Pendens• Concept of Fraudulent Transfer• Doctrine of Part Performance	<ul style="list-style-type: none">• Ramcoomar kundoo v Macqueen 1872• Jumma Masjid v K Deviah 1962• Madison v Alderson 1883• Mian Pir Bux v Mohammad Tahir, (1934) 36 BOMLR 1195



**Unit IV: Sale
and Mortgage of
Immovable
Property
(14 lecture
hours)**

- | | | |
|--|--|---|
| Unit IV: Sale
and Mortgage of
Immovable
Property
(14 lecture
hours) | <ul style="list-style-type: none">• Sale of Immovable Property<ul style="list-style-type: none">➤ Meaning and Essentials➤ Rights and Liabilities of Buyer and Seller➤ Marshalling by Subsequent Purchaser• Mortgage<ul style="list-style-type: none">➤ Meaning, Essentials and Kinds of Mortgage➤ Rights of Mortgagor➤ Rights of Mortgagee➤ Right of a Mortgagee against other Mortgagees➤ Doctrine of Marshalling and Contribution➤ Doctrine of Subrogation | <ul style="list-style-type: none">• Nageshar Prasad v Pateshri, (PC)1915• B. Narayanswami Raju v Krishnamurthy Mudaliar 1988• Prem Nath Khanna vs State of Orrisa (2011 Orrisa HC)• Roshan Lal vs Resham Lal (P&H HC 2005)• Subramaniyan (Died) v Venkatachalam Pillai 2011• Asha M Jain v The Canara Bank &ors 2011• Delhi Development Authority v Skipper Construction Co. (P) Ltd. 2000• State of Haryana v Navir Singh SLP (CIVIL) No. 18323 of 2008 |
|--|--|---|



		<ul style="list-style-type: none"> Manjabai Krishna Patil (DECEASED) by LRs v Raghunath Revaji Patil and Anr 2007
<p>Unit V: Charge and Lease (8 hours)</p>	<ul style="list-style-type: none"> Charge -Meaning and Essentials Lease <ul style="list-style-type: none"> ➤ Meaning and Essentials ➤ Determination of Lease ➤ Rights and Liabilities of Lessor and Lessee 	<ul style="list-style-type: none"> Anthony vs K. C. Ittoop and Sons and others (2000 SC) M/S Payal Vision Ltd vs Radhika Chaudhary (2011 SC)
<p>Unit VI: Gift and Actionable Claim (6 hours)</p>	<ul style="list-style-type: none"> Gift <ul style="list-style-type: none"> ➤ Meaning and Essentials of Gift ➤ Transfer how effected ➤ Onerous Gift ➤ Universal Donee Actionable Claim <ul style="list-style-type: none"> ➤ Meaning ➤ Transfer 	<ul style="list-style-type: none"> Achut v Shivaji Rao (1937) 39 BOMLR 224 Renikuntla Rajamma (Deceased) By Lr v K.Sarwanamma 2014 K. Balakrishnan v K.Kamalam 2004 S.Sarojini Amma vs Velayudhan Pillai Sreekumar, 2018
<p>Unit VII : The Indian Easement Act (12 lecture hours)</p>	<ul style="list-style-type: none"> Meaning Imposition, Acquisition and Transfer of Easement The Incidents of Easement The Disturbance of Easement The Extinction, Suspension and Revival of Easement License 	<ul style="list-style-type: none"> Dr. S. Kumar & Ors. Vs. S. Ramalingam AIR 2019 SC 565 Justice K S Puttaswamy (Retd.), and ANR. Vs. Union of India and Ors. [AUGUST 24, 2017] Gopalbhai Jikabhai Suvagiya vs Vinubhai Nathabhai Hirani, 2018



Text Book
➤ Poonam Pradhan Saxena, Property Law, (2017) LexisNexis (3 rd Edition)
Reference Books
<ul style="list-style-type: none"> ➤ Mulla, Transfer of Property Act, (1999) Universal, Delhi. ➤ Subbarao, Transfer of Property Act, (1994), C. SubbiahChetty, Madras ➤ B.Sivaramayya, The equalities and the Law, (1997) Eastern Book Co., Lucknow. ➤ P.C.Sen, The General Principles of Hindu Jurisprudence (1984 reprint) Allahabad Law Agency ➤ B.H.Baden-Powell, Land Systems of British India, Vol.1 to 3. (1892), Oxford. ➤ V.P.Sarathy, Transfer of Property (1995), Eastern, Lucknow. ➤ Dr. R.K.Sinha, The Transfer of Property Act, (2019)Central Law Agency ➤ G. P. Tripathi, Transfer of Property Act, (2011) Central Law Publications, Allahabad. ➤ Avtar Singh, The Transfer of Property Act, Third Edition, Universal Law Publications, New Delhi
Statutes
<ul style="list-style-type: none"> ➤ Transfer of Property Act, 1882 ➤ The Indian Easement Act, 1882

 Marwadi University	<h2>Faculty of Law</h2> <h3>B.A.LL.B. (Hons)</h3> <h3>Semester VI</h3>				
	Subject Name	Intellectual Property Law	Credit	Teaching Scheme	
Subject Code	10FL0606	5	Theory	Practical	Tutorial
			4	0	2

Course Objectives
<p>This course is intended to introduce the student to acquaint with Intellectual Property Rights in the Indian context. This course also aims to give an overview knowledge to the student on the practical applicability of international conventions in Indian scenario.</p>



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Course Outcomes


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On completion of this course, the learners will be able

1. To exhibit memory on the basic concept of IP rights.
2. To Compare product/process patents and relating rules.
3. To identify trademarks & geographical indications and their application.
4. To examine the provisions relating to the Copyright.
5. To appraise importance of industrial designs by interpreting judicial decisions.
6. To imagine the consequences of non-protection of trade secrets & key business concerns in commercialising intellectual property.

Detailed Syllabus

Unit	Description	Case laws
I INTELLECTUAL PROPERTY RIGHTS: AN OVERVIEW 10 Hours	<ul style="list-style-type: none">• The Relevance, Business Impact, Protection of Intellectual Property• Types of Intellectual Property Rights: Patents, Trademarks, Copyrights, Utility Models• Industrial Designs, Geographical Indications• International Conventions: Brief Background	



<p>II PATENTS 15 Hours</p>	<ul style="list-style-type: none">• Concept of Patent• Product/Process Patents & Terminology• Duration of Patents• Elements of Patentability• Non- Patentable Subject Matter• Procedure for Filing of Patent Application• Procedure for Opposition Revocation of Patents Assignment and licensing of Patents• Compulsory Licensing• Patent Infringement	<p>Suggested Case Readings</p> <ol style="list-style-type: none">1. Novartis AG vs. Union of India (UOI) and Ors. (01.04.2013 - SC):MANU/SC/0281/20132. Ajantha Pharma Limited vs. Allergan Inc. and Ors. (08.08.2013 - IPAB): MANU/IC/0061/20133. Pharmatop SCR Vs.The Controller of Patents & Designs and Ors. (04.12.2020 - IPAB): MANU/IC/0062/20204. Yahoo! Inc. Vs. The Assistant Controller of Patents and Designs
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	<ul style="list-style-type: none">• Covid Pandemic & Pharma Patenting	<p>(23.10.2009 - IPAB): MANU/IC/0080/2009</p> <p>5. Tony Mon George Vs. Controller General of Patents, Designs & Trademarks and Ors. (27.10.2020 - IPAB):MANU/IC/0051/2020</p> <p>6. Pfizer Products Inc.Vs.The Controller of Patent & Designs(21.08.2020 - IPAB): MANU/IC/0042/2020</p> <p>7. Shreedhar Milk Foods Pvt. Ltd. vs. Vikas Tyagi and Ors. (08.07.2013 - IPAB): MANU/IC/0052/2013</p> <p>8. Raj Prakash v. Mangat Ram Choudhary AIR 1978 Del.1</p> <p>9. Ganendro Nath Banerji v. Dhanpal Das Gupta, AIR1945 Oudh 6</p> <p>10. Ram Narain Kher v. M/s Ambassador Industries, AIR 1976 Del 87</p> <p>11. Novartis AG Vs. Union of India, W.P. No. 24760/06</p> <p>12. Novartis AG v. Union of India & Ors 2013</p> <p>13. Biswanath Prasad Radhey Shyam Vs. Hindustan Metal Industries (1979) 2 SCC, 511).</p> <p>14. (Lallubhai Chakubhai Vs. Chimanlal and Co. (AIR 1936 Bom 99.)</p> <p>15. Rampratap v. Bhabha Atomic Research Center, 1976 IPLR 28 P. 35)</p> <p>16. Dimminaco – A.G. Vs. Controller of Patents & Designs and Others).</p> <p>17. Imperial Chemical Industries Ltd. v. Controller General of Patents, designs & Trade Mark & Another AIR 1978 Cal.77</p> <p>18. Aloys Wobben v. Enercon</p>
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		<p>(India) Limited & anr [Mad] Case No : W.P.No.20165 of 2010 & M.P.Nos.1&2 of</p>
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		2010 M.Y.Eqbal, CJ & T.S.Sivagnanam, JJ. [Decided on 08.09.2010] 19. Monsanto Company v. Coramandal Indag Products (P) Ltd. 1 (1986) 1 SCC 642
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III

**TRADEMARKS &
GEOGRAPHICAL
INDICATIONS**

15 Hours

- Introduction & Historical Perspective
- Definitions
- Different Kinds of Marks
- Registration of Trade Marks
- Procedure for Registration
- Opposition to Registration & Procedure
- Grounds for Refusal to Registration
- Infringement of Trade Marks
- Assignment & Transmission Offences Penalties
- Madrid Agreement
- Domain Names
- Meaning and Nature of Geographical
- Indications
- Registration
- Conditions & Procedure for Registration
- Offences and Penalties

Suggested Case Readings

1. Pharmacyclics, LLC vs. Controller General of Patents, Designs Trademarks and Geographical Indications and Ors. (29.09.2020 - IPAB) : MANU/IC/0044/2020
2. S.D. Containers, Indore vs. Mold Tek Packaging Ltd. (01.12.2020 - SC): MANU/SC/0907/2020
3. Nakshatra Distilleries and Breweries Ltd. vs. Radico Khaitan Limited and Ors. (30.11.2018 - IPAB) : MANU/IC/0034/2018
4. Wockhardt Ltd. and Ors. vs. Novartis AG and Ors. (11.03.2015 - IPAB): MANU/IC/0013/2015
5. Royal Orchid Hotels Limited vs. Registrar of Trade Marks and Ors. (18.06.2013 - IPAB): MANU/IC/0042/2013
6. Dau Dayal v. State of Utttar Pradesh AIR 1959 SC 433
7. Sumat Prasad Jain v. Sheojanam Prasad and Ors., AIR 1972 SC 413
8. N. R. Dongre v. Whirlpool Corporation, 1996 (16) PTC 583
9. Vivekananda Match company v. Jupiter Match Works , 1991 PTC 61
10. [York Trade Mark 1982 FSR 101(House of Lords)]
11. Commissioner of Income-tax v. Finlay Mills Ltd., AIR 1951 SC 464
12. Ambalal Sarbhai Enterprises Limited v. Tata Oil Mills Company Limited 1988 OTC 73 Bom



		<p>13. Durga Dutt Sarma v. Navaratna Pharmaceutical Laboratories, AIR 1962 Ker 156</p> <p>14. Mahendra & Mahendra Paper Mills Ltd. v. Mahindra & Mahendra Ltd., AIR 2002 SC 117</p> <p>15. Tata Sons Ltd. v. Mr. Md. Jawed & Anron (March, 2011)</p> <p>16. M/s J K Oil Mills v. M/s Adani Wilmar Ltd., 2010 (42) PTC 639 (Del.)</p> <p>17. T.V. Venugopal v. Ushodaya Enterprises Ltd., (2011) 4 SCC 85</p> <p>18. Infosys Technologies Ltd. v. Adinath Infosys Pvt. Ltd. & Ors, (November, 2011)</p> <p>19. Raj Kumar Prasad & anr V. Abbott Healthcare Pvt Ltd [DEL] FAO(OS) 281/2014 Pradeep Nandrajog & Mukta Gupta, JJ. [Decided on 10/09/2014]</p> <p>20. Easygroup IP Licensing Ltd & Anr V. Easyjet Aviation Services Pvt Ltd &Anr[DEL]CS(OS) 157/2010 Vipin Sanghi, J. [Decided on 19/08/2013]</p> <p>21. Hawkins Cookers Ltd v. Murugan Enterprises [DEL] RFA (OS) 09/2008 Pradeep Nandrajog & Siddharth Mridul, JJ. [Decided on 13/04/2012]</p> <p>22. Larsen & Toubro Limited (L&T) v. Leuci Communications & Ors [DEL] CS (OS) No. 1958/2006 V.K. Jain, J. [Decided on 01/02/2011]</p>
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<p>IV COPYRIGHT 15 Hours</p>	<ul style="list-style-type: none">• Introduction• Meaning of Copyright• Works in which Copyright Subsists• Author & Ownership of Copyright	<p>Suggested Case Readings</p> <ol style="list-style-type: none">1. The Institute of Chartered Accountants of India vs. Shaunak H. Satya and Ors. (02.09.2011 - SC):MANU/SC/1006/2011
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	<ul style="list-style-type: none">• Term of Copyright• Copyright Societies & Copyright Board• Assignment and Licensing of Copyright• Registration of Copyright• Infringement of Copyright• Remedies against Infringement of Copyright• Appeals• International Conventions	<ol style="list-style-type: none">2. Entertainment Network (India) Ltd. and Ors. vs. Super Cassette Industries Ltd. and Ors. (16.05.2008 - SC): MANU/SC/2179/20083. Eastern Book Company and Ors. vs. D.B. Modak and Ors. (12.12.2007 - SC): MANU/SC/4476/20074. B.N. Firoos vs. State of Kerala and Ors. (27.03.2018 - SC):MANU/SC/0324/20185. International Confederation of Societies of Authors and Composers (ICSAC) vs. Aditya Pandey and Ors. (20.09.2016 - SC):MANU/SC/1028/20166. Star India Private Limited vs. Department of Industrial Policy and Promotion and Ors. (30.10.2018 - SC): MANU/SC/1238/20187. Union of India (UOI) and Ors. vs. Board of Control for Cricket in India and Ors. (22.08.2017 - SC):MANU/SC/1041/20178. Kartar Singh Giani v. Ladha Singh & Others AIR 1934 Lah 7779. Hawkins Cookers Ltd.v. Magicook Appliances Co., 00(2002) DLT69810. Macmillan and Company Limited v. K. and J. Cooper, AIR 1924 PC 7511. Camlin Private Limited v. National Pencil Industries, (2002) Del12. Challenger Knitting Mills v. Kothari Hosery Factory 2002 PTC (24) 756 Del. (Reg.)]13. Fortune Films International v. Dev Anand & Another AIR 1979 Bom.1714. Shri Urmila Charan Gupta v.
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		<p>Shri Charushila Sharan Gupta and Sumitra Nandand Gupta 1983 PTC 84. I</p>
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		<p>15. Khemraj Shrikrishnadass v. M/s Garg & Co. and Another AIR 1975 Del 130.</p> <p>16. Setty v. Dr. Suryakantha U. Kamath K.A. Venugopala Setty v. Dr. Suryakantha U. Kamath AIR 1992 Kar 1.</p> <p>17. Nav Sahitya Prakash & Others v. Anan Kumar & Others AIR 1981 All 200</p> <p>18. R. Madhavan v. S K Nayar AIR 1988 Ker 39</p> <p>19. Penguin Books Ltd., England v. M/s India Book Distributors & Others AIR 1985 Del. 29</p> <p>20. Hindustan Lever Ltd., v. Nirma Private Limited, Ahmedabad, AIR 1991</p> <p>21. Godrej Soaps (P) Ltd. v. Dora Cosmetics Co.2001 PTC (21) 407 Del.</p> <p>22. Zee Telefilm Limited v. Aalia Productions & Others 2000 PTC 382 Bom.</p> <p>23. Rupendra Kashyap v. Jiwan Publishing House 1996 PTC (16) 439 Del.</p> <p>24. Bucyrus Europe Ltd. v. Vulcan Industries Engineering Co. Pvt. Ltd., 2005(30) PTC 279</p>
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<p>V INDUSTRIAL DESIGNS</p> <p>15 Hours</p>	<ul style="list-style-type: none">• Concept of Design• What is a Design• Registrable Design• Novelty & Originality• Registration of Design• Procedure for Registration• Period of Protection• Procedure for Cancellation of Design• Copyright under Design• Piracy and Penalties• Assignment of Designs	<p>Suggested Case Readings</p> <ol style="list-style-type: none">1. L.M.L. Ltd. vs. Commissioner of Customs (21.09.2010 - SC): MANU/SC/0750/20102. Narayan Chandra Das vs. Jolly Guhathakurata and Ors. (18.07.2011 - IPAB): MANU/IC/0024/20113. Union of India (UOI) and Ors. vs. Mahindra and Mahindra Ltd., Bombay (08.03.1995 - SC) :MANU/SC/1025/19954. Ampro Food Products v. Ashok Biscuit Works, AIR 1973 AP 17
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		5. Hindustan Lever Ltd. V. Nirma Pvt. Ltd., AIR 1992 Bom 195
<p>Module VI PROTECTION OF TRADE SECRETS & KEY BUSINESS CONCERNS IN COMMERCIALISING INTELLECTUAL PROPERTY 10 Hours</p>	<p>PROTECTION OF TRADE SECRETS</p> <ul style="list-style-type: none"> • Introduction • Legislation Governing Trade Secrets • Protection under TRIPS Agreement • What Causes a Business to Lose Trade Secret Protection • Competition and Confidentiality Issues • Care & Maintenance of Confidential Information • Employee Confidentiality • Intellectual Property Issues in the Sale of Business • Assignment of Intellectual Property Rights • Technology Transfer Agreements • Legal Auditing of Intellectual Property • Due Diligence of Intellectual Property Rights 	<p>Suggested Case Readings</p> <ol style="list-style-type: none"> 1. Central Public Information Officer, Supreme Court of India vs. Subhash Chandra Agarwal (13.11.2019 - SC):MANU/SC/1561/2019 2. Ferani Hotels Pvt. Ltd. vs. The State Information Commissioner, Greater Mumbai and Ors. (27.09.2018 - SC):MANU/SC/1088/2018 3. Reserve Bank of India and Ors. vs. Jayantilal N. Mistry and Ors. (16.12.2015 - SC): MANU/SC/1463/2015 4. Union of India (UOI) vs. Namit Sharma (03.09.2013 - SC):MANU/SC/0902/2013 5. Vijay Karia and Ors. vs. Prysmian Cavi E Sistemi Srl and Ors. (13.02.2020 - SC): MANU/SC/0171/2020 6. Ssangyong Engineering and Construction Co. Ltd. vs. National Highways Authority of India (NHAI) (08.05.2019 - SC):MANU/SC/0705/2019 7. Google India Private Limited vs. Visakha Industries and Ors. (10.12.2019 - SC): MANU/SC/1708/2019 8. Air Liquide North India Pvt. Ltd. vs. Commissioner, Central Excise, Jaipur-I (30.08.2011 - SC):MANU 9. Coco v. A.N. Clark (Engineers) Ltd., (1969) R.P.C. 41



Text Books

1. Intellectual Property Law, 3rd Edition (Revised with Updated and Amended Statutes) by P. Narayanan, 2018 R/P 2020, Published by Eastern Law House.
2. Intellectual Property Rights - Contemporary Developments by Prof. (Dr.) V.K. Ahuja and Dr. Archa Vashishtha, 2020, published by Thomson Reuters.

Reference Books

1. Law relating to Intellectual Property Rights, 5th Ed.(Rep.)2019 by Dr. M.K Bhandari, Published by EBC.
2. Copyright and Trademark Laws relating to Computers by Pankaj Jain and Pandey Sangeet Rai EBC (2005)
3. Law of Patents by Elizabeth Verkey EBC (2012)
4. Intellectual Property: Omnipresent, Distracting, Irrelevant? by William Cornish EBC
5. WIPO Background Reading Material on Intellectual Property.
6. LTC Harms: Enforcement of IPR: A case BOOK WIPO Publication (3rdedn) 2012 available at http://www.wipo.int/edocs/pubdocs/en/intproperty/791/wipo_pub_791.pdf

Bare Acts to be referred

1. The Indian Copyright Act, 1957
2. The Indian Patent Act, 1970
3. The Designs Act 2000
4. The Geographical Indications of Goods (Registration and Protection) Act, 1999
5. The Protection of Plant Varieties and Farmers' Rights, 2001





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Subject Name	High Court II (4 weeks) Internship	Credit	Teaching Scheme		
			Theory	Practical	Tutorial

Dean
Faculty of Law
Marwadi University
Rajkot



Subject Code		2	0	0	0
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Course Objectives:

The course is designed to achieve Following Objectives:

- To familiarize students with law in practice at higher level
- To enable student's participation in the legal practice

Learning Outcomes:

After completion of the course, students would be able to :

- Identify and articulate legal issues in context
- Chose and implement an effective strategy, selecting and employing authoritative resources to locate relevant legal authority

Detailed Syllabus:

Sessions (in hours)	Nature of Work done	Learning Outcome	Remarks
1st week			
2nd week			
3rd week			
4th week			

RULES

1. All Internships mentioned in the above-mentioned table shall be completed by a student in order to be eligible for the award of the degree of B.A.LL.B.(Hons.)/B.Com.LL.B. (Hons.).

2. An internship can be arranged by a student or the same can be arranged by Faculty of Law, Marwadi University, Rajkot.

2.1 Procedure to be followed when student is self-arranging internship

a. Student shall submit the details of the internship office to the internship committee before beginning the internship as per the internship calendar notified by the Internship Committee.

b. Student shall obtain a recommendation letter from Dean, Faculty of Law before starting the internship.

c. Student shall submit the Internship Confirmation Letter before starting the internship.

d. If a student is self-arranging the Internship, the parameters set up by Faculty of Law, Marwadi University, Rajkot shall be fulfilled by the Organisation / Lawyer / Company.

e. Student shall not change the internship office without obtaining approval from the Internship



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Committee at Faculty of Law, Marwadi University, Rajkot.



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Marwadi University
Rajkot



f. If a student changes the internship office without obtaining the approval from the Internship Committee, such internship shall not be considered for any purpose by Faculty of Law, Marwadi University, Rajkot.

g. Student shall be informing the internship office regarding issuing of Confidential Internship Certificate and Internship Completion Certificate. If the internship office refuses to issue any of the documents mentioned above, the internship committee shall not make any communication to the internship office, it shall be the sole responsibility of the student to get documents mentioned above.

2.2 Procedure to be followed when Faculty of Law, Marwadi University, Rajkot will arrange the Internship

a. Student shall submit the request in writing of arranging internship to the Internship Committee at Faculty of Law, Marwadi University, Rajkot three months prior from the starting the internship, failing which Faculty of Law shall not be responsible to arrange the internship, Student shall be responsible for self-arranging the internship and he/she shall be following all the steps mentioned in

b. The internship office arranged by Faculty of Law, Marwadi University Rajkot, shall be final. The student shall be joining the internship office on time. No request for change of internship office shall be entertained.

c. No preferences from a student with regard to place of internship or internship office shall be entertained by Internship Committee, Faculty of Law, Marwadi University, Rajkot.

d. Student shall bear the cost of stay, travel and any other expenses during the time of internship. Student will have to arrange his/her accommodation. e. If a student does not join the Internship office as provided to him by Internship Committee, Faculty of Law, Marwadi University, Rajkot, in future no assistance what so ever shall be provided by Internship Committee to that student except providing him a recommendation letter.

PROCESS DURING AND AFTER COMPLETION OF INTERNSHIP

7. Student shall maintain daily record of work as per the format provided below and submit weekly progress report to their Faculty Coordinator allocated by the Internship Committee.

8. Format of Weekly Report: Name of the Student:

Course: B.A.LL.B.(Hons.)/B.Com.LL.B.(Hons.) Semester:

Name of the Internship: NGO/LC-1/LC-2/HC-1/HC-2/SC-1/SC-2/Placement

Name of the Internship Office:

Name of the Reporting Head at Internship Office:

Week: 1/2/3/4 Dates: DD/MM/YYYY to DD/MM/YYYY

Sr. No. Date Nature of Work done Learning Outcome 1 2 3 4

2. There shall be a separate weekly report for each week of internship. The weekly report in soft copy shall be submitted to Faculty Coordinator as per the schedule notified by the Internship Committee.

3. At the end of the internship a Final Report both in hard copy as well as in soft copy prepared by the student shall be submitted to the Faculty Coordinator.

4. Late submission of weekly reports and Final Reports shall attract deduction of the marks by the Faculty Coordinator.



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5. If weekly report submission is delayed by more than seven days from the due date, it shall be considered as no weekly report submission on the part of the student.

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6. The mode (google form, email etc.) of Weekly and Final Internship report submission shall be notified by the Faculty Coordinator. Submission in any other mode shall be considered as no submission on the part of student.
7. The Final Report of the Internship shall be submitted in hard copy to the Faculty coordinator, while submitting the Final report in hard copy the Student shall sign the sheet of final report submission available with Faculty coordinator.
8. The student must make sure that the weekly and final report submitted by him/her shall not be a plagiarised, copied or similar to the work submitted by any other student of Faculty of Law, Marwadi University, Rajkot.
9. In case weekly or final report have been found to be plagiarised, copied or similar to the work submitted by any other student of Faculty of Law, Marwadi University, Rajkot then such case shall be considered to be a case of use of unfair means in examination. A committee shall be constituted by the Dean, Faculty of Law to inquire into the cases of use of unfair means. The decision shall be taken by Dean, Faculty of Law, Marwadi University based on the recommendations made by the inquiry committee.
10. The student shall submit a copy of the Internship Certificate counter signed by the her/him to the Faculty Coordinator allocated by the Internship Committee.
11. Non-submission of the certificate shall lead to cancellation the Internship and the student shall be repeating the same internship again in future.
12. A student shall make sure the internship office is submits the Confidential Internship Certificate to the Faculty Coordinator via mail or post in a sealed envelope.
13. Internship Confidential Certificate must be signed and seal of the Internship office/Advocate must be there on it, without signature and seal Internship Confidential Certificate shall not be considered for any purpose.
14. After the submission of final internship report, a viva-voce examination shall be conducted in which the student shall be examined by external/internal examiner. Students shall be evaluated based on the work they have done during the internship, presentation and practical knowledge gained.
15. If a student fails to complete internship, such student shall be declared fail. He/she shall have to complete the same internship in future in order to become eligible for the award of Degree of B.A.LL.B./B.Com.LL.B.
16. In case any misconduct or unprofessional behaviour of a student during internship is being reported by the internship office to the Internship Committee, Faculty of Law, Marwadi University, Rajkot, the same shall be inquired by a committee constituted by the Dean, Faculty of Law, Marwadi University, Rajkot and the decision shall be taken by the Dean, Faculty of Law, Mawardi University, Rajkot based on the recommendations made by the inquiry committee.
17. The format of the Final Internship Report is as follows

List of Contents

Sr.No.

Title Page No.

1 Acknowledgement

2 Table of Statutes

3 Abbreviations



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4 Introduction

5 Internship Work Overview

6 Conclusion



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7 Experience sharing

8. Evaluation Scheme:

CONFEDENTIAL CERTIFICATE

Name of the Student:

Institute/Organization:

Name & Address of the Supervisor:

STUDETNT PERFORMANCE

Specific remarks about the overall performance of the student toward tasks: (Enthusiastic; eager to learn; receptive; diligent; highly engaged; conscientious; indifferent; disinterested)

Skill of the student in executing tasks: (Well developed critical thinking & analytical skills; shows initiative; learns quickly; productive; meets deadlines; needs to ask more questions; often fails to understand or follow directions; requires close supervision)

How far the student is Dependable: (Conscientious; exercises good judgment; follows through consistently on tasks; persistent with difficult tasks; hesitant to make decisions; careless in meeting obligations)

General Conduct & Character: (Positive attitude; suitable dress & grooming; prompt; accepts praise and criticism appropriately; accountable; makes excuses; overly casual in approach)

Maintaining relationships with others: (Respectful; cooperative; receives suggestions well; open; mature; tactful; friendly; shy; impolitic; argumentative)

Merit Based Overall Evaluation of the Interns Performance:

Outstanding (performed beyond expectations)

Very good (high quality performance)

Good (performed all tasks as expected)

Average (marginal performance)



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Unsatisfactory (performance mostly inadequate)

(SIGNATURE OF THE SUPERVISOR WITH OFFICE SEAL)



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 Marwadi University	Faculty of Law B.A.LL.B. (Hons.) Semester VII				
	Subject Name	Labour Laws - II	Credit	Teaching Scheme	
			Theory	Practical	Tutorial
Subject Code	10FL0701	4	3	0	2

Course Objectives:

Labour & Industrial Laws seek to regulate the relations between the employer and the employees. The objectives of this course are as following:-

- To acquaint the students of law with theoretical as well as practical knowledge of labour & Industrial legislations.
- To enable the students of law understand the importance of implementing Labour & Industrial Laws as its non-adherence attracts penal provisions and it also severely affects the reputation of the establishment.
To be familiar with the provisions of various labour laws relating to industrial relations, wages and social security and how there has been judicial precedents in this regard.

Prerequisites:

Good understanding of Industrial working environment related information
Basic understanding of Industrial relations
Best practices of HRM to be adopted in any industrial establishment.

Course Outcome:

On completion of this course, the students will be able to:

- (i) Understand the labour legislations and various other provisions thereby.
- (ii) Apply the knowledge of various labour laws and become aware of the social security and labour welfare.
- (iii) Analyze the scope and objectives of labour laws and enable students to understand the reforms required in the law to cope up the recent developments taking place.
- (iv) Assess and develop a higher thinking order relating to the labour administration and justice.

Catalog Description:



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Protection of Labour is a Constitutional mandate. A Constitutional inspire by the vision of social justice is committed to the cause of upliftment of labour. Well balanced industrial development leads to increased productivity which in turn is factor of national progress. Labour Laws makes significant contribution in this respect. The study of labour law is not to be confined to mastering of the rules and regulations is relating to the employment of the work force. It has aim on social impulses on, and state reactions to the complex social – economic, human and political problems arising out of the constant conflicts between different classes.

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The students should get an insight into the mechanism of socio – legal control of labour relations and should be aware of the history, the present norms, the emerging areas and possible future techniques of labour jurisprudents.

Detailed Syllabus

Unit	Descriptions	Case Laws
<p>Module 1: Introduction: Social Security and Labour Welfare</p> <p>(10hours)</p>	<ul style="list-style-type: none"> • Concept • Evolution and Constituents of Social Security • Object of Social Security Laws • Social Security and Constitution • ILO on social security. 	<p>Cases:</p> <ul style="list-style-type: none"> • Electricity Supply Corporation (India) Ltd. v. Subhash Chandra Bose. (1992 AIR 573) • Regional Director, ESI Corporation v. Francis De Costa. ((1996) 6 SCC 1) • Life Insurance Corporation of India v. Consumer Education and Research Centre. (1995 AIR 1811) • People’s Union for Democratic Rights and Others v. Union of India. (AIR 1982 SC 1473) • Sanjit Roy v. State of Rajasthan. (SC 1983) • Bandhua Mukti Morcha v. Union of India. ((1997) 10 SCC 549) • Ram Bahadur Thakur (P) Ltd. v. Chief Inspector Plantations. (1982 (2) LLJ 20)



<p>Module 2</p> <p>Social Security: Industrial Injuries</p> <p>(20hours)</p>	<ul style="list-style-type: none"> • The Employees’ Compensation Act, 1923 - Scope, objects, coverage and definitions - Liability of the employer to pay compensation - Personal injury, accident, arising out of and in the course of employment, Doctrine of Notional extension and occupational diseases - Determination and Distribution of Compensation - Principal employer’s right of indemnity - Commissioner’s powers and functions. • Comparison with social security code 2020. 	<p>Cases:</p> <ul style="list-style-type: none"> • Dhropadabhai and Ors v. M/S. Technocrat Tooling’s, (SC 2015). • Ireo Grace Real Tech Pvt. Ltd v. Abhishek Khanna (SC 2021). • Saberabibi Yakubhai Shaikh and Ors v. National Ins. Co. Ltd (SC 2014). • Sudarshan Rajpoot v. U.P. State Road Transport Corp. (SC 2014) • Praveenbhai S. Khambhayata v. United India Insurance Co. Ltd (SC 2015). • Sushilaben Indravadan Gandhi v. The New India Assurance Co. (SC 2020). • Gujarat Mazdoorsabha v. State of Gujarat (SC 2020). • Reliance General Insurance Company v. Shashi Sharma (SC 2016). • K. Sivaraman v. P. Sathishkumar (SC 2020). • Pappu Deo Yadav v. Naresh Kumar (SC 2020). • Union of India v. Rina Devi (SC 2018). • Lalan D. @ Lal v. The Oriental Insurance Company (SC 2020). • Union of India v. All India Trade Union Congress (SC 2019). • Nawal Kishor Sharma v. Union of India (SC 2021).
<p>Module 3</p> <p>Social Security: Social Insurance</p> <p>(10hours)</p>	<ul style="list-style-type: none"> • The Employee’s State Insurance Act, 1948 - Objects, applications and ‘Seasonal Factory’ – Definitions - E.S.I. Corporation - E.S.I. Funds, payment of Contributions - E.S.I. Benefits - Adjudication of disputes – E.S.I. Court – Penalties. • Comparison with social security code 2020. 	<p>Cases:</p> <ul style="list-style-type: none"> • Employees State Insurance Corporation and Ors. V. Mangalam Publications (2107 SC 697). • Royal Western India Turf Club Ltd. V. ESI Corporation and Ors (2016 SC 197). • Zuari Cement Ltd. V. Regional Director ESIC Hyderabad (2015 SC 429).



<p>Module 4 Other Social Security Legislations (15 hours)</p>	<p>The Maternity Benefits Act, 1961 along with Amendment Act 2017</p> <ul style="list-style-type: none">• Object and Application - Eligibility and maternity benefits - Notice of claimProhibition against dismissal, wage deduction- Powers and duties of Inspectors.• The Employee's Provident Funds and Miscellaneous Provisions Act, 1952 - Scope,	<p>Cases:</p> <ul style="list-style-type: none">• Steel Authority of India Ltd. V. Jaggu (539 SC).• Sr. Superintendent of Post Office v. Gursewak Singh (294 SC).• NTPC Ltd v. Bhasin Construction P.Ltd (SC 2019).
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	<p>coverage, application and Definitions - Authorities, their powers and functions Contributions - Employees Provident Fund scheme, Employees' Pension Scheme and Deposit linked Insurance Scheme - Penalties.</p> <ul style="list-style-type: none">• The Payment of Bonus Act, 1965 - Bonus Commission - Definitions and Coverage - Kinds of Bonus - Eligibility and extent of Bonus - Calculation of Bonus - Available surplus, allocable surplus, set on set off - Forfeiture of Bonus - prior charges – Machinery• Payment of Gratuity Act, 1972 - Background, object and definitions - Eligibility for payment of gratuity - Forfeiture, exemption, determination - Controlling Authority – Penalties• Comparison with code on social security 2020.	<ul style="list-style-type: none">• Pankajak (Dead) Through Lrs v. Chandrika and Ors (SC 2016).• M/S Rahman Industries Pvt Ltd. V. State of U.P. (SC 2016).• Gujarat Mazdoorsabha v. State of Gujarat (SC 2020).• Swaraj Abhiyan v. Union of India (SC 2016).• Ficus Pax Private Ltd. UOI (SC 2020).• Tamil Nadu Electricity Board v. Tneb-Thozhilal Aykkiya Sangam (SC 2019).• Danyadeo Sabaji Naik and Ors v. Pradnya Prakash Khadekar and Ors (SC 2017).• Swaraj Abhiyan v. UOI (SC 2018).• Employees State Insurance v. Mangalam Publication (SC 2017).• Shri H.D. Sharma v. Northern India textile Res. Assn. (SC 2018).• National Kamgar Union v. Kran Rader Pvt. Ltd (SC 2018).• Agriculture Income Tax Officer v. Goodricke Group Ltd and Ors (SC 2015).• Arun Kumar Agrawal v. UOI (SC 2013).• Suhas H. Pophale v. Oriental Ins. Co. Ltd (SC 2014).• Central Bank of India v. NRC Ltd (SC 2014).• Kichha Sugar Co. Ltd v. Tarai Chini Mill Majdoor (SC 2014).• Kedar Nath Yadav v. State of West Bengal (SC 2016).• B.K. Pavitra v. UOI (SC 2019).• Chairman cum Managing Director v. Sri Rabindranath Choubey (SC 2020).• Birla Institute of Technology v. State of Jharkhand (SC 2019).• Competition Commission of India v. Bharti Airtel Ltd (SC 2018).• Union Bank of India v. Ajay Babu (SC 2018).
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		<ul style="list-style-type: none">• Mangt. of Shri Ramnarayan Mills v. Sec. Coimbatore (SC 2018).
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		<ul style="list-style-type: none"> • National Campaign v. Union of India (SC 2018). • Delhi Gymkhana Club Ltd v. Employees State Insurance (SC 2014).
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Reading Material

a. Text Books:

4. Taxmann's, New labour and Industrial Laws, Tax and Corporate laws of India, October 2020
5. Taxmann's, Code on Wages, Tax and Corporate Laws of India, 2020.
6. S.C.Srivastava, Social Security and Labour Laws.

b. Reference Books

- K. D. Srivastava: The Employees' Compensation Act, 1923 .
- K.D. Srivastava: The Employees' State Insurance Act, 1948 .
- K. D. Srivastava: The Employees' Provident Funds and Miscellaneous Provisions Act, 1952.
- K. D. Srivastava: The Payment of Bonus Act, 1965
- K. D. Srivastava: Payment of Gratuity, 1972

 Marwadi University	<h2>Faculty of Law</h2> <h3>B.A.LL.B. (Hons.)</h3> <h3>Semester VII</h3>				
Subject Name	Drafting, Pleading and Conveyance (Clinical Course II)	Credit	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code	10FL0702	4	0	0	5

Course Objectives

The Paper 'Drafting, Pleading and Conveyance has been included in the syllabus with a view to equip the students with legal drafting abilities, legal frame work pertaining to the appearances before various courts/ judicial bodies and the basic understanding of the principles of pleadings.

Course Outcomes:



After completing this course, Students will be able to:

1. Analyze and apply general principles of drafting and conveyancing.
2. Use effective writing techniques to draft different types of legal documents.
3. Draft different types of Deeds including deed of sale of land, mortgage deeds, license deeds, lease deeds, assignment deeds, trust deeds, partnership deeds and power of attorney deeds.
4. Draft different types of contracts including commercial agreements, professional services agreement, employment agreements franchise, agency, dealership and distributorship agreements, intellectual property rights agreements, arbitration agreements, foreign collaboration and joint ventures agreements and real estate and tenancy agreements.

Detailed Syllabus

Unit/Sessions (in hours)	Descriptions
<p>Unit I Drafting (15 Hours)</p>	<ul style="list-style-type: none"> • General Principles of Drafting • Relevant Substantive Rules • Forms of Drafting <ul style="list-style-type: none"> ➤ Petition for Grant of Probate / Letters of Administration ➤ Application for Appointment of Receiver/Local Commissioner ➤ Application for Compromise of Suit ➤ Application for Appointment of Guardian ➤ Application to Sue as an Indigent Person under Order 33 CPC ➤ Appeal from orders under order 43 of CPC ➤ Application for execution ➤ Application for caveat section 148A of CPC ➤ Writ Petition ➤ Special Power of Attorney ➤ Reference to Arbitration and Deed of Arbitration ➤ 12. Notice for Specific Performance of Contract



<p>Unit II Pleadings (8 hours)</p>	<ul style="list-style-type: none">• Meaning and Importance• Functions of Pleadings• Order 6 of CPC –<ul style="list-style-type: none">✓ Essentials of Pleading✓ Particulars of Pleading✓ Striking out pleadings✓ Signing & verification✓ Amendment in Pleadings✓ Applicability of Order 6 CPC in Other Proceedings.• Necessary Parties and Proper Parties• Joinder, Non joinder and Mis joinder of parties
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	<ul style="list-style-type: none"> • Jurisdiction of the Civil Courts-Pecuniary, Territorial and Subject matter jurisdiction • Cause of Action
<p>Unit III Civil Pleadings - (12 hours)</p>	<ul style="list-style-type: none"> • Complaint- Meaning of complaint, Ingredient of Complaint and Draft of Complaint (Order 7 of CPC) • Written Statement- (Order 8 of CPC) – Set off and Counter Claim • Notice to Government official under Sec.80 of CPC • Temporary Injunction Application (Order 39, r-1) • Appeals –First Appeal • Second Appeal • Suit for Recovery under Order XXXVII of CPC • Suit for Permanent Injunction • Suit for Dissolution of Partnership • Application for Temporary Injunction Order XXXIX of CPC • Appeal from Original Decree under Order 41 of CPC • Revision Petition • Review Petition
<p>Unit IV Criminal Pleadings (12 hours)</p>	<ul style="list-style-type: none"> • Meaning - Criminal Pleadings in India • Complaint (Sec.2d of Cr PC) • Application for Bail (Sec.436, Sec. 437 of Cr PC) • Anticipatory Bail (Sec.438 of Cr PC) • Application U/S. 125 of the Code of Criminal Procedure, 1973
<p>Unit V Other important Pleadings (14 lecture hours)</p>	<ul style="list-style-type: none"> • Substantive Aspects and Model Forms • Complaints Under Sec.138 of Negotiable Instruments Act • Petition for Dissolution of Marriage under Hindu Marriage Act • Petition under Article 226 and • Article 32 of the Constitution of India.
<p>Unit VI Conveyancing (14 hours)</p>	<ul style="list-style-type: none"> • Sale Deed-Meaning of sale and Its essentials • Mortgage Deed-Meaning of mortgage and Its kinds • Lease Deed-Meaning of lease and Distinction between Lease and Licence • Gift Deed- Meaning of gift and Distinction between Sale and Lease • Will • Agreement to Sell • Partnership Deed

Text Book

1. C. R. Datta & M.N. Das, D'Souza's Form and Precedents of Conveyancing, Eastern Law House, 2008 (13th Edn)

Reference Books



Suggested Readings:

- N.S. Bindra, Conveyancing, Draftsman and Interpretation of Dates, Delhi Law House, 1985
- G.C. Mogha & S. N. Dhingra, Mogha's Law of Pleading in India with Precedents, Eastern Law House, 18th Edn. 2013
- R.N. Chaturvedi, Conveyancing, Eastern Book Company, 2011 (7th Edn)
- G.C. Mogha, Indian Conveyancer, Dwivedi Law, 2009 (14th Edn)

Statutes

- Civil Procedure Code
- Criminal Procedure Code
- Indian Constitution



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Faculty of Law
B.A. LL.B. (Hons)
Semester VII

Subject Name	Taxation Law-I (Direct Tax Law & Practices)	Credit	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code	10FL0703	4	3	0	2

Course Objectives

This course aims to impart jurisprudential, constitutional, theoretical, practical and Commercial underpinnings of the subject. It is expected that at the end of the course, students will be able to appreciate normative foundations of taxation as a wealth distributive Measure as well as its functional utility as a significant source of public financing. Students will be developing critical insights into the policy issues involved and emerge with strong Foundational understanding of the concepts, practical and theoretical aspects of Taxation. The subject of Direct Tax Law & Practice is inherently complicated and is subjected to constant refinement through new primary legislations, rules and regulations made there under and court decisions on specific legal issues. It therefore becomes necessary for every student to constantly update himself with the various changes made as well as judicial pronouncements rendered from time to time by referring various updates.

Course Outcomes



On completion of this course, the learners will be able

8. To define the basic concepts & procedure of Taxation Laws I i.e. Direct Tax Law & Practices.
9. To compare computation of income under the head of salary/ house property/ profits and gains from business and profession.

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10. To identify computation of income under the head of capital gains/ from other sources/ total income and tax liability.
11. To analyse clubbing provisions, set-off and / or carry forward of losses, rebate and relief & TDS/TCS, returns, refund & recovery.
12. To elaborate procedure, power, functions, penalties and to formulate the jurisdiction & application of income tax law & authorities.

Detailed Syllabus



Module: 1.

**AN OVERVIEW OF INCOME
TAX ACT, 1961**

- Introduction and constitutional provision
- Important definitions
- Income [section 2(24)]
- Computation of taxable income and tax liability of an assessee
- Tax rates for ay 2020-21 19
- Rebate [section 87a]
- Rates of surcharge
- Marginal relief
- Case studies
- Determination of residential status of individuals basic and additional conditions [section 6]
- HUF Control and Management of Affairs, Residential Status of Company place of effective management [section 6(2)]
- Scope of total income [section 5]
- Income deemed to accrue or arise in India [section 9]
- Diversion of income v/s application of income.
- Income which do not from part of total income

Case Laws:

- CIT v. Subbiah Chettiar (1948) ILR Madras 607.
- State of West Bengal and Ors. v. Calcutta Club Limited and Ors. (03.10.2019 - SC): MANU/SC/1367/2019
- Union of India (UOI) and Ors. v. Tata Tea Co. Ltd. and Ors. (20.09.2017 - SC) : MANU/SC/1246/2017
- Engineering Analysis Centre of Excellence Private Limited v. The Commissioner of Income Tax and Ors. (02.03.2021 - SC) : MANU/SC/0137/2021
- Commissioner of Commercial Taxes and Ors. v. Bajaj Auto Ltd. and Ors. (28.10.2016 - SC) : MANU/SC/1365/2016
- Commissioner of Income Tax v. K. Raheja Hotels and Estate (P.) Ltd. (29.10.2014 - SC): MANU/SC/1083/2014
- Commnr. of Income Tax, Jalandhar-I v. Rajiv Bhatara (19.02.2009 - SC) : MANU/SC/0257/2009
- Suresh Nanda v. ACIT (11.04.2014 - ITAT Delhi) : MANU/ID/0233/2014
- Renu T. Tharani v. Dy. Commissioner of Income Tax, International Taxation, Circle-4(2)(1) (16.07.2020 - ITAT Mumbai) : MANU/IU/0461/2020
- Sankar Narayan Das v. Assistant Director of Income Tax (24.02.2006 - ITAT Kolkata): MANU/IE/0089/2006
- Barendra prasad Ray v. CIT (AIR 1981 SC 1047)



Module: 2.

COMPUTATION OF INCOME UNDER THE HEAD OF SALARY/ HOUSE PROPERTY [SECTION 22 TO 27]/ PROFITS AND GAINS FROM BUSINESS AND PROFESSION

UNDER THE HEAD OF SALARY

- The computation chart of salary, definition and basis of charge, relationship between payer and payee, employer and employee vis-à-vis agent, contract for services and contract of service, professional services, salary to MPs/ MLA, holding of office. [section 15]
- Salary, perquisite and profits in lieu of salary [section 17]
- Allowances
- Perquisites
- Deduction [section 16]
- Relief [section 89]

UNDER THE HEAD OF HOUSE PROPERTY [SECTION 22 TO 27]

- Basis of charge [section 22]
- Property held as a stock in trade [section 23(5)]
- Taxation of income from properties situated outside India
- Disputed ownership
- Treatment of composite rent
- Cases where income from house property is exempt from tax
- Deemed owner [section 27]
- How to compute income from house property
- Determination of annual value [section 23]
- Municipal taxes [property taxes]
- Computation of “income from house property” for

Case Laws:

- CIT vs. Infosys Technology Limited [2008] 297 ITR 167 (SC)
- Commissioner of Income Tax, Kochi v. Trans Asian Shipping Services (P) Ltd. (05.07.2016 - SC) : MANU/SC/0728/2016
- CIG v. Shiv Charan Mathur [Rajasthan HC] (2008) 306 ITR 126
- Ram Pershad v. the Commissioner of Income Tax, New Delhi MANU/SC/0330/1972
- Sumit Bhattacharya vs. Asstt. Commissioner of Income Tax (MANU/IU/0001/2008)
- Commissioner of Income Tax, Mumbai and Ors. v. D.P. Sandu Bros. Chembur (P) Ltd. and Ors. (31.01.2005 - SC) : MANU/SC/0070/2005
- Transmission Corporation of A. P. Ltd. and Ors. v. Commissioner of Income Tax (17.08.1999 - SC) : MANU/SC/1624/1999
- East India Housing & Investment Trust Limited vs. CIT [1961] 42 ITR SC
- National Storage Private Limited v. CIT [1967] 66 ITR 596 SC
- Ramesh Builders (India) v. Income Tax Officer, 12(1)(2) (27.07.2016 - ITAT Mumbai) : MANU/IU/0700/2016
- Dynacon Equipments Pvt. Ltd. v. The Asst. Commissioner of Income Tax, Corporate Circle-1(4) (21.11.2019 - ITAT Chennai) : MANU/IX/0299/2019
- Sane and Doshi Enterprises v. Jt. CIT 17(3) (08.08.2018 - ITAT Mumbai) : MANU/IU/0648/2018
- Plastiblends India Limited v. Addl. Commissioner of Income



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	<p>different categories of property</p> <ul style="list-style-type: none">• Deductions [section 24]	<p>Tax, Mumbai and Ors. (09.10.2017 - SC) :</p> <ul style="list-style-type: none">• MANU/SC/1277/2017 Commissioner of Income Tax,
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	<ul style="list-style-type: none"> • Taxability of recovery of unrealised rent & arrears of rent received • Inadmissible deductions [section 25] • Treatment of income from co-owned property [section 26] • Treatment of income from property owned by a partnership firm <p>PROFITS AND GAINS FROM BUSINESS AND PROFESSION</p> <ul style="list-style-type: none"> • Chargeability [section 28] • Computation of income from profits and gains of business or profession • Disallowances • Deemed profits chargeable to tax [section 41] • Maintenance of accounts by persons carrying on profession or business • Compulsory audit of accounts [section 44ab] • Computation of p/g/b/p on presumptive basis 	<ul style="list-style-type: none"> • Kochi v. Trans Asian Shipping Services (P) Ltd. (05.07.2016 - SC) : MANU/SC/0728/2016 • ACG Associated Capsules Pvt. Ltd. and Ors. v. Commissioner of Income Tax, Central-IV, Mumbai and Ors. (08.02.2012 - SC) : MANU/SC/0100/2012 • Karnani Properties vs. CIT [1971] 82 ITR 547 SC • Shambhu Investment Private Limited vs. CIT [2001] 116 Taxman 795 (Cal.)
<p>Module: 3.</p>	<p>COMPUTATION OF INCOME UNDER THE HEAD OF CAPITAL GAINS/ FROM OTHER SOURCES/ TOTAL INCOME AND TAX LIABILITY</p> <p>UNDER THE HEAD OF CAPITAL GAINS</p> <ul style="list-style-type: none"> • Charging section [section 45(1)] • Capital asset [section 2(14)] • Transfer [section 2(47)] • Types of capital gains • Computation of capital gains [section 48] • Cost of acquisition [section 55(2)] • Cost of improvement [section 55(1)] • Computation of capital gains 	<ul style="list-style-type: none"> • Engineering Analysis Centre of Excellence Private Limited v. The Commissioner of Income Tax and Ors. (02.03.2021 - SC) : MANU/SC/0137/2021 • Raj Pal Singh v. Commissioner of Income Tax, Rohtak, Haryana (25.08.2020 - SC) : MANU/SC/0608/2020 • Navin Jindal v. Assistant Commissioner of Income Tax (11.01.2010 - SC) : MANU/SC/0019/2010 • Dilip N. Shroff Karta of N.D. Shroff v. Joint Commissioner of Income Tax, Special Range Mumbai and Ors. (18.05.2007 - SC) : MANU/SC/3182/2007 • State of Karnataka and Ors. v. Selvi J. Jayalalitha and Ors.



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- in certain cases
- Slump sale [section 50b]

- (14.02.2017 - SC) :
- MANU/SC/0157/2017
- Commissioner of Income Tax,
Kochi v. Trans Asian Shipping



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	<ul style="list-style-type: none"> • Distribution of assets by company to its shareholders in liquidation • [section 46(1)] • Capital gain on purchase by company of its own share/specified securities • Transactions not regarded as transfer [section 47] • Reference to valuation officer [section 55a] • Full value consideration for real estate transactions [section 50c] • Full value of consideration for transfer of share other than quoted share • Fair market value deemed to be full value of consideration in certain cases • Income exempt from transfer of certain capital assets [section 10(38)] • Tax rates on capital gains for ay 2020-21 227 • Exemptions from capital gains [section 54 to 54h] <p>FROM OTHER SOURCES</p> <ul style="list-style-type: none"> • Charging section [section 56(1)] • Taxation of dividend [section 115o] • Dividend [section 2(22)] • Tax treatment of dividend in the hands of shareholder • Tax on distributed income to shareholders [section 115qa] • Taxation of income received from mutual funds &UTI • Casual income • Interest income • Income from letting of machinery, plant or furniture belonging to assessee • Sum received under keyman insurance policy including bonus • Taxation of gifts • Other misc. Provisions 	<ul style="list-style-type: none"> • Services (P) Ltd. (05.07.2016 - SC) : MANU/SC/0728/2016 • Commissioner of Income Tax v. Willamson Financial Services and Ors. (12.12.2007 - SC) : MANU/SC/0141/2008 • Commissioner of Income Tax, Mumbai and Ors. v. D.P. Sandu Bros. Chembur (P) Ltd. and Ors. (31.01.2005 - SC) : MANU/SC/0070/2005 • Vodafone Idea Ltd. v. Assistant Commissioner of Income Tax Circle 26(2) and Ors. (29.04.2020 - SC) : MANU/SC/0420/2020 • Dalmia Power Limited and Ors. v. The Assistant Commissioner of Income Tax, Circle 1, Trichy (18.12.2019 - SC) : MANU/SC/1774/2019 • The Assistant Commissioner of Income Tax, Chennai v. A.R. Enterprises (14.01.2013 - SC) : MANU/SC/0027/2013 • J.K. Industries Ltd. and Ors. v. Union of India (UOI) and Ors. (19.11.2007 - SC) : MANU/SC/8111/2007 • CIT v. BC Srinivasan Shetty AIR 1981 SC 972 • DCIT v. Mediworld Publications (P) Ltd.
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	<ul style="list-style-type: none">• Deductions available from income under other sources [section 57]	
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	<ul style="list-style-type: none">• No deduction of following expenses from income from other sources [section 58] <p>TOTAL INCOME AND TAX LIABILITY</p> <ul style="list-style-type: none">• Computation of taxable income and tax liability of companies• Minimum alternate tax (mat)• Dividend distribution tax [section 115-0]• Carbon credit [section 115bg]• Computation of taxable income and tax liability of non-corporate entities• Alternate minimum tax (AMT) [section 115jc]• Taxation of an individual• Taxation of Hindu undivided families• Taxation of firms• Taxation of co-operative societies• Tax exemptions to political parties (section 13a)• Electoral trust• Tax exemptions for charitable trusts and institutions	
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Module: 4.

**CLUBBING PROVISIONS,
SET-OFF AND / OR CARRY
FORWARD OF LOSSES,
REBATE AND
RELIEF&TDS/TCS,
RETURNS, REFUND &
RECOVERY**

I. CLUBBING PROVISIONS

- Clubbing of income
- Transfer of income [section 60]
- Revocable transfer of assets [section 61]
- Income of spouse
- Transfer for immediate or deferred benefit of son's wife [section 64(1)(viii)]
- Income to spouse through a third person [section 64(1)(vii)]
- Clubbing of income of minor child [section 64(1a)]

- State of Gujarat v. Reliance Industries Ltd. (22.09.2017 - SC) : MANU/SC/1245/2017
- State of Gujarat v. Reliance Industries Ltd. (22.09.2017 - SC) : MANU/SC/1245/2017
- Seshasayee Paper and Boards Limited v. Deputy Commissioner of Income Tax (15.05.2015 - SC) : MANU/SC/0638/2015
- Deputy Commissioner of Income Tax, Range 2 v. Akay Flavours and Aromatics (P.) Ltd. (20.09.2010 - ITAT Cochin) : MANU/IN/0049/2010
- The Deputy Commissioner of Income Tax Circle 8(2) Mumbai v. Summit Securities Limited (07.03.2012 - ITAT Mumbai) : MANU/IU/0245/2012
- Commissioner of Income Tax





	<ul style="list-style-type: none"> Income from the converted property [section 64(2)] Summary of the clubbing provision Recovery of tax <p>II. SET OFF AND / OR CARRY FORWARD OF LOSS [SECTION 70 TO 80]</p> <ul style="list-style-type: none"> Set-off and carry-forward of losses Set-off of losses from one source against income from another source Under the same head of income [section 70] Set-off of loss from one head against income from another head [section 71] Carry-forward of losses Treatment of carry forward of losses of certain assesseees Submission of return for loss [section 80] Summary of provisions regarding carry forward and set-off of losses <p>III. DEDUCTIONS TO BE MADE IN COMPUTING TOTAL INCOME [SECTION 80C TO 80U]</p> <ul style="list-style-type: none"> Deductions Under Chapter Vi-A <p>IV. REBATE [SECTION 87A]</p> <ul style="list-style-type: none"> Rebate of income-tax in case of certain individuals [section 87a] <p>V. RELIEF [SECTION 89]</p> <ul style="list-style-type: none"> Relief when salary is paid in arrears or in advance [section 89] <p>TDS/TCS, RETURNS, REFUND</p>	<ul style="list-style-type: none"> v. Willamson Financial Services and Ors. (12.12.2007 - SC) : MANU/SC/0141/2008 ECE Industries Ltd. v. Deputy Commissioner of Income Tax (29.09.2006 - ITAT Delhi) : MANU/ID/5105/2006 Commissioner of Income Tax-I v. Reliance Energy Ltd. through its M.D. (28.04.2021 - SC) : MANU/SC/0330/2021 Union of India (UOI) v. Association of Unified Telecom Service Providers of India and Ors. (24.10.2019 - SC) : MANU/SC/1468/2019 Vishay Components India Pvt. Ltd. v. The Dy. Commissioner of Income Tax, Circle - 7 (16.05.2016 - ITAT Pune) : MANU/IP/0162/2016 Valueprocess Technologies (I) (P.) Ltd. v. Income Tax Officer (24.01.2013 - ITAT Mumbai) : MANU/IU/0207/2013 Eid Mohammad Nizamuddin v. ITO, TDS-3 (15.04.2020 - ITAT Jaipur) : MANU/IJ/0100/2020 Yamuna Khadar Shiksha Samiti v. Income Tax Officer, (TDS), Muzaffarnagar (15.01.2020 - ITAT Delhi) : MANU/ID/0078/2020 Station Headquarters (Army) and Ors. v. Assistant Commissioner of Income Tax, CPC-TDS and Ors. (10.05.2019 - ITAT Jodhpur) : MANU/IO/0021/2019 Vidya Vardhani Education and Research Foundation and Ors. v. DCIT (CPC)-TDS, Ghaziabad (13.01.2017 - ITAT Pune) : MANU/IP/0001/2017 Samikaran Learning Private Limited v. TDS Officer, Delhi (09.11.2017 - ITAT Delhi) : MANU/ID/0523/2017 Asian Pipes and Profiles Pvt. Ltd. v. Assessing Officer, TDS
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	<p>& RECOVERY</p> <ul style="list-style-type: none">• Tax deducted at source	<p>Ward (01.03.2017 - ITAT Mumbai) : MANU/IU/0210/2017</p>
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	<ul style="list-style-type: none">• Tax collection at source• Advance tax• Returns• Permanent account number (pan) [section 139a]• Verification of return [section 140]• E-filing• Interest for default in furnishing return of income [section 234a]• Collection & recovery• Refund [section 237]• Assessment• Appeals• Revisions• Settlement of cases• Penalty• Prosecution	<ul style="list-style-type: none">• Maharashtra Cricket Association and Ors. v. DCIT(CPC)-TDS, Ghaziabad (21.09.2016 - ITAT Pune) : MANU/IP/0276/2016
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Module 5

RECENT CASE LAWS

1. CIT v. Mahindra and Mahindra Ltd (Supreme Court)
2. ACIT v. Bharat V. Patel (Supreme Court)
3. CIT v. Shree Rama Multi Tech Ltd (Supreme Court)
4. CIT v. Chaphalkar Brothers Pune (Supreme Court)
5. Hindustan Coca Cola Beverages Pvt. Ltd v. CIT (Rajasthan High Court)
6. CIT v. Madhur Housing And Development Co (Supreme Court)
7. B. A. Mohota Textiles Traders Pvt. Ltd v. DCIT (Bombay High Court)
8. CIT v. Equinox Solution Pvt. Ltd (Supreme Court)
9. Honda Siel Cars India Ltd. v. CIT [2017] (SC)
10. Union of India v. Tata Tea and Others (SC)
11. Income-tax Officer v. Venkatesh Premises Co-operative Society Ltd. (SC)
12. K. Lakshmansa and Co. v. Commissioner of Income-tax (SC)
13. Raj Dadarkar and Associates v. Assistant Commissioner of Income Tax (SC)
14. Palam Gas Service v. CIT (SC)



	<p>15. Faurecia Automotive Holding vs DCIT (ITA No. 784/Pun/2015)</p> <p>16. Pr.CIT vs Maruti Suzuki India Limited (Civil Appeal No. 5409 of 2019) (SLP No. 4298 of 2019) (SC)</p> <p>17. Regional Provident Fund Commissioner (II) West Bengal versus Vivekananda Vidyamandir and Others, Civil Appeal No(s). 6221 of 2011, Transfer Case No. (C) No(s). 19 of 2019</p> <p>18. Tata Consultancy Service Ltd. Vs ACIT (ITA No. 5713/Mum/2016)</p>	
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Text Books

4. Dr. Vinod K. Singhania & Dr. Kapil Singhania – Direct Tax Laws and Practice published on April 2021, published by Taxman’s.

Reference Books

12. Bharat’s Income Tax Act with Departmental Views – 32nd Edition 2021
13. Dr Girish Ahuja & Dr Ravi Gupta -Commercial’s Direct Taxes Law & Practice (Professional), 13th Edition 2021, published by Commercial Law Publishers (India) Pvt. Ltd.

Online Resources

7. Income Tax Department - <https://incometaxindia.gov.in/>
8. Ministry of Finance, Government of India- <https://finmin.nic.in/>
9. The Institute of Charter Accounts of India- <http://www.icaai.org/>
10. The institute of Companies Secretaries of India- <http://www.icsi.edu/>

 Marwadi University	<p>Faculty of Law</p> <p>B.A.LL.B. (Hons.)</p> <p>Semester VII</p>				
	Subject Name Alternate Dispute Resolution (Clinical Paper III)	Credit	Teaching Scheme		
Theory			Practical	Tutorial	
Subject Code	10FL0704	4	0	0	5



Course Objectives

1. Acquaint with the concept and meaning of Alternate Dispute Resolution
2. Learn the mechanism that is used in Negotiation, Conciliation and Mediation

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3. Understand the relevancy of Arbitration Laws in India
4. Apply the various principles of Alternate dispute Resolution in the current legal scenario

Course Outcomes

On completion of this course, students will be able to

1. To be remember and understand the different facets of Alternate Dispute Resolution
2. To be able to apply the principles of negotiation, conciliation and mediation in modern day situations
3. To be able to analyse the nuances of arbitration law in India
4. To evaluate the role of alternate dispute resolution in reducing the burden of courts along with extent to develop a higher thinking order through identifying the emerging trends in the concerned legal framework.

Detailed Syllabus

Unit/ Sessions (in hours)	Descriptions	Case Laws
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Unit: 1

Introduction

(10 hours)

- Background and Meaning of ADR
- Key Concepts in Dispute Resolution
- Disputes – Kinds of Disputes.
- Dispute resolution in Adversarial System
- Dispute Resolution at Grass root Level – Panchayat, Legal aid.
- Settlement of Dispute through Lok Adalat and Lok Nyayalayas.
- United Nations Commission on International Trade Law, Arbitration and Conciliation, International Commercial Arbitration.
- Extent of Judicial Intervention, Arbitration and Expert Determination



<p>Unit: 2 Rules of Interpretation (15 hours)</p>	<ul style="list-style-type: none"> • Meaning of Negotiation • Characteristics of Negotiation • Theories of ADR • Elements of Negotiation • Skills in Negotiation • Good Offices. 	
<p>Unit: 3 Internal Aids to Interpretation (10 hours)</p>	<ul style="list-style-type: none"> • Meaning of Mediation and conciliation • Distinction between Mediation and Conciliation • Role of Mediator and Conciliator • Advantages of Mediation and Conciliation • Confidentiality, resort to judicial proceedings, costs rule making power of High Court and Central Government. 	<ul style="list-style-type: none"> • Haresh Dayaram Thakur v/s state of Maharastra and Ors, AIR 2000 SC2281 • Mysore Cements Ltd v/s Svedala Barmac Ltd. AIR 2003 SC3493
<p>Unit: 4 External Aids to Interpretation (12 hours)</p>	<ul style="list-style-type: none"> • Introduction to Arbitration • Law of Arbitration- Arbitration Agreement. • Arbitral tribunal- Composition, eligibility and qualifications of arbitrators • Termination or a mandate of arbitral Tribunal's and of arbitrators, appointment of arbitrators and filling up of vacancies, powers and functions of Arbitral • Making of the Arbitral Award • Recourse against the Arbitral Award • Finality and Enforcement of Arbitral Award both domestic and Foreign Awards • Appeals • Tribunal's. competence of arbitral Tribunal to rule on its own jurisdiction etc. 	<ul style="list-style-type: none"> • <i>Vijay Karia v. Prysmian Cavi E Sistemi SRL & Ors.</i> [Judgment dated 13.02.2020 in Civil Appeal No. 1544 of 2020] • National Agricultural Cooperative Marketing Federation Corporation v Alimenta A.[Judgment dated 22.04.2020 in Civil Appeal No.667 of 2012] • Mankastu Impex Private Limited vs Airvisual Limited [Judgment dated 05.03.2020 in Arbitration Petition No. 32 of 2018] • M/s Mitra Guha Builders v/s ONGC, Supreme Court, Civil Appeal Number No. 5511 of 2012. • Sasan Power Ltd v/s North American Corporation (India)



		Pvt. Ltd. (2016) 10 SCC 813
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Text Books

- Madhusudan Saharay, *Textbook on Arbitration and Conciliation with Alternate Dispute Resolution*, Universal Law Publishing, 4th Edition, 2016.
- Taxmann, *Guide to Arbitration and Conciliation Act 1996*, Taxmann, 2019 Edition

Reference Books

- Basu N.D, *Arbitration and Conciliation*, Orient Publishing Company, 13th Edition 2018
- Dr. N.V. Paranjape, *Law Relating to Arbitration and Conciliation in India*, Central Law Agency, Edition 2019.
- Dr. P.C. Markanda, *Law relating to Arbitration and Conciliation*, 9th Edition 2017.

 Marwadi University	Faculty of Law B.A. LL.B. (Hons)/ B.Com. LL.B. Semester VII				
	Subject Name	Investment and Securities Laws	Credit	Teaching Scheme	
Subject Code	10FL0705	4	Theory	Practical	Tutorial
			3	0	2

Course Objectives



The course is designed to achieve Following Objectives:

Investment and Securities Laws are gaining importance day by day with the increase of trade and industry in our country. The present course contains various aspects of investment and their regulations in securities market. Investment instruments such as deposits, National Pension Saving Scheme, Money Market, Mutual Funds, Alternative Investment Fund & Collective Investment Schemes, Investor Protection and how they are governed by SEBI Act and Securities Contract Regulations Act 1956 with amendments. It will help students in knowing the various investment and their offering in securities market and its regulations with practical approach.

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Course Outcomes

On completion of this course, the learners will be able

13. To define the basic concepts & procedure of investment and securities laws.
14. To evaluate various financial instruments present in money market and its regulations.
15. To compare investment in Mutual funds, its rules and regulations with other investment options.
16. To identify Alternative Investment Fund & Collective Investment Schemes with applicable laws.
17. To analyse SEBI objectives, power, functions and penalties.
18. To elaborate the SCRA procedure, power, functions and penalties on Stock Exchanges in India.
19. To formulate the jurisdiction & application of SEBI, SAT and various Courts relating to the Investor protection in securities market.

Detailed Syllabus

<p>Module: 1.</p>	<p>Concept Of Investment and Securities Law</p> <ul style="list-style-type: none"> • Investment • Objectives of Investment • Classification of Investment • Types of Investment • Importance of Investment • Securities • Classification of Securities • Types of Securities 	<p>Case Laws</p> <ul style="list-style-type: none"> ➤ Securities and Exchange Board of India vs. Rakhi Trading Private Ltd. (08.02.2018 - SC) : MANU/SC/0096/2018 ➤ In Re: Issuance of Optionally Fully Convertible Debentures by Sahara India Real Estate Corporation Limited and Ors. (23.06.2011 - SEBI / SAT) : MANU/SB/0045/2011 ➤ In Re: Jubilant Life Sciences Limited (31.01.2018 - SEBI / SAT) : MANU/SB/0040/2018 ➤ In Re: Sungold Capital Limited and Ors. (30.06.2017 - SEBI / SAT) : MANU/SB/0111/2017
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Module: 2.	Money Market <ul style="list-style-type: none">• Introduction• Features of Money Market• Money Market vs. Capital Market• Growth of Money Market• Structure and Institutional Development• Money Market Instruments• Certificates of Deposits• Inter-Corporate Deposits• Commercial Bills	Case Laws <ul style="list-style-type: none">➤ Internet and Mobile Association of India vs. Reserve Bank of India (04.03.2020 - SC) : MANU/SC/0264/2020➤ Ram Narain Popli vs. Central Bureau of Investigation (14.01.2003 - SC) : MANU/SC/0017/2003➤ R. Venkatakrisnan vs. Central Bureau of Investigation (07.08.2009 - SC) : MANU/SC/1411/2009➤ ArcelorMittal India Private
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	<ul style="list-style-type: none"> • Commercial Paper • Factoring • Bills Rediscounting 	<p>Limited vs. Satish Kumar Gupta and Ors. (04.10.2018 - SC) : MANU/SC/1123/2018</p> <ul style="list-style-type: none"> ➤ Rasila S. Mehta vs. Custodian, Nariman Bhavan, Mumbai (06.05.2011 - SC) : MANU/SC/0565/2011 ➤ R. Venkatakrisnan vs. Central Bureau of Investigation (07.08.2009 - SC) : MANU/SC/1411/2009 ➤ Rusoday Securities Ltd. vs. National Stock Exchange of India Ltd. and Ors. (20.11.2020 - SC) : MANU/SC/0879/2020 ➤ Securities and Exchange Board of India vs. Kishore R. Ajmera (23.02.2016 - SC) : MANU/SC/0212/2016 ➤ Adjudicating Officer, Securities and Exchange Board of India vs. Bhavesh Pabari (28.02.2019 - SC) : MANU/SC/0296/2019
<p>Module: 3.</p>	<p>Mutual Funds</p> <ul style="list-style-type: none"> • Introduction • Investment Strategies • Offer document of Mutual Fund Schemes • Risks involved in Mutual Funds • Calculation of Net Asset Value (NAV) • Asset Management Company (AMC) • SEBI (Mutual Fund) Regulations, 1996 • Code of Conduct for Mutual Funds • Compliances under SEBI (Listing Obligation and Disclosure Requirements) Regulations, 2015 	<p>Case Laws:</p> <ul style="list-style-type: none"> ➤ Union of India (UOI) and Ors. vs. Margadarshi Chit Funds (P) Ltd. and Ors. (04.07.2017 - SC) : MANU/SC/0798/2017 ➤ Franklin Templeton Trustee Services Private Limited and Ors. vs. Amruta Garg and Ors. (12.02.2021 - SC) : MANU/SC/0074/2021 ➤ Godrej and Boyce Manufacturing Company Limited vs. Dy. Commissioner of Income Tax and Ors. (08.05.2017 - SC) : MANU/SC/0584/2017 ➤ Hongkong and Shanghai



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	National Pension Saving Scheme	Banking Corporation Ltd. vs. Canbank Financial Services Ltd. and Ors. (15.07.2013 - SC) : MANU/SC/0695/2013 ➤ Osians Connoisseurs of Art Pvt. Ltd. vs. Securities and Exchange Board of India and
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		<p>Ors. (12.02.2020 - SC) : MANU/SC/0211/2020</p> <ul style="list-style-type: none"> ➤ Canara Robeco Mutual Fund and Ors. vs. The Provisional Liquidator of Bank Of Karad Ltd. and Ors. (20.02.2020 - SC Order) : MANU/SCOR/17630/2020 ➤ Securities and Exchange Board of India vs. Pan Asia Advisors Ltd. and Ors. (06.07.2015 - SC) : MANU/SC/0761/2015 ➤ Small Scale Industrial Manufactures Association vs. Union of India (UOI) and Ors. (23.03.2021 - SC) : MANU/SC/0202/2021 ➤ Harshad Shantilal Mehta vs. Custodian and Ors. (13.05.1998 - SC) : MANU/SC/0368/1998
<p>Module: 4.</p>	<p>Alternative Investment Fund & Collective Investment Schemes</p> <p>ALTERNATIVE INVESTMENT FUND</p> <ul style="list-style-type: none"> • Introduction • Existing Venture Capital Funds • SEBI (Alternative Investment Funds) Regulations, 2012 • Important Definitions • Key Features of AIF Categories • Guidelines on disclosures, reporting and clarifications under AIF Regulations • SEBI (Foreign Venture Capital Investors) Regulations, 2000 <p>COLLECTIVE INVESTMENT SCHEMES</p>	<p>Case Laws:</p> <ul style="list-style-type: none"> ➤ Union of India (UOI) and Ors. vs. Margadarshi Chit Funds (P) Ltd. and Ors. (04.07.2017 - SC) : MANU/SC/0798/2017 ➤ ArcelorMittal India Private Limited vs. Satish Kumar Gupta and Ors. (04.10.2018 - SC) : MANU/SC/1123/2018 ➤ Securities and Exchange Board of India and Ors. vs. Gaurav Varshney and Ors. (15.07.2016 - SC) : MANU/SC/0778/2016 ➤ Securities and Exchange Board of India vs. Pan Asia Advisors Ltd. and Ors. (06.07.2015 - SC) : MANU/SC/0761/2015 ➤ Osians Connoisseurs of Art Pvt. Ltd. vs. Securities and Exchange Board of India and Ors. (12.02.2020 - SC): MANU/SC/0211/2020



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- Introduction

- Securities and Exchange Board of India and Ors. vs. Gaurav Varshney and Ors. (15.07.2016)



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	<ul style="list-style-type: none"> • SEBI (Collective Investment Schemes) Regulations, 1999 – An Overview • Restrictions on Business Activities • Obligations of Collective Investment Management Company • Rights and Obligations of the trustee • Termination of Trusteeship • Termination of the Agreement with the Collective Investment Management Company • Winding up of Scheme • Requirements with respect to the listing of units or any other instrument of a CIS on a recognised stock exchange. • Penal Provisions 	<ul style="list-style-type: none"> - SC) : MANU/SC/0778/2016 ➤ S. Sukumar and Ors. vs. The Secretary, Institute of Chartered Accountants of India and Ors. (23.02.2018 - SC): MANU/SC/0158/2018 ➤ Daiichi Sankyo Company Ltd. vs. Jayaram Chigurupati and Ors. (08.07.2010 - SC): MANU/SC/0454/2010 ➤ Indus Biotech Private Limited vs. Kotak India Venture (Offshore) Fund and Ors. (26.03.2021 - SC): MANU/SC/0231/2021 ➤ Assistant General Manager and Ors. vs. Radhey Shyam Pandey (02.03.2020 - SC): MANU/SC/0252/2020 ➤ Osians Connoisseurs of Art Pvt. Ltd. vs. Securities and Exchange Board of India and Ors. (12.02.2020 - SC): MANU/SC/0211/2020 ➤ Securities and Exchange Board of India and Ors. vs. Gaurav Varshney and Ors. (15.07.2016 - SC) : MANU/SC/0778/2016 ➤ Central Bureau of Investigation and Ors. vs. Ramendu Chattopadhyay and Ors. (19.11.2019 - SC): MANU/SC/1591/2019 ➤ Securities and Exchange Board of India vs. Pan Asia Advisors Ltd. and Ors. (06.07.2015 - SC): MANU/SC/0761/2015 ➤ The Chairman, SEBI vs. Shriram Mutual Fund and Ors. (23.05.2006 - SC): MANU/SC/8185/2006 ➤ Sahara India Real Estate Corporation Ltd. and Ors. vs. Securities and Exchange Board of India and Ors. (31.08.2012 - SC): MANU/SC/0702/2012 ➤ P.G.F. Limited and Ors. vs.
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		<p>Union of India (UOI) and Ors. (01.04.2015 - SC): MANU/SC/0759/2015</p>
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		<p>➤ Humanity Salt Lake. vs. Union of India and Ors. (03.03.2017 - SC Order): MANU/SCOR/11616/2017</p>
Module: 5.	<p>Securities Exchange Board of India Act 1992 (SEBI)</p> <ul style="list-style-type: none"> • Introduction • Composition of SEBI • Powers and Functions of SEBI • Investigations • Penalties for Failures • Adjudications • Securities Appellate Tribunal (SAT) • Appeal to Supreme Court • SEBI (Settlement of Administrative & Civil Proceedings) Regulations, 2014 • SEBI (Procedure for Search and Seizure) Regulations, 2014 	<p>Case Laws:</p> <ul style="list-style-type: none"> ➤ Osians Connoisseurs of Art Pvt. Ltd. vs. Securities and Exchange Board of India and Ors. (12.02.2020 - SC): MANU/SC/0211/2020 ➤ Securities and Exchange Board of India vs. Rakhi Trading Private Ltd. (08.02.2018 - SC) : MANU/SC/0096/2018 ➤ Dushyant N. Dalal and Ors. vs. Securities and Exchange Board of India (04.10.2017 - SC) : MANU/SC/1239/2017 ➤ Securities and Exchange Board of India vs. Classic Credit Ltd. (21.08.2017 - SC) : MANU/SC/1030/2017 ➤ Nirma Industries Ltd. and Ors. vs. Securities and Exchange Board of India (09.05.2013 - SC) : MANU/SC/0536/2013 ➤ Adjudicating Officer, Securities and Exchange Board of India vs. Bhavesh Pabari (28.02.2019 - SC) : MANU/SC/0296/2019 ➤ Securities and Exchange Board of India vs. Opee Stock-Link Ltd. and Ors. (11.07.2016 - SC) : MANU/SC/0755/2016 ➤ Securities and Exchange Board of India vs. ICAP India Pvt. Ltd. (24.11.2015 - SC) : MANU/SC/1359/2015 ➤ Franklin Templeton Trustee Services Private Limited and Ors. vs. Amruta Garg and Ors. (12.02.2021 - SC): MANU/SC/0074/2021



Module: 6.	Securities Contract Regulations Act (SCRA) 1956 <ul style="list-style-type: none">• Introduction• Definitions	Case Laws <ul style="list-style-type: none">➤ In Re: GDR Issues of Asahi Infrastructure and Projects Ltd. (26.05.2020 - SEBI / SAT): MANU/SB/0347/2020
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	<ul style="list-style-type: none">• Recognition of Stock Exchanges• Power of Central Government & Recognized Stock Exchanges• Clearing Corporation• Power of SEBI to Make or Amend Bye-Laws of Recognised Stock Exchanges• Penalties and Procedures• Power to Adjudicate	<ul style="list-style-type: none">➤ Securities and Exchange Board of India vs. Opee Stock-Link Ltd. and Ors. (11.07.2016 - SC) : MANU/SC/0755/2016➤ Darius Rutton Kavasmaneck vs. Gharda Chemicals Limited (28.10.2014 - SC): MANU/SC/0968/2014➤ In Re.: Market Manipulation using GDR Issues (19.09.2014 - SEBI / SAT): MANU/SB/0062/2014➤ Pan Asia Advisors International Corporate Finance and Ors. vs. Securities and Exchange Board of India (30.09.2013 - SEBI / SAT) : MANU/SB/0053/2013➤ In Re: Anand Credit Limited and Ors. (04.08.2017 - SEBI / SAT) : MANU/SB/0162/2017➤ In Re: Reliance Petroleum Ltd. And Ors. (24.03.2017 - SEBI / SAT) : MANU/SB/0044/2017➤ In Re: IFL Promoters Limited and Ors. (25.06.2018 - SEBI / SAT) : MANU/SB/0267/2018➤ In Re: SVC Resources Ltd. (31.07.2018 - SEBI / SAT) : MANU/SB/0329/2018➤ ICICI Bank Ltd. vs. Securities and Exchange Board of India (08.07.2020 - SEBI / SAT) : MANU/SB/0920/2020
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Module 7	INVESTOR PROTECTION <ul style="list-style-type: none">• Introduction• Legal Framework for Investor Protection in India• Investor Education and Protection Fund• Section 125 of the Companies Act, 2013• SEBI (Investor Protection and Education Fund) Regulations, 2009• Financial Education• Investor Grievance Redressal Mechanism at SEBI• SEBI (Informal Guidance) Scheme, 2003	Case Laws <ul style="list-style-type: none">➤ Securities and Exchange Board of India vs. Rakhi Trading Private Ltd. (08.02.2018 - SC) : MANU/SC/0096/2018➤ Securities and Exchange Board of India vs. Pan Asia Advisors Ltd. and Ors. (06.07.2015 - SC) : MANU/SC/0761/2015➤ P.G.F. Limited and Ors. vs. Union of India (UOI) and Ors. (12.03.2013 - SC): MANU/SC/0247/2013➤ Securities and Exchange Board of India vs. Ajay Agarwal (25.02.2010 - SC): MANU/SC/0137/2010
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		<ul style="list-style-type: none"> ➤ Gautam Kundu vs. Manoj Kumar, Govt. of India (16.12.2015 - SC) : MANU/SC/1453/2015 ➤ Securities and Exchange Board of India and Ors. vs. Kanaiyalal Baldevbhai Patel and Ors. (20.09.2017 - SC) : MANU/SC/1188/2017 ➤ Rusoday Securities Ltd. vs. National Stock Exchange of India Ltd. and Ors. (20.11.2020 - SC): MANU/SC/0879/2020 ➤ Internet and Mobile Association of India vs. Reserve Bank of India (04.03.2020 - SC): MANU/SC/0264/2020 ➤ Sahara India Real Estate Corporation Ltd. and Ors. vs. Securities and Exchange Board of India and Ors. (31.08.2012 - SC) : MANU/SC/0702/2012
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Text Books

5. Securities Laws & Capital Markets, by N. S. Zad 4th Edition (17 Jan 2021), Published by Taxmann Publications Pvt. Ltd.

Reference Books

14. Venture Capital Investments by Raj Kumar & Manu Sharma, 1st Edition 2020, by Sege Publications Pvt. Ltd.
 15. Indian Mutual Funds Handbook by Sundar Sankaran, 2012 by Vision Books Publication
 16. Bloomsbury's SEBI Manual 2021 (2 Volumes) – 3rd Edition January 2021
 17. Taxmann's SEBI Manual with Sebi Case Laws Digest (Set of Three Volumes) by Taxmann – 36th Edition 2021

Online Resources

11. SEBI <https://www.sebi.gov.in>
 12. The Institute of Charter Accounts of India- <http://www.icai.org/>
 13. The institute of Companies Secretaries of India- <http://www.icsi.edu/>



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 Marwadi University	Faculty of Law B.A.LL.B.(Hons.) Semester VII (CRIME AND CRIMINOLOGY) HONOURS I		
	Criminology	Credit	Teaching Scheme

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Subject Name			Theory	Practical	Tutorial
Subject Code	10CR0701	4	3	0	2

Course Objectives:

5. Enhance the ability to understand the concepts, theories & framework of criminology.
6. Recognize the causes and consequences of different crimes and criminal behaviour.
7. Preparing to deal with the face and address the challenging issues to criminology.

Course Outcomes:

On completion of this course, students will be able to:

1. Explain the underlying philosophies, history, concepts of Criminology.
2. Understand the theories of causation of crime.
3. Demonstrate the various criminal typologies.
4. Analyze the concept of punishment.
5. Analyze the concept Female Criminality and victimity

Detailed Syllabus

Unit/ Sessions (in hours)	Descriptions	Readings
Unit I Introduction (6 hours)	<ol style="list-style-type: none"> 1. Definitions: Crime, Criminology and Criminal Justice 2. Historical Development of criminology - Nature and Scope- Criminology 3. Perspective of Crime and Criminal 4. Difference between Crime and (a) Sin, (b) Immorality, (c) Vice (d) Tort. 5. Changing concept of crime 6. Relationship between Criminal Policy, Criminal Law and Criminology 	<ol style="list-style-type: none"> 1. Donald R. Taft and Ralph W. England, "Crime and Criminology", Criminology 3-17 (1964) 2. David Garland, "Of Crimes and Criminals: The Development of Criminology in Britain", in Mike Maguire, Rod Morgan, Robert Reiner (ed.), The Oxford Handbook of Criminology (2nd ed., 1997)



Unit II Theories of causation of crime (6 hours)	<ol style="list-style-type: none">1. Prominent criminological thought currents – Classicalism, Positivism and Radicalism2. Biological Theories3. Economic Theories4. Psychological Theories5. Political Theories	<ol style="list-style-type: none">1. Harry Elmer Barnes and Negley K. Teeters, “The Eternal Quest for the Causes of Crime”, <i>New Horizons in Criminology</i> 116-119 (3rd ed., 1959) 352. George B. Vold, Thomas J. Bernard, Jeffrey B. Snipes,
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	6. Sociological Theories	“Classical and Positivist Criminology”, Theoretical Criminology (5th ed., 2002)
Unit III Criminal Typology (6 hours)	<ol style="list-style-type: none"> 1. Crimes against Human body and Crimes against Property 2. Crimes against vulnerable groups: Crimes against women and children 3. Economic Crimes: white collar crimes and organized crimes, 4. Environmental Crimes, 5. Cyber Crimes, 6. Terrorism, 7. Victimless Crimes, 8. Hate Crimes, 9. Honour Crimes 10. Criminal Typology: Adult offenders and Juveniles in conflict with law, 11. Habitual offenders, 12. Professional offenders 	1. B.B. Pande, “Privileged Class Deviance – Nature and Dimensions”, The Other Side of Development (1987)
Unit IV Punishment and its Justification (6 hours)	<ol style="list-style-type: none"> 1. Theories of Punishment – Retribution, Deterrence, Reform and Prevention 2. Kinds of Punishment – with a special emphasis on Capital Punishment. 3. Probation as a form of Punishment 4. Parole Juvenile offenders 	<ol style="list-style-type: none"> 1. Andrew Ashworth, “Sentencing” in Mike Maguire, Rod Morgan, Robert Reiner (ed.), The Oxford Handbook of Criminology (2nd ed. 1994) 117 2. B.B. Pande, “Face to Face with Death sentence: The Supreme Court’s Legal and Constitutional Dilemmas” (1979) 4 SCC 714 3. S.S. Srivastava, “Capital Punishment”, Criminology and Criminal Administration (2nd ed. 2002) 89-99 123 4. Bushan Tilak Kaul, “Criminal Law”, XXXVIII Annual Survey of Indian Law 181-226, 195-20 (2002) 6. Essa @ Anjum Abdul Razak Memon vs. The State of Maharashtra (2013)3SCALE1 128



Unit V Female Criminality and victimity	<ol style="list-style-type: none">1. Female Criminality as an aspect of Marginal Criminality2. Female Victimity and Victimology	<ol style="list-style-type: none">1. S.S. Srivastava, "Female Criminality and Victimity in Indian Context: Women and Crime", Criminology and Criminal Administration 89-99 (2nd ed., 2002)
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<p>Unit VI National Crime Statistics</p>	<ol style="list-style-type: none"> 1. Reporting crime 2. Recording crime 3. Crime/victim surveys 4. International crime comparisons 5. Changing crime patterns 6. Unreported crime. 7. National Crime Record Bureau 8. Uniform Crime Reporting Statistics (UCR) 9. National Crime Victimization Surveys (NCVS) 	<ol style="list-style-type: none"> 1. The National Public Survey on White Collar Crime by Donald J. Rebovich, Jenny Layne, Jason Jiandani and Scott Hage (2000). 2. Crime in India, Statistics Record Vol.1 by CBI, Ministry of Home Affair (2019)
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Text Books:

1. Paranjape ,N.V. (2009) .Criminology and Penology. Central Law Publications.
2. Roger, Hopkins Burke.(2014). An Introduction to Criminological Theory. (4thed.), Rutledge Taylor & Francis Group London and New york.

Reference Books:

1. Ahuja, Ram. (2000). Criminology. Rawat Publication.
2. Barnes, H. E.& Teeters, N. K. (1959). New horizons in criminology. (2nd ed.). New York, NY: Prentice-Hall, Routledge Publishers.
3. Francis, T. Cullen Pamela Wilcox. (2010). Encyclopedia of Criminological Theory. SAGE Publications. University of Cincinnati, USA.
4. Hagan, Frank E.(2008). Introduction Criminology. Sage Publications, Inc.
5. Paranjape, N.V. (2016). Crime and Punishment Trends and Reflections. Lexis Nexis.
6. Reckless, Walter c., John F.Cuber. (2012). The crime Problem Literary. Licensing LLC.
7. Reid, Sue Titus. (2006).Crime and Criminology. Graw Hill.
8. Sutherland, E.H. Donald, R. Cressey. (1992). Principles of Criminology.(11thed.),General Hall Division of Rowman& Littlefield Publishers, Inc. New york.
9. Tappan, Paul w. (1960). Crime, Justice, and Correction. McGraw-Hill Book Company, Inc. New york, Toronto, London.
10. Yablasnsky, Lewis. (1990). Criminology-Crime and Criminality. Harper &Row Publishers Inc. New York.



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Faculty of Law
B.A. LL.B. (Hons)
Semester VII
BUSINESS LAW
Honours Course I

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Subject Name	Law on Merger and Acquisition	Credit	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code	10BL0701	4	3	0	2

Course Objectives

The course is designed to achieve Following Objectives:

- Corporate restructuring is a collective term for a variety of different business transactions.
- Mergers, amalgamations, acquisitions, compromises, arrangement or reconstruction are all different forms of corporate restructuring exercises in the corporate world. Corporate restructuring might result in changes like change in share capital or capital structure, change of shareholders, change of control, change of business, change of operating entities, etc.
- Corporate restructuring serves different purposes for different companies at different points of time. It may take up various forms.
- The purpose of each of these restructuring activities is different but each one of them is targeted to rebuild or rearrange the corporate structure.

Prerequisites:

Law of Contract, Corporate Law I & II

Course Outcomes

On completion of this course Student will be able to

20. Define and classify various types of corporate restructuring.
21. Identify the acquisition techniques of takeover.
22. Examine and break information relating to the planning, strategy and taxation & Stamp duty relating to the corporate restructuring.
23. Evaluate and determine process and documentation -Merger and Acquisition Transactions.
24. Interpret the regulatory approvals of Scheme & Appearance before NCLT/ NCLAT
25. Formulate and discuss the technique of Fast Track Mergers & Cross Border Mergers.

Course Content



Module: 1.	Types of Corporate Restructuring <ul style="list-style-type: none">• Introduction• Need & Scope• Legal Framework of Corporate Restructuring• Types of Restructuring	Case Laws <ul style="list-style-type: none">• Flipkart targeted Myntra• Asian Paints targeted Ess Bathroom products
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	<ul style="list-style-type: none"> • Mergers/Acquisitions and Amalgamation/ Consolidation/ Demerger/ Slump Sale /Business Sale/Divestiture / Joint Venture/ Strategic Alliance/ Reverse Merger • Financial Restructuring • Debt /Equity/ Alteration of share capital / Reduction of share capital • Modes of reduction of capital • Procedure for reduction of capital – a Flow Chart • Buy-back 	<ul style="list-style-type: none"> • RIL Targeted Network 18 Media & Investments • Merck Targeted Sigma • Sun Pharma Targeted Ranbaxy • TCS Targeted CMC • Tata Power Targeted PT Arutmin Indonesia
<p>Module: 2.</p>	<p>Acquisition of Company/ Business</p> <ul style="list-style-type: none"> • Meaning, objects kinds of Takeover • Legal aspects of Takeover • Takeover of unlisted companies/ listed companies • Definitions • Trigger Points under Takeover Regulations • Open offer thresholds • Delisting and takeover regulations • Procedure for making an open offer • Other Procedures • Withdrawal of the offer / Conditional offers/ • Competing offers • Exemptions/ General Exemption/ Specific Exemption • Obligations • Disclosures • Takeover Bids • Defence Strategies to Takeover Bids • Cross Border Takeovers 	<p>Case Laws</p> <ul style="list-style-type: none"> • ArcelorMittal India Private Limited vs. Satish Kumar Gupta and Ors. (04.10.2018 - SC) : MANU/SC/1123/2018 • Adjudicating Officer, Securities and Exchange Board of India vs. Bhavesh Pabari (28.02.2019 - SC) : MANU/SC/0296/2019 • Prakash Gupta vs. Securities and Exchange Board of India (23.07.2021 - SC) : MANU/SC/0469/2021 • Eight Capital Master Fund Limited v. SEBI Appeal No. 111 of 2008, July 22, 2009 • Mr. Deepak Mehra v. SEBI and Bharti Airtel Limited Appeal No. 140 of 2009, August 28, 2009 • Hitachi Home and Life Solutions Inc v. SEBI (SAT Order dated July 6, 2005) • Subhkam Ventures India Private Limited v. SEBI 2009 • RadheyshyamTulsian v. SEBI (SAT Order dated April 26, 2006) • Re Money Matters India Pvt. Ltd. Adjudication Order No. VSS/AO-33/ 2008 • Megha Resources Ltd. v. SEBI



Module: 3.	Planning, Strategy and Taxation & Stamp duty <ul style="list-style-type: none">• Process of Funding / Funding through various types of Financial Instruments• Oppression and mismanagement	Case Laws <ul style="list-style-type: none">• Bhor Industries Ltd. vs. The Commissioner of Income Tax, Bombay-city I (12.01.1961 - SC) : MANU/SC/0212/1961
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	<ul style="list-style-type: none">• Class Action/ Rights of Minority Shareholders during Mergers / Amalgamations/ Takeovers• Protection of Minority Interest• Case Laws/ Judicial pronouncements• Filing of various form in the process of merger / amalgamation• Family holdings and their management <p>Taxation & Stamp Duty</p> <ul style="list-style-type: none">• Taxation aspects of mergers and amalgamations• Carry forward and set off of accumulated loss and unabsorbed depreciation allowance• Capital Gains Tax• Tax aspects of slump sale/ demerger• Tax concession/incentives in case of demerger/demerged company / the shareholders of the demerged company• the resulting company• Deemed Dividend• Stamp duty aspects of merger and amalgamations• Constitutional background on levy of stamp duty• Stamp Duty payable on a Tribunal Order sanctioning Amalgamation• Amalgamation of holding and subsidiary companies – exemption	<ul style="list-style-type: none">• J.K. Industries Ltd. and Ors. vs. Union of India (UOI) and Ors. (19.11.2007 - SC) : MANU/SC/8111/2007• Pr. Commissioner of Income Tax, New Delhi vs. Maruti Suzuki India Limited (25.07.2019 - SC) : MANU/SC/0966/2019• Vodafone International Holdings B.V. vs. Union of India (UOI) and Ors. (20.01.2012 - SC) : MANU/SC/0051/2012• Saraswati Industrial Syndicate Ltd. vs. Commissioner of Income Tax (04.09.1990 - SC) : MANU/SC/0584/1990• Tata Consultancy Services Limited vs. Cyrus Investments Pvt. Ltd. and Ors. (26.03.2021 - SC) : MANU/SC/0227/2021• Commissioner of Income Tax, Chennai vs. Alagendran Finance Ltd. (27.07.2007 - SC) : MANU/SC/3110/2007
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<p>Module: 4.</p>	<p>Process and Documentation -Merger and Acquisition Transactions</p> <p>Process</p> <ul style="list-style-type: none">• Due Diligence• Types/ Practical Guide/ Managing /• Contents Report• Due Diligence Check-list• Factors Influencing Valuation• Valuation Approach/ Methods/ Regulatory Aspects• The Companies (Registered Valuers and Valuation) Rules, 2017• SEBI (Issue of capital and Disclosure Requirements) Regulations, 2018• SEBI (Issue of Sweat Equity) Regulations, 2002	<p>Case Laws</p> <ul style="list-style-type: none">• Talat Fatima Hasan vs. Syed Murtaza Ali Khan (D) by L.Rs. and Ors. (31.07.2019 - SC) : MANU/SC/1006/2019• Surinder Pal Soni vs. Sohan Lal (D) thru L.Rs. (23.07.2019 - SC) : MANU/SC/0949/2019• Khoday Distilleries Ltd. and Ors. vs. Sri Mahadeshwara Sahakara Sakkare Karkhane Ltd. (01.03.2019 - SC) : MANU/SC/0306/2019• Competition Commission of India vs. Thomas Cook (India)
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	<ul style="list-style-type: none">• SEBI (Share Based Employee Benefits) Regulations, 2014• Consolidated FDI Policy (Effective from August 28, 2017)• Approvals in Scheme of Amalgamation• Record Keeping• Integration of Businesses and Operations• Post-merger Success and Valuation• Human and Cultural Aspects• Measuring Post-Merger Efficiency• Measuring Key Indicators <p>Documentation</p> <ul style="list-style-type: none">• Stages involved in Mergers and Amalgamation• List of documents filed in case of a scheme of amalgamation• Merger and Amalgamation process at National Company Law Tribunal• Drafting of Scheme/ Notice/ Explanatory Statement• Basic principles of Drafting of Application and Petition• Filing of Rejoinder• Sample Scheme of merger	<p>Ltd. and Ors. (17.04.2018 - SC) : MANU/SC/0405/2018</p> <ul style="list-style-type: none">• Indiabulls Housing Finance Limited vs. Deccan Chronicle Holdings Limited and Ors. (23.02.2018 - SC) : MANU/SC/0163/2018• Dhole Govind Sahebrao and Ors. vs. Union of India (UOI) and Ors. (26.03.2015 - SC) : MANU/SC/0346/2015• VSE Stock Services Ltd. vs. S.E.B.I. and Ors. (04.11.2015 - SC) : MANU/SC/1280/2015
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<p>Module: 5.</p>	<p>Regulatory Approvals of Scheme & Appearance before NCLT/ NCLAT Regulatory Approvals</p> <ul style="list-style-type: none">• Approvals under Competition Act, 2002/• Income Tax Act, 1961/ SEBI / Stock Exchange(s)/ RBI/ RD / ROC/ OL/ Sector Regulators such as IRDA, TRAI, etc.• Master Direction – Amalgamation of Private Sector Banks, Directions, 2016• DOT - Merger and Acquisition Guidelines 2014 <p>Appearance before NCLT/ NCLAT</p> <ul style="list-style-type: none">• Brief of NCLT Rules• Institution of proceedings, petition, appeals etc.• General Procedure• Issuance of Orders and Disposal of Cases	<p>Case Law/ further materials</p> <ul style="list-style-type: none">• Arun Kumar Jagatramka vs. Jindal Steel and Power Ltd. and Ors. (15.03.2021 - SC) : MANU/SC/0182/2021• Companies (Compromises, Arrangements and Amalgamations) Rules, 2016• Section 5 of the Competition Act 2002• The Competition Commission of India (Procedure in regard to the transaction of business relating to combinations) Regulations, 2011
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	<ul style="list-style-type: none">• Procedures in respect of matters earlier dealt by other quasi-judicial bodies, etc.• Service of Process / Appearance of Respondents and Objections• Fee on Petition or Appeal, Process Fee and Award of Costs• Appearance of Authorised Representative• Disposal of cases and pronouncement of Orders• Brief about National Company Law Appellate Tribunal Rules, 2016• Institution of appeals – Procedure	<ul style="list-style-type: none">• Securities and Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations, 2015• The Master Direction on amalgamation of Private Sector Banks, Directions, 2016 issued by the RBI vide its Circular No. RBI/DBR/2015-16/22 Master Direction DBR.PSBD.No. 96/16.13.100/2015-16, dated April 21, 2016• National Company Law Tribunal Rules, 2016
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<p>Module: 6.</p>	<p>Fast Track Mergers & Cross Border Mergers</p> <p>Fast Track Mergers</p> <ul style="list-style-type: none"> • Introduction • Merger or amalgamation of certain companies – Section 233 • Relevant Provisions for Merger & Amalgamation • Small company • Procedural aspects of fast-track mergers • Steps involved in fast-track mergers • Post-merger effect • Practical insights <p>Cross Border Mergers</p> <ul style="list-style-type: none"> • Type of mergers • Section 234 of Companies Act, 2013 • Rule 25A of Companies (Compromises, Arrangements and Amalgamation) Rules, 2016 • Drivers and returns behind cross border mergers • Valuation of cross border firm • Regulatory, competition and taxation aspects • Recent judgements • Post-merger performance evaluation • Practical Insights • Foreign Exchange Management (Cross Border Merger) Regulations, 2018 	<p>Case Laws & further reading materials</p> <ul style="list-style-type: none"> • ONGC Mangalore Petrochemicals Limited vs. The Registrar of Companies, Karnataka (24.03.2021 - NCLT - Bengaluru) : MANU/NC/0564/2021 • IDBI Bank Ltd. and Ors. vs. EPC Constructions India Ltd. (25.11.2019 - NCLT - Mumbai) : MANU/NC/12356/2019 • Satva Jewellery and Design Limited vs. KDDL Limited (15.10.2019 - NCLT - Chandigarh) : MANU/NC/9067/2019 • Fast Track Merger- faster way of corporate restructuring by Vinod Kothari Law firm • Ensource Holdings Mauritius Limited and Ors. vs. Ensource Consulting Private Limited (27.11.2019 - NCLT - Bengaluru) : MANU/NC/11467/2019 • In Re: FIM Holdco II Ltd. and Ors. (10.03.2021 - NCLT - Chandigarh) : MANU/NC/0080/2021
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Text Books

6. Law And Procedure for Mergers/ Amalgamations, Takeovers, Joint Ventures, LLPs & Corporate Restructure by K.R. Sampath, 11th Edition, 2018, Published by Snow White Publications Pvt. Ltd.

Reference Books

18. Guide to the Companies Act by A Ramaiya, 19th edition 2020, Published by LexisNexis

Online Resources

Important Websites:

1. (a) www.mca.gov.in
2. (b) www.sebi.gov.in
3. (c) www.nclt.gov.in
4. (d) www.nclat.nic.in
5. (e) www.ibbi.gov.in
6. (f) www.rbi.org.in
7. (g) www.finmin.nic.in
8. (h) www.drt.gov.in
9. (i) www.dipp.nic.in



Marwadi
University

Faculty of Law
B.A. LL.B. (Hons)
Semester VII
CRIME & CRIMINOLOGY
Honours Course II

Subject Name	Information and Technology Offences	Credit	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code	10CR0702	4	3	0	2

Course Objectives



1. Enhance the knowledge and understanding of laws on Information & technology Offences
2. Explain the constitutional and the general legal context in which the infrastructure sector operates
3. Examine the working and importance of independent regulation in infrastructure
4. Analyse legal issues that arise in the course of implementation of infrastructure projects in India
5. To critically analyses of the laws, policies and the reforms carried out in select infrastructure sectors

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Course Outcomes

On completion of this course, the students will be able:-

1. To understand the basics in the legal framework on information technology and relevant offences
2. To analyse the laws relevant to information technology offences
3. To interpret the cyber security laws
4. To evaluate legal recognition and authentication of electronic records in relation to information technology offences
5. To apply various laws and policies to the liability of intermediaries, publishers of digital news and online curated content

Course Content

Unit	Description	Reference Reading/ Case Laws
Unit I Introduction	<ol style="list-style-type: none">1. Introduction to Computers and Information Technology; use of computers to store, retrieve, transmit and manipulate data2. Understanding cyberspace, scope and regulation; internet, e-mail and world wide web3. Interface of information technology and law; current challenges4. Computer Ethics, Business and Professional Ethics5. Need for Cyber Security; Cyber Frauds and crimes, Digital Payments6. Globalization, free flow of information and border less world	<ol style="list-style-type: none">1. Syed Asifuddin v. State of Andhra Pradesh, 2006 (1) ALD (Cri) 96; 2005 CriLJ 43142. Diebold Systems Pvt. Ltd. vs The Commissioner, ILR 2005 KAR 2210.



<p>Unit II Cyber Crime and Criminal Liabilities</p>	<ol style="list-style-type: none">1. Purpose and Object of Information Technology Act 2000; applicability and its Definitions.2. Understanding the difference between Computer Assisted Cyber Crimes and Computer Oriented Cyber Crimes3. Understanding the 3 main categories of Cyber Crimes: (1) Cyber Piracy, (2) Cyber Trespass and (3) Cyber Vandalism.4. Financial frauds (money laundering, credit card frauds, social crimes -cyber stalking, pornography, identity theft, IPR related crimes, cyber terrorism, defamation5. Tampering with computer source code (s.65)6. Hacking (s,43(a) read with s.66)7. Identity Theft and cheating by Personation (ss.66C and 66D) (phishing, email spoofing, password theft etc.)	<ol style="list-style-type: none">1. Syed Asifuddin v. State of Andhra Pradesh, 2006 (1) ALD (Cri) 96; 2005 CriLJ 43142. Sanjay Kumar v State of Haryana P &H CRR No. 66 of 2013 dt 10/01/20133. State of A.P. through Inspector of Police, Cyber Crimes P.S., CID, Hyderabad v. Prabhakar Sampath, Add. CMM Hyderabad, decided on 31/03/2015, CC 489 Of 20104. NAASCOM v. Ajay Sood, 119 (2005) DLT 596
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	<ol style="list-style-type: none">8. Obscenity and Pornography (ss.66E, 67, 67A, 67B, s.292 IPC)9. Cyber Stalking (ss.354D, 509 IPC)10. Cyber Terrorism (s.66F)11. Negligent handling of personal and sensitive personal data and information breaches (ss. 43A, 72A)12. Admissibility of Electronic Evidence – ss. 65A and 65B, The Evidence Act, 1872	<ol style="list-style-type: none">5. Aweek Sarkar v. State of West Bengal (SC) Criminal Appeal no. 902 of 2004 decided on 3/2/20146. State of Tamil Nadu v. Suhas Katti, Decided by CMM, Egmore, decided on Nov. 5, 20047. Avinash Bajaj v. State, Delhi HC decided on 29/05/20088. The State (Cyber Cell) ...Complainant v. Yogisha @ Yogesh Pandurang Prabhu, Addl. Chief Metropolitan Magistrate, 37th court, Esplanade, Mumbai C.C. No. 3700686/ps/2009 decided on 3/07/20159. Maqbool Fida Husain v. Raj Kumar Pandey, Delhi HC decided on 8/5/2008 Vaibhav Jain v. Vice Chancellor Devi ahilya Vishwavidyalaya, decided on 3 rd Jan 200210. Rakesh v. Central Bureau, Delhi District Court, 2011 5 February, 201111. Anvar P.V v. P.K.Basheer, Supreme Court, decided on 18 September, 2014, Civil Appeal No.. 4226 of 2012
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<p>Unit III Cyber Security</p>	<ol style="list-style-type: none">1. National Security- Interception, Blocking, Protected System (69-70B)2. Types of orders under cyber security framework under IT Act – Introduction to rules under the IT Act:<ol style="list-style-type: none">(a) Information Technology (Procedure and Safeguards for Interception, Monitoring and Decryption of Information) Rules, 2009;(b) Information Technology (Procedure and Safeguards for Blocking for Access of Information by Public) Rules, 2009;	<ol style="list-style-type: none">1. Shreya Singhal v U.O.I, SC decided on 24/03/2015(s. 66A)2. Ratan Tata v Union of India, Writ Petition (Civil)No. 98 of 20103. Sreekanth C. Nair v. Developer of Web-Site, Kerala High Court 28 August 2008, Cr. R.P. No.2900 of 2008
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	<p>(c) Information Technology (Procedure and safeguard for Monitoring and Collecting Traffic Data or Information) Rules, 2009;</p> <p>(d) Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021;</p> <p>(e) Information Technology (Indian Computer Emergency Response Team and Manner of Performing Functions and Duties) Rules, 2013;</p> <p>(f) Legacy framework under the Telegraph Act, 1885 and the Indian Telegraph Rules, 1951.</p> <p>3. National Security- Interception, Blocking, Protected System interface with freedom of speech and privacy</p>	
<p>Unit IV Data Protection & Privacy</p>	<p>1. Digital Privacy in India, origins and way forward;</p> <p>2. Information Technology Act, 2000; Section 43A, 72A;</p> <p>3. Information Technology (Reasonable Security Practices and Procedures and Sensitive Personal Data or Information) Rules, 2011;</p> <p>4. Personal Data Protection Bill, 2019;</p> <p>5. Global narratives on data privacy.</p>	<p>1. Justice (Retd) K. S. Puttaswamy v. Union of India, SC decided on August 24, 2017;</p> <p>2. Justice (Retd) K. S. Puttaswamy v. Union of India, SC decided on September 26, 2018;</p> <p>3. Balu Gopalakrishnan v. State of Kerala & Ors., Kerala HC, decided on April 24, 2020</p>



<p>Unit V Jurisdictional Issues in Cyber Space</p>	<ol style="list-style-type: none">1. Understanding the complications associated with “Territorial” Jurisdiction in context of the Internet and related IT offenses2. Examining the Interplay between IT offences and IPR violations.3. Tracing the Development of Global Jurisprudence; (1) Minimum Contacts Test,(2) Purposeful Availment test, (3) The ‘Zippo’ Sliding Scale Test and(4) Caldor Effects’ Test.4. Personal jurisdiction on defendant -Cause of action (s.20 CPC (ss. Criminal jurisdiction (the Code of Criminal Procedure, 1973 - ss. 177-179 , 186,188 and 189) ; Extraterritorial Jurisdiction under IT Act (s.1(2), s75, s.3 IPC)	<ol style="list-style-type: none">1. Justice S. Muralidhar, JURISDICTIONAL ISSUES IN CYBERSPACE, <i>The Indian Journal Of Law And Technology</i>, Volume 6, 20102. Banyan Tree Holding (P) Ltd. v. A. Murali Krishna Reddy &Anr., CS(OS) 894/2008 (High Court of Delhi, 23rdNovember 2009) (India).3. International Shoe Co. v. Washington 326 U.S. 340 (1945).4. Casio India Co. Limited v. Ashita Tele Systems Pvt. Limited2003 (27)
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		<p>P.T.C. 265 (Del.) (India),</p> <p>5. P.R. Transport Agency v. Union of India, AIR 2006 All 23.</p> <p>6. Super Cassettes Industries Ltd v. Myspace Inc., IA No.15781/2008 & IA No. 3085/2009 in CS (OS) No. 2682/2008(Del) decided on 29/07/2011</p> <p>7. World Wrestling entertainment v. Reshma Collections, FAO (OS) 506/2013 in CM Nos. 17627/2013, 18606/2013, Del(DB) decided on 15/10/2014</p> <p>8. Big Tree Entertainment v. Saturday Sunday Media Internet, CS (COMM) Nos. 53/2015 and 54/2015 (Del) decided on 21/12/2015</p> <p>9. Maqbool Fida Husain v. Raj Kumar Pandey, Delhi HC decided on 8/5/2008</p>
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<p>Unit VI Legal recognition and authentication of electronic records</p>	<ol style="list-style-type: none">1. UNCITRAL Model Law on Electronic Commerce, and e-signatures (1996 and 2001);2. Legal Recognition under IT Act, 2000; Authentication of record; Authentication by use of asymmetric cryptosystem; secured electronic record and secure electronic signature3. The Evidence Act, 1872; Presumptions to electronic record and electronic signatures; Proof as to electronic signature and proof of verification of digital signatures4. Public key infrastructure and Hierarchy; Role of certifying authorities, electronic signature certificate es, its suspension and revocation; publishing false digital signatures and publication of digital signatures for fraudulent purposes are offences under the Act	<ol style="list-style-type: none">1. Arjun Panditrao Khotkar v. Kailash Kushanrao Gorantyal, SC decided on July 14, 20202. Shreya Singhal v. U.O.I, SC decided on 24/03/20153. My Space Inc. v. Super Cassettes Industries Ltd., Delhi (DB), FAO(OS) 540/2011, C.M. APPL.20174/2011, 13919 & 17996/2015 decided on 23 December, 20164. Avinash Bajaj v. State Delhi HC decided on 29/05/20085. Google India Pvt Ltd v. M/s Visaka Industries
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		<p>Ltd, A P High Court Crl P No, 7207 of 2009 dt 19/4/2011</p> <p>6. Vyakti Vikas Kendra, Indian Public Charitable Trust v. Jitendra Bagga Del HC CS(OS) No. 1340/2012 decided on 09/05/2012</p>
<p>Unit VII Intermediaries liability/ Internet service providers liability</p>	<ol style="list-style-type: none"> 1. Tracing the Development of Intermediary liability in India 2. Intermediaries Guidelines Rules, 2011 Purpose and Object 3. Information Technology Intermediary Guidelines (Amendment) Rules, 2018; main provision; the features 4. Intermediary, cybercafé, Exemption from liability, due diligence etc. 5. Understanding the Safe harbor Law in India with respect to Intermediaries and IT Act, 2000 6. Information Technology (Guidelines For Intermediaries And Digital Media Ethics Code) Rules, 2021; Juxtaposing these rules with the current Stand Off between the Indian Government and the Big Tech Companies with special focus on understanding the future of Indian Intermediary Governance. 	<ol style="list-style-type: none"> 1. Avnish Bajaj v. State and the Amendment to the IT Act (2008) 2. The Information Technology (Intermediaries Guidelines) Rules, 2011 (“Intermediary Guidelines”) (2011 3. Shreya Singhal v. Union of India (2015 4. My Space Inc. v. Super Cassettes Industries Ltd. (2017 5. Kent Ro Systems Ltd & Anr. v. Amit Kotak & Ors. (2017) 6. Christian Louboutin SAS v. Nakul Bajaj and Ors (2018) 7. M/S Luxottica Group S.P.A & Another v. M/S Mify Solutions Pvt. Ltd & Ors (2019 8. Amway India Enterprises Pvt. Ltd. v. 1Mg Technologies Pvt. Ltd. & Anr. (2019)



Unit VIII E-Contracts	<ol style="list-style-type: none">1. Understanding E-Commerce and its relevance in Modern IT Offenses Law; Business-to-Business (B2B), Business-To-Consumer (B2C), C2B, C2C;2. Opening Up of the Doors for E-Contracts in India: Exploring BhagvanDasKedia Case3. Types of E-Contracts: (1) Click Wrap, (2) Browse Wrap and (3) Shrink Wrap Examining E-Governance in the Indian Context	<ol style="list-style-type: none">1. Bhagwandas Goverdhandas Kedia v. M/S. Girdharilal Parshottamdas ... on 30 August, 1965 Equivalent citations: 1966 AIR 543, 1966 SCR (1) 656
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Text Books



1. Gupta, Apar; Commentary on Information Technology Act; LexisNexis (2015)
2. Suri, Preeti and Associates; Open Source And The Law; LexisNexis (2006)

Reference Books

- 1) Aparna Viswanathan, Cyber Law (Indian & International Perspectives on key topics including Data Security, E-commerce, Cloud Computing and Cyber Crimes)(2012) □
- 2) Debrati Halder & H Jaishanker, Cyber Crimes Against Women, Sage Publications 1st Ed. (2017) □
- 3) Internet Law and Practice by International Contributors, West Thomson Reuters, South Asian Edition (2013) □
- 4) Kamath Nandan, Law Relating to Computers Internet & E-commerce - A Guide to Cyberlaws & The Information Technology Act, Rules, Regulations and Notifications along with Latest Case Laws (2012)
- 5) Karnika Seth, Computers Internet and New Technology Laws (2013) □
- 6) Kamlesh K Bajaj, Debjani Nag, E-commerce: the cutting edge of business, 2nd Ed. (2005) □
- 7) Lawrence Lessig, Code and Other Laws of Cyberspace 1999, Code version 2.0, Basic Books Publication (2006)
- 8) Prashant Mali, Cyber Law and Cyber Crimes, 2nd Ed. (2015) □
- 9) SK Verma and Raman Mittal (Eds.), Legal Dimensions of Cyberspace (2004) □
- 10) Vakul Sharma, Information Technology Law & Practice (2014) □
- 11) Pavan Duggal, Data Protection Law in India (2016);
- 12) Rahul Matthan, Privacy 3.0: Unlocking our Data-Driven Future (2018).
- 13) Cyber Crime by Talt Fatima (EBC)
- 14) Cyber Law of Information Technology and Internet by Anirudh Rastogi.

Bare Acts

6. The Information Technology Act, 2000;

E-Readings



- 1) Nishith Desai, E-commerce in India – Legal, tax and regulatory analysis available at http://www.nishithdesai.com/fileadmin/user_upload/pdfs/Research%20Papers/ECommerce_in_India.pdf.
- 2) Hemali Shah and Aashish Srivastavat —Signature Provisions in the Amended Indian Information Technology Act 2000: Legislative Chaos, 43 Comm. L. World Rev. 208 2014 available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2748441.
- 3) Christopher Reed, —Legally binding electronic documents: Digital Signatures and Authentication 35(1) International Lawyer 89-106 available at <http://www.jstor.org/stable/40707597>.
- 4) Amlan Mohanty, New Crimes under the Information Technology Amendment Act, 7 Ind. J. L. & Tech. 103 (2011) available at Westlaw India.
- 5) Michael Gisler et. Al., “Legal Aspects of Electronic Contracts, available at <http://kavehh.com/my%20Document/Essex/Digital%20signature/legal%20aspect%20of%20Electronic%20Contracts.pdf>.
- 6) Mayuri Patel and SubhasisSaha, —Trade Mark in Digital Era, 13 JIPR 118-128 March 2008) available at <http://nopr.niscair.res.in/bitstream/123456789/425/1/JIPR%2013%282%29%20%282008%29%20118-128.pdf>.



7) [Arun Prabhu, Cyril Amarchand, Data Protection & Privacy in India: The Emerging Picture, available at https://www.ima-india.com/cfort2020/Presentations/Arun_Prabhu.pdf](https://www.ima-india.com/cfort2020/Presentations/Arun_Prabhu.pdf)

 Marwadi University	Faculty of Law B.A. LL.B. (Hons) Semester VII BUSINESS LAW Honours Course II				
	Subject Name Law on infrastructure Development	Credit	Teaching Scheme		
Subject Code 10BL0702	4	Theory 3	Practical 0	Tutorial 2	

Course Objectives

1. To acquire knowledge and understanding of laws on Infrastructure Development in India
2. To explain the constitutional and the general legal context in which the infrastructure sector operates
3. To examine the working and importance of independent regulation in infrastructure
4. To analyse legal issues that arise in the course of implementation of infrastructure projects in India
5. To critically analyses of the laws, policies and the reforms carried out in select infrastructure sectors

Course Outcomes



On completion of this course, the students will be able

1. To understand the basics in infrastructure laws in order to undertake advanced courses in the field
2. To analyse the comparative assessment of the regulatory laws and policies of different infrastructure sectors
3. To interpret the main aspects of the legal framework that governs the development of infrastructure projects through private participation
4. To evaluate the core issues in general and specific infrastructure sectors
5. To apply various laws, policies, judicial pronouncement, and reforms in the field of infrastructure.

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Course Content

Unit	Description	Reference Reading/ Case Laws
Module I Concept of Infrastructure (8 Hours)	<p>a) Need for Infrastructure development</p> <p>b) Introduction, Public Private Partnership – Procurement Process, Stake holders in regulating Infrastructure: New dimensions.</p> <p>c) Public interest, public policy, and public order, Legal empowerment: PIL and RTI.</p> <p>d) Role of Judiciary and courts in infrastructure projects: Challenges ahead.</p>	<p>7. Baskakova I.V., Malafeev N. S. The Concept of Infrastructure: Definition, Classification and Methodology for Empirical Evaluation. <i>Izvestiya Uralskogo gosudarstvennogo ekonomicheskogo universiteta – Journal of the Ural State University of Economics</i>, 2017, no. 3 (71), pp. 29–41.</p> <p>8. De.P. (2008), ‘Infrastructure Development in India’, in Kumar, N. (ed.), <i>International Infrastructure Development in East Asia – Towards Balanced Regional Development and Integration</i>, ERIA Research Project Report 2007-2, Chiba: IDE-JETRO, pp.105-130.</p> <p>9. Anna Wojewnik-Filipkowska and Joanna Węgrzyn, <i>Understanding of Public–Private Partnership Stakeholders as a Condition of SD, Sustainability</i> 2019, 11, 1194.</p> <p>10. Sumathi Chandrashekar Diksha Sanyal Reshma Sekhar, <i>Courts Surveying the Infrastructure of India’s District Courts</i> (2019)</p> <p>11. <i>Center for Public Interest Litigation Vs. Union of India, Writ Petition (C) Nos 171 and 286 of 2003</i></p> <p>12. <i>Bangalore Mysore Infrastructure Corridor Area Planning Authority and Ors. Vs. Nandi Infrastructure Corridor Enterprise Limited and Ors.</i> (19.05.2020) MANU/SC/0451/2020</p>



Module II Infrastructure PPP model in India (8 Hours)	a) Current Status of Public Private Partnership in India b) Public Private Partnership related framework in India and evolving PPP Policy	13. India PPP summit 2017- Revival of PPP momentum in the transportation sector, FICCI India; 26 July 2017. 14. NITI AAYOG (National Institution for transforming India) Government of India. 15. Harris, Clive. India leads developing nations in private sector investment.
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	c) Urbanization and Public Private Partnerships	Washington D.C. : Public-Private infrastructure Advisory Panel, 2008. PPIAF 16. Compendium on Public Private Partnership in Urban Infrastructure – Case Studies by Ministry of Urban Development, Government of India.
Module III Constitutional aspects (8 Hours)	a) Allocation of jurisdiction over different infrastructure sectors between the Centre and State - law making powers b) Allocation of natural resources: Judicial review c) Administrative law	17. Report by Institute of economic growth, Delhi titled “Resource Sharing between Centre and States and Allocation across States: Some Issues in Balancing Equity and Efficiency”(July, 2019) 18. Approach to Regulation of Infrastructure, Published by The Secretariat for the Committee on Infrastructure Planning Commission, Government of India (2008)
Module IV Independent regulation: New Mechanism of Governance in infrastructure (10 Hours)	a) Theories of regulation-genesis of Independent regulation b) Evolution of regulation in different jurisdictions- Design and structure of Regulators- scope and functions-regulatory process- regulatory autonomy and accountability-regulatory predictability and certainty	19. Bhatiani, Gaurav. ‘Independent Regulation of Infrastructure Services in India: a Review’. 1 Jan. 2002 : 27 – 44.



Module V
Infrastructure
Sectoral policies,
reforms and
laws (26 Hours)

➤ **Land Acquisition**

- a) Concepts of eminent domain and public purpose
- b) The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013: Social Impact Assessment,
- c) Requirement of consent in the case of certain acquisitions, compensation, rehabilitation and resettlement.

➤ **Power Sector/Electricity**

- Introduction-evolution of the power sector reforms, policies
- Electricity Act, 2003

- 20. State of Karnataka Vs. GMR Energy Limited (09.10.2014 - KARHC) [MANU/KA/3660/2014](#)
- 21. A. P. Electricity Regulatory Commission Vs. RVK Energy Pvt. Ltd And Ors. (15.10.2014 - SC Order) [MANU/SCOR/41216/2014](#)
- 22. The Indian Railways, Government of India Vs. Power Grid Corporation of India Limited and Ors. (05.11.2015 - CERC) [MANU/CR/0197/2015](#)
- 23. Sesa Sterilite Ltd Vs. Orissa Electricity regulatory Commission 2014 (8) SCC 444 <https://www.latestlaws.com/latest-caselaw/2014/april/2014-latest-caselaw-320-sc/>
- 24. Energy Watchdog and Ors. Vs. Central Electricity Regulatory Commission (11.04.2017 - SC) [MANU/SC/0408/2017](#)



	<ul style="list-style-type: none"> ● National Electricity policy-legal framework- the state electricity boards- licensing framework- Provisions Relating to and working of Electricity Regulatory Commissions-their structure, role and functions ➤ Telecommunications The national telecom policies-the legal framework- regulatory agencies functioning, power and functions of TRAI and TDSAT ➤ Oil, Petroleum and Natural Gas Reforms, policies and legal framework -New Exploration Licensing Policy (NELP)- production sharing contracts- the Petroleum Regulatory and Natural Gas Board Act – the emerging regulatory reforms ➤ Water Water policy General Legal framework and reforms- Water rights- state jurisdiction- new regulatory reforms in water sector. ➤ Transport Law, policy and reforms relating to Airports- Railways-Road –Port; TAMP; an overview of coastal shipping and Inland Water Transport policy ➤ Real estate The Real Estate (Regulation and Development) Act, 2016 	<p>25. West Bengal State Electricity Distribution Company Ltd. and Ors. Vs. Orion Metal Pvt. Ltd. and Ors. (21.08.2019 - SC) MANU/SC/1134/2019</p> <p>26. Competition Commission of India Vs. Bharti Airtel Limited and Ors. (05.12.2018 - SC) MANU/SC/1423/2018</p> <p>27. Star India Private Limited Vs. Department of Industrial Policy and Promotion and Ors. (30.10.2018 - SC) MANU/SC/1238/2018</p>
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Text Books



3. Kumar V. Pratap and Rajesh Chakrabarti, Public-Private Partnerships in Infrastructure Managing the Challenges, Springer Nature Singapore Pte Ltd., 2017.
4. Joshi, Piyush, Law Relating to Infrastructure Projects. 2nd Edn. New Delhi: Butterworths, 2003.

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Reference Books

- 15) Kumar V. Pratap and Rajesh Chakrabarti, Public-Private Partnerships in Infrastructure Managing the Challenges, Springer Nature Singapore Pte Ltd., 2017.
- 16) Baldwin, R. and C. McCrudden, Regulation and Public Law. London: Weidenfeld & Nicolson, 1987.
- 17) Joshi, Piyush, Law Relating to Infrastructure Projects. 2nd Edn. New Delhi: Butterworths, 2003.
- 18) Sarkar, S K , and Srivastava L. (eds.), Reforms in the Infrastructure Sectors: Next Steps, TERI Press, New Delhi, 2002.
- 19) Sundar, S. and Sarkar S. K, Framework for Infrastructure Regulation. New Delhi: TERI Press, 2000.
- 20) Shapiro, S. and Tomain, J., Regulatory law and policy: Cases and materials. New Delhi: LexisNexis, 2003.
- 21) Philippe Cullet and Sujith Koonan, Water Law in India: An Introduction to Legal Instruments, 2012.
- 22) Talat Fatima, Transport Law in India, Kluwer Law International, 2012.
- 23) S. K. Chatterjee, Commentary on the Electricity Laws of India, Delhi Law House, 2013.
- 24) Vikram Raghavan, Communications Law in India (Legal Aspects of Telecom, Broadcasting and Cable Services, Lexis Nexis, 2007.

Bare Acts, Journals and websites to be referred

7. Constitution of India
8. Right to information Act, 2005
9. The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013
10. Electricity Act, 2003
11. [Telecom Regulatory Authority of India Act, 1997](#)
12. The Petroleum and Natural Gas Regulatory Board Act 2006
13. The Real Estate (Regulation and Development) Act, 2016

Reference Case Laws



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1. PTC India Limited Vs. Central electricity Regulatory Commission, (2010) 4 SCC 603
2. Tata power Company Ltd. Vs. MERC, (2011) APTEL
3. Jindal Steel & Power Ltd Vs. Chattisgarh SERC (2008) APTEL
4. Chattisgarh State Power Distribution Co. Vs. Aryan Coal Benefications, (2010)

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5. Union Of India Vs. Telecom Regulatory, 1998 VAD Delhi 209, 74 (1998) DLT 282, 1998 (46) DRJ 557
6. [Bharti Cellular Ltd. Vs. Union of India, \(2010\) 10 SCC 174](#)
7. General Manager Vs. T Krishnan and Ors.2009 INDLAW SC 1082
8. Star India Pvt. Ltd Vs. Sea T.V. Network Ltd. & Another on 3 April, 2007

Online Resources

- 8) www.infrastructure.gov.in
- 9) <https://dea.gov.in/divisionbranch/infrastructure-and-energy-division>
- 10) <https://indiainfrastructure.com/research/>
- 11) <https://indianinfrastructure.com/>

 Marwadi University	Faculty of Law B.A.LL.B. (Hons.) Semester VII				
Subject Name	Internship (Supreme Court/Law Firm/Corporate House 1) 4 Weeks	Credit	Teaching Scheme		
Subject Code	10FL0706		Theory	Practical	Tutorial
		2	0	0	0

Course Objectives:

The course is designed to achieve Following Objectives:

- To involve students in legal research, analysis and reasoning
- To appreciate values of the profession, including the importance of pro bono service and the responsibility to promote justice.

Learning Outcomes:

After completion of the course, students would be able to :

- Identify, accurately formulate, and apply the rules or principles of law pertinent to the situation;
- Draw and explain relevant factual analogies and distinctions;
- Develop, elaborate, and evaluate legal theories relevant to the situation; and
- Critically examine the rules, principles, and reasoning upon which legal arguments are based.



Detailed Syllabus:



Sessions (in hours)	Nature of Work done	Learning Outcome	Remarks
1 st week			
2 nd week			
3 rd week			
4 th week			

RULES

1. All Internships mentioned in the above-mentioned table shall be completed by a student in order to be eligible for the award of the degree of B.A.LL.B.(Hons.)/B.Com.LL.B. (Hons.).

2. An internship can be arranged by a student or the same can be arranged by Faculty of Law, Marwadi University, Rajkot.

2.1 Procedure to be followed when student is self-arranging internship

a. Student shall submit the details of the internship office to the internship committee before beginning the internship as per the internship calendar notified by the Internship Committee.

b. Student shall obtain a recommendation letter from Dean, Faculty of Law before starting the internship.

c. Student shall submit the Internship Confirmation Letter before starting the internship.

d. If a student is self-arranging the Internship, the parameters set up by Faculty of Law, Marwadi University, Rajkot shall be fulfilled by the Organisation / Lawyer / Company.

e. Student shall not change the internship office without obtaining approval from the Internship Committee at Faculty of Law, Marwadi University, Rajkot.

f. If a student changes the internship office without obtaining the approval from the Internship Committee, such internship shall not be considered for any purpose by Faculty of Law, Marwadi University, Rajkot.

g. Student shall be informing the internship office regarding issuing of Confidential Internship Certificate and Internship Completion Certificate. If the internship office refuses to issue any of the documents mentioned above, the internship committee shall not make any communication to the internship office, it shall be the sole responsibility of the student to get documents mentioned above.

2.2 Procedure to be followed when Faculty of Law, Marwadi University, Rajkot will arrange the Internship

a. Student shall submit the request in writing of arranging internship to the Internship Committee at Faculty of Law, Marwadi University, Rajkot three months prior from the starting the internship, failing which Faculty of Law shall not be responsible to arrange the internship, Student shall be responsible for self-arranging the internship and he/she shall be following all the steps mentioned in



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b. The internship office arranged by Faculty of Law, Marwadi University Rajkot, shall be final. The student shall be joining the internship office on time. No request for change of internship office shall be entertained.

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c. No preferences from a student with regard to place of internship or internship office shall be entertained by Internship Committee, Faculty of Law, Marwadi University, Rajkot.

d. Student shall bear the cost of stay, travel and any other expenses during the time of internship. Student will have to arrange his/her accommodation. e. If a student does not join the Internship office as provided to him by Internship Committee, Faculty of Law, Marwadi University, Rajkot, in future no assistance what so ever shall be provided by Internship Committee to that student except providing him a recommendation letter.

PROCESS DURING AND AFTER COMPLETION OF INTERNSHIP

9. Student shall maintain daily record of work as per the format provided below and submit weekly progress report to their Faculty Coordinator allocated by the Internship Committee.

10. Format of Weekly Report: Name of the Student:

Course: B.A.LL.B.(Hons.)/B.Com.LL.B.(Hons.) Semester:

Name of the Internship: NGO/LC-1/LC-2/HC-1/HC-2/SC-1/SC-2/Placement

Name of the Internship Office:

Name of the Reporting Head at Internship Office:

Week: 1/2/3/4 Dates: DD/MM/YYYY to DD/MM/YYYY

Sr. No. Date Nature of Work done Learning Outcome 1 2 3 4

2. There shall be a separate weekly report for each week of internship. The weekly report in soft copy shall be submitted to Faculty Coordinator as per the schedule notified by the Internship Committee.

3. At the end of the internship a Final Report both in hard copy as well as in soft copy prepared by the student shall be submitted to the Faculty Coordinator.

4. Late submission of weekly reports and Final Reports shall attract deduction of the marks by the Faculty Coordinator.

5. If weekly report submission is delayed by more than seven days from the due date, it shall be considered as no weekly report submission on the part of the student.

6. The mode (google form, email etc.) of Weekly and Final Internship report submission shall be notified by the Faculty Coordinator. Submission in any other mode shall be considered as no submission on the part of student.

7. The Final Report of the Internship shall be submitted in hard copy to the Faculty coordinator, while submitting the Final report in hard copy the Student shall sign the sheet of final report submission available with Faculty coordinator.

8. The student must make sure that the weekly and final report submitted by him/her shall not be a plagiarised, copied or similar to the work submitted by any other student of Faculty of Law, Marwadi University, Rajkot.

9. In case weekly or final report have been found to be plagiarised, copied or similar to the work submitted by any other student of Faculty of Law, Marwadi University, Rajkot then such case shall be considered to be a case of use of unfair means in examination. A committee shall be constituted by the Dean, Faculty of Law to inquire into the cases of use of unfair means. The decision shall be taken by Dean, Faculty of Law, Marwadi University based on the recommendations made by the inquiry committee.

10. The student shall submit a copy of the Internship Certificate counter signed by the her/him to the



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Faculty Coordinator allocated by the Internship Committee.

11. Non-submission of the certificate shall lead to cancellation the Internship and the student shall be repeating the same internship again in future.

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12. A student shall make sure the internship office is submits the Confidential Internship Certificate to the Faculty Coordinator via mail or post in a sealed envelope.

13. Internship Confidential Certificate must be signed and seal of the Internship office/Advocate must be there on it, without signature and seal Internship Confidential Certificate shall not be considered for any purpose.

14. After the submission of final internship report, a viva-voce examination shall be conducted in which the student shall be examined by external/internal examiner. Students shall be evaluated based on the work they have done during the internship, presentation and practical knowledge gained.

15. If a student fails to complete internship, such student shall be declared fail. He/she shall have to complete the same internship in future in order to become eligible for the award of Degree of B.A.LL.B./B.Com.LL.B.

16. In case any misconduct or unprofessional behaviour of a student during internship is being reported by the internship office to the Internship Committee, Faculty of Law, Marwadi University, Rajkot, the same shall be inquired by a committee constituted by the Dean, Faculty of Law, Marwadi University, Rajkot and the decision shall be taken by the Dean, Faculty of Law, Mawardi University, Rajkot based on the recommendations made by the inquiry committee.

17. The format of the Final Internship Report is as follows

List of Contents

Sr.No.

Title Page No.

1 Acknowledgement

2 Table of Statutes

3 Abbreviations

4 Introduction

5 Internship Work Overview

6 Conclusion

7 Experience sharing

8. Evaluation Scheme:

CONFIDENTIAL CERTIFICATE

Name of the Student:

Institute/Organization:

Name & Address of the Supervisor:

STUDETNT PERFORMANCE

Specific remarks about the overall performance of the student toward tasks: (Enthusiastic; eager to learn; receptive; diligent; highly engaged; conscientious; indifferent; disinterested)

Skill of the student in executing tasks: (Well developed critical thinking & analytical skills; shows



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initiative; learns quickly; productive; meets deadlines; needs to ask more questions; often fails to understand or follow directions; requires close supervision)

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How far the student is Dependable: (Conscientious; exercises good judgment; follows through consistently on tasks; persistent with difficult tasks; hesitant to make decisions; careless in meeting obligations)

General Conduct & Character: (Positive attitude; suitable dress & grooming; prompt; accepts praise and criticism appropriately; accountable; makes excuses; overly casual in approach)

Maintaining relationships with others: (Respectful; cooperative; receives suggestions well; open; mature; tactful; friendly; shy; impolitic; argumentative)

Merit Based Overall Evaluation of the Interns Performance:

- Outstanding (performed beyond expectations)
- Very good (high quality performance)
- Good (performed all tasks as expected)
- Average (marginal performance)
- Unsatisfactory (performance mostly inadequate)

(SIGNATURE OF THE SUPERVISOR WITH OFFICE SEAL)

DATED

 Marwadi University	Faculty of Law B.A. LL.B. (Hons) Semester VIII				
	Subject Name Banking and Insurance Law	Credit 4	Teaching Scheme		
Theory			Practical	Tutorial	
Subject Code 10FL0801		3	0	2	

Course Objectives



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The course is designed to familiarize students with the followings:

- a. To create acquaintance on the Subject discipline of Banking and Insurance Laws
- b. To learn the concept of various banking and Insurance Instruments

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c. To understand the applicable Rules and principle in both industry in India.

Prerequisites:

None

Course Outcomes

On completion of this course, students will be able to

1. Define facts & ideas relating to banking and insurance laws.
2. Identify techniques & rules in Banking System.
3. Examine the evidences of generalizations in Negotiable Instruments, SARFAESI Act and Foreign Exchange Management.
4. Appraise judgments related to insurance.
5. Develop new pattern to overcome problems related to health/ general/agriculture/ motor insurances.

Detailed Syllabus: (per session plan)

Unit/Session (in hours)	Description	Case Laws/ Reading Material
Module 1 Introduction (15 hours)	<ul style="list-style-type: none"> • Overview of Indian Banking System <ul style="list-style-type: none"> ➤ -Indian Banking System – An Evolution ➤ -Types of banks • Regulatory Framework of Banks <ul style="list-style-type: none"> ➤ Reserve Bank of India Act, 1934 (An Overview) • Control Over Organization of Banks <ul style="list-style-type: none"> ➤ Issuing of Licence ➤ Branch Licensing ➤ -Mobile Branches – Extension to All Tiers ➤ -Foreign Banks ➤ -Indian Banks 	<ul style="list-style-type: none"> • RBI functions & Other materials – available in www.rbi.org.in • Bhavnagar District Cooperative Bank Ltd. and Ors. vs. State of Gujarat and Ors. (10.04.2014 - GUJHC): MANU/GJ/1524/2014 • In Re: Idea Mobile Commerce Services Limited and Ors. (03.01.2017 - DELHC): MANU/DE/0004/2017 • Ram Jethmalani and Ors. vs. Union of India (UOI) and Ors. (04.07.2011 - SC):



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MANU/SC/0711/2011

- **Consumer Protection**

- **HDFC Bank Limited and Ors. vs. CTO Anti Evasion Rajasthan, Circle-III, Jaipur and Ors. (23.02.2017 -**

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	<ul style="list-style-type: none">➤ Constitution of Consumer Protection Councils/ Authority/ Redressal Forum➤ Central/State/District Consumer Protection Council➤ District/State/Central Consumer Disputes Redressal Commission	<p>RAJHC): MANU/RH/1721/2017</p> <ul style="list-style-type: none">• Ganesh Bank of Kurundwad Ltd. and Ors. vs. Union of India (UOI) and Ors. (05.04.2006 - BOMHC): MANU/MH/0123/2006• Jayant Verma and Ors. vs. Union of India (UOI) and Ors. (16.02.2018 - SC): MANU/SC/0133/2018• Sepco Electric Power Construction Corporation vs. Power Mech Projects Ltd. (24.08.2021 - SC): MANU/SC/0564/2021• Royal Bank of Scotland PLC vs. Axis Bank Ltd. and Ors. (25.08.2017 - SC): MANU/SC/1091/2017• Vimal Chandra Grover vs. Bank of India (26.04.2000 - SC): MANU/SC/0316/2000• Internet and Mobile Association of India vs. Reserve Bank of India (04.03.2020 - SC): MANU/SC/0264/2020• Amitabha Dasgupta vs. United Bank of India and Ors. (19.02.2021 - SC): MANU/SC/0100/2021
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<p>Module 2</p> <p>Negotiable Instruments</p> <p>(15 hours)</p>	<ul style="list-style-type: none"> ➤ Regulatory Framework ➤ Types of Negotiable Instruments <ul style="list-style-type: none"> ○ cheque & banking system ➤ The Consumer Protection (e-Commerce) Rules, 2019 ➤ The Banking Ombudsman Scheme 2006 ➤ Internal Ombudsman Scheme, 2018 for Scheduled Commercial Banks ➤ Ombudsman Scheme for Digital Transactions, 2019 • Loans and Advances <ul style="list-style-type: none"> ➤ Regulatory Framework ➤ Basic Principles of Lending ➤ Different Types of Borrowers ➤ Fund Based Credit Facilities ➤ Non-Fund Based Limits ➤ Restriction On Lending • Securities for Banker's Loan <ul style="list-style-type: none"> ➤ Regulatory Framework ➤ Securities for Banker's Loan ➤ Assignment ➤ Lien ➤ Set-Off ➤ Appropriation ➤ Pledge ➤ Hypothecation ➤ Mortgage ➤ Indemnities and Guarantees ➤ Book Debts ➤ Corporate Securities (Shares / -Debentures / Bonds) ➤ CERSAI ➤ Charge Creation ➤ Judicial Pronouncements 	<ul style="list-style-type: none"> • Meters and Instruments Private Limited and Ors. vs. Kanchan Mehta (05.10.2017 - SC): MANU/SC/1256/2017 • Bhupesh Rathod vs. Dayashankar Prasad Chaurasia and Ors. (10.11.2021 - SC): MANU/SC/1046/2021 • Gimpex Private Limited vs. Manoj Goel (08.10.2021 - SC): MANU/SC/0829/2021 • Kadamba Transport Corporation Limited vs. Damodar K. Shirodkar and Ors. (27.11.2021 - BOMHC): MANU/MH/3801/2021 • Blackburn Metals vs. Zep Engineering Works and Ors. (06.10.2021 - BOMHC): MANU/MH/3067/2021 • Industrial Investment Bank of India Ltd. vs. Biswanath Jhunjunwala (18.08.2009 - SC): MANU/SC/1475/2009 • Central Bank of India vs. Kailash Chandra Gaur (23.08.2016 - SC): MANU/SC/1327/2016 • Yes Bank Limited vs. Zee Entertainment Enterprises Limited and Ors. (19.08.2020 - BOMHC): MANU/MH/1009/2020 • Sulekhabai Yeshwantrao Chowghule and Ors. vs. Vahid Jahangir and Ors. (07.08.2015 - BOMHC): MANU/MH/1896/2015
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	<p>➤ Important Provisions and terms in SARFAESI Act</p>	<ul style="list-style-type: none">• State of Maharashtra vs. Vikram Anantrai Doshi
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	<ul style="list-style-type: none">● Non-Performing Assets<ul style="list-style-type: none">➤ Regulatory Framework➤ Classification of Bank Advances on basis of Performance➤ Non-Performing Asset (NPA)➤ Revised Framework➤ BIFR (Board for Industrial and Financial Reconstruction)➤ Asset Reconstruction Companies (ARCs)➤ Debt Recovery Tribunals (DRTs)➤ Enforcement of security under SARFEASI● Risk Management in Banks and Basel Accords<ul style="list-style-type: none">➤ Regulatory Frame Work➤ Stages/ Credit of Risk Management &➤ Forms of Credit Risks➤ Role of RBI in Risk Management in Banks➤ Prompt Corrective Action – 2017➤ Basel I, II and III Accords	<ul style="list-style-type: none">(19.09.2014 - SC): MANU/SC/0842/2014● The Government of India v Vijay Mallya (10.12.2018 - INOT): MANU/INOT/0006/2018● S. Karthik and Ors. vs. N. Subhash Chand Jain and Ors. (23.09.2021 - SC): MANU/SC/0703/2021● Rojer Mathew vs. South Indian Bank Ltd. and Ors. (13.11.2019 - SC): MANU/SC/1563/2019
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<p>Module 3 Concept of Insurance</p> <p>(15 hours)</p>	<ul style="list-style-type: none">• Evolution of Insurance• History of Insurance in India• Regulation of Insurance Business in India• Life Assurance Products• Health Insurance Products• General Insurance Products• Insurance Regulatory and Development Authority of India ('IRDAI')• Insurance Core Principles ('ICP')	<ul style="list-style-type: none">• United India Insurance Company Limited and Ors. vs. Manubhai Dharmasinhbhai Gajera and Ors. (16.05.2008 - SC): MANU/SC/7754/2008• Astute Management Consultancy Pvt. Ltd. vs. New India Assurance Co. Ltd. and Ors. (01.10.2020 - BOMHC): MANU/MH/1466/2020
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<p>Module 4 Regulatory Aspects for various Insurance Sectors (15 hour)</p>	<ul style="list-style-type: none"> • Health Insurance <ul style="list-style-type: none"> ➤ Hospitalization ➤ Health Financing Models and Health Financing in India ➤ Health Insurance Underwriting Policy ➤ Legal Framework of Health Insurance • General Insurance –Practices and Procedures <ul style="list-style-type: none"> • Insurance Policy Contract • Insurance Documentation • Claims In General Insurance • Claims Management in General Insurance • Life Insurance Council and General Insurance Council • Life Insurance – Practices/ Underwriting/ Applications • -Other Areas of Protection of Policyholders Interests • Agricultural Insurance <ul style="list-style-type: none"> ➤ Pradhan Mantri Fasal Bima Yojana ➤ Weather Based Crop Insurance Scheme (WBICS) ➤ Unified Package Insurance Scheme (UPIS) • Insurance related aspect of Motor Vehicle Act <ul style="list-style-type: none"> ➤ Basic Principles of Motor Insurance ➤ Types of Motor Insurance Policies ➤ Claim Procedure for Motor Insurance 	<ul style="list-style-type: none"> • Ahmed Abdulla Ahmed Al Ghurair and Ors. vs. Star Health and Allied Insurance Company Limited and Ors. (26.11.2018 - SC): MANU/SC/1333/2018 • Jacob Punnen and Ors. vs. United India Insurance Co. Ltd. (09.12.2021 - SC): MANU/SC/1212/2021 • Reliance Life Insurance Co. Ltd. and Ors. vs. Rekhaben Nareshbhai Rathod (24.04.2019 - SC): MANU/SC/0593/2019 • United India Insurance Company Limited and Ors. vs. Manubhai Dharmasinhbhai Gajera and Ors. (16.05.2008 - SC): MANU/SC/7754/2008 • Jagmohan Singh vs. National Insurance Company Limited and Ors. (09.04.2019 - UCHC): MANU/UC/0179/2019 • Mahaveer Prasad Pareek and Ors. vs. United India Insurance Company Ltd. and Ors. (08.09.2016 - RAJHC): MANU/RH/0749/2016 • Bajaj Allianz General Insurance Co. Ltd. and Ors. vs. The State of Madhya Pradesh (24.04.2020 - SC): MANU/SC/0410/2020 • Agricultural Insurance Company of India Limited vs. The State of Bihar and Amr. (22.10.2019 - SC Order): MANU/SCOR/41813/2019
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		<ul style="list-style-type: none">• The Agricultural Insurance Co. Ltd. vs. Arun and Ors.
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		<p>(03.12.2019 - SC Order): MANU/SCOR/72054/2019</p> <ul style="list-style-type: none">• Kalim Khan and Ors. vs. Fimidabee and Ors. (03.07.2018 - SC): MANU/SC/0677/2018• Bajaj Allianz General Insurance Company Ltd. vs. Kiran Devi and Ors. (03.06.2020 - JHRHC): MANU/JH/0916/2020• National Insurance Company Limited vs. Asha Meghwal and Ors. (10.03.2021 - RAJHC): MANU/RH/0262/2021• Harbhan Singh Jat vs. The National Insurance Company Ltd. and Ors. (25.03.2019 - RAJHC): MANU/RH/0301/2019• The Oriental Insurance Company Ltd. vs. Gorkhi Devi and Ors. (29.11.2021 - HPHC): MANU/HP/0940/2021• National Insurance Company Ltd. vs. Chamundeswari and Ors. (01.10.2021 - SC): MANU/SC/0751/2021
60 Hours		

Text Books

1. M.L TANNAN, REVISED BY C.R. DATTA & S.K. KATARIA ON TANNAN'S BANKING - LAW & PRACTICE IN INDIA, [23rd edition, reprint 2016 by Lexis Nexis Butterworths Wadhwa Nagpur]
2. M N SRINIVASAN ON PRINCIPLES OF INSURANCE LAW, [Lexis Nexis Butterworths Wadhwa Nagpur 2021]



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Reference Books

1. RAJIV JAIN: INSURANCE LAW AND PRACTICE, [Vidhi Publication Private Limited 2019]

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2. DR. AVTAR SINGH: LAW OF INSURANCE, [Universal Publication Pvt. Limited 2018]
3. A.B. SRIVASTAVA AND K. ELUMALAI: SETH'S BANKING LAW, [Law Publisher's India (P) Limited 2017]
4. R.K. GUPTA: BANKING LAW AND PRACTICE, [Modern Law Publications 2018]

 Marwadi University	Faculty of Law B.A. LL.B. (Hons) Semester VIII				
Subject Name	Private International Law	Credit	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code	10FL0802	4	3	0	2

Course Objectives:

- a. To encourage the development of skills in legal reasoning and analysis among the students of private international law
- b. To introduce students to basic theoretical perspectives on the creation and application of law.
- c. To provide students with knowledge and appreciation of the major issues related to private international law
- d. To provide students with awareness of principles underpinning legal doctrine, and of the ways in which conflict of laws can be solved

Prerequisites:

Knowledge of Public International Law

Course Outcomes:



After completion of the course, students will be able to-

- a. Understand and remember the principles of conflict of laws and its application in cases involving foreign element;
- b. Apply the concept of domicile in matrimonial disputes
- c. Analyze the principles of conflict of laws in relation to the Indian legal mechanism and its practices.
- d. Evaluate the issue of jurisdiction and application of foreign laws in a case where foreign element is involved;

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Detailed Syllabus: (per session plan)

Unit/Session(in hours)	Description	Case Laws/ Reading Material
<p>Module 1 Introduction (9 hrs)</p>	<ul style="list-style-type: none"> • Definition and meaning of Private International Law • Difference between Private and Public International Law • Purpose of Private International Law • Theories concerning private international law – English and Indian- Statutory, territorial, harmonization, international, local law and justice. • Sources of private international law – English and Indian • Hague Conventions on Private International Law 	<p>2 Burman, Hal. “Private International Law.” <i>The International Lawyer</i> 43, no. 2 (2009): 741–57. http://www.jstor.org/stable/40708305.</p> <p>3 Columbia Law Review, Jan., 1912, Vol. 12, No. 1 (Jan., 1912), pp. 44-57 Published</p> <p>4 Yntema, Hessel E. “The Historic Bases of Private International Law.” <i>The American Journal of Comparative Law</i> 2, no. 3 (1953): 297–317. https://doi.org/10.2307/837480.</p>



<p>Module 2 Stages of Analysis in Private International Law (4 hrs)</p>	<ul style="list-style-type: none">• Primary Characterization – defining the legal nature of the cause of action• Determining the connecting factor – articulating the relevant private international law principles• Delimitation and application of <i>lex causae</i>• Doctrine of <i>Renvoi</i>• The Scope of application of <i>lex causae</i>• Substance and Procedure• Depechage and Incidental question	<ul style="list-style-type: none">• National Thermal Power vs Singer Company And Ors, 1992 SCR (3) 10• Union Of India and Ors vs Dudh Nath Prasad, 2000 (1) SCR 1• Pasl Wind Solutions Private vs Ge Power Conversion India Private, <u>2021 SC 331</u>.• Bank Of Baroda vs Kotak Mahindra Bank Ltd, Special Leave to Appeal (C) No.8123/2015• M/S Alcon Electronics Pvt. Ltd vs Celem S.A. Of Fos 34320 Roujan, [2016] INSC 861• Shamil Bank of Bharain EC v Beximco Pharmaceutical Ltd, [2004] 1 WLR 1784• Egon Oldendorff v Liberia Corpn [1995] 2 LR 64
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	<ul style="list-style-type: none"> • Exclusion of Foreign Law • Exclusion of Revenue Laws • Exclusion of other Public Laws • The Act of State Doctrine 	<ul style="list-style-type: none"> • Vita Food Product Inc v Unus Shipping Co. Lt, [1971] AC 572 • Amin Rasheed Shipping Corporation v Kuwait Insurance Co, [1984] AC 50 • Schemmer v Property Resources Ltd [1974] 3 All ER 451 • Bank of Ireland v Meenaghan [1995] 1 ILRM 96 • United States of America v Inkley [1989] QB 255 at 265
<p>Module 3 Jurisdiction, Domicile and Matrimonial Disputes (10 hrs)</p>	<ul style="list-style-type: none"> • The Concept of Domicile • Common Law Approach • An Indian Approach • Jurisdiction and its implications in private International Law • Action in personam and action in rem in private international law • Action in personam: <i>actor sequitur forum rei principle</i> and its implications Territorial jurisdiction • In Personam Jurisdiction – The English Common Law and Indian Position • Marriage and Matrimonial Causes • Legitimacy and Legitimation • Adoption, Guardianship and Child Custody (Jurisdiction and Choice of Law Issues) • Formal validity by <i>lex loci celebrationis</i> 	<ul style="list-style-type: none"> • Y. Narsimha Rao and Ors. v. Y. Venkata Lakshmi and Anr, 1991 SCR (2) 821 • <u>Smt. Satya v. Teja Singh</u>, [1975] 2 S.C.R. 1971 • Warrender v. Warrender, (1835) 2 Cl 67 • De Reneville v. De Reneville [1948] A.C. 274 • Ponticelli v. Ponticelli, (1958) P. 204 • Lawrence V Lawrence (1985) 1 All E.R. 506 • Sondur Gopal vs. Sondur Rajni, (2013) 7 SCC 426 • Smt. Surinder Kaur Sandhu v. Harbax Singh Sandhu (2006) 2 HLR 475 • Ruchi Majoo vs Sanjeev Majoo (2011) 6 SCC 479



<p>Module 4 Commercial and Contractual Matters: Applicable Law</p> <p>(8 hrs)</p>	<ul style="list-style-type: none">• Governing Law and Transnational Contracts – Common Law and Indian Law• Rome Regulation I on Contractual Obligations• Torts and Rome	<ul style="list-style-type: none">• Modi Entertainment Network v. WSG Cricket Pte. Ltd. (2003) 4 SCC 341• Beximco Pharmaceuticals Ltd v Shamil Bank of Bahrain [2004] WLR 1784
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	Regulation II [Non-Contractual Obligation]	<ul style="list-style-type: none"> • Readon SmithLine Ltd v Y.H. Tangen [1976]1 WLR 989 • Egon Oldendorff v Libera Corp [1996] 1 Lloyd's Rep. 380 • Emeraldian Ltd Partnership v Wellmix Shipping Ltd, [2010] EWHC 1411 • Koelzsch v Luxembourg [2012] Q.B. 210 • Duarte v Black & Decker Corp [2007] EWHC 2720 QB
<p>Module 5</p> <p>Need for Recognition and Enforcement of Foreign Judgments and Foreign Awards</p> <p>(9 hrs)</p>	<ul style="list-style-type: none"> • Need recognizing foreign judgments • Limitations in recognizing and enforcement • Section 13,14 and 444 of C.P.C. and S. 41 of the Indian Evidence Act • Brussels Convention on Jurisdiction and Enforcement of Judgments in Civil and Commercial Matters, 1968 	<ul style="list-style-type: none"> • Gurdayal Singh v. Rajah of Faridkot, [1894] AC 670 (684), referred • Bank of Baroda v Kotak Mahindra, Civil appeal no. 2175 of 2020 • Brijal Ramjidas v. Govindram Gordhandas Seksaria (1943) 45 BOMLR 358 • D. Viswanathan v. Rukun ul Mulk Sayed Abdul AIR 1963 SC 1 • Gurdayal Singh v. Rajah of Faridkota4. In Sankaran Govindan v. Lakshmi Bharathi (1975) 3 SCC 351 • A.V. Pappaya Sastry v. Government of Andhra Pradesh (2007) 4 SCC 221 • Narsimha Rao v. Venkata Laxmi, (1999) 3 SCC 451
60 Hours		

Text Books:



1. PARAS DIWAN. PRIVATE INTERNATIONAL LAW, (New Delhi: Deep & Deep Publication 1998)
2. V.C GOVINDRAJAN, PRIVATE INTERNATIONAL LAW: A CASE STUDY, (OUP 2018)

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Reference Books:

1. CHESHIRE, NORTH & FAWCETT. PRIVATE INTERNATIONAL LAW. (New York OUP 2008)
2. DICEY, MORRIS AND COLLINS. THE CONFLICT OF LAWS, LONDON (Sweet and Maxwell 2009)
3. MAYSS, ABLA. PRINCIPLES OF CONFLICT OF LAWS. LONDON (Cavendish Publishing Limited 1999)
4. CLARKSON & JONATHAN HILL. THE CONFLICT OF LAWS (New York OUP 2009).

 Marwadi University	<h2>Faculty of Law</h2> <h3>B.A. LL.B. (Hons)</h3> <h3>Semester VIII</h3>				
	Subject Name	Competition Law	Credit	Teaching Scheme	
Subject Code	10FL0803	4	Theory	Practical	Tutorial
			3	0	2

Course Objectives

- a. The course aims to study the developments of the policy of free and fair competition in India.
- b. The course will provide an analysis of the legal developments, from MRTP to the Competition Act.
- c. The course will analyze the Jurisprudential progress of the Competition Law with various legal system across globe.

Prerequisites:

None

Course Outcomes



On completion of this course, students will be able to

6. Define basic economics related to the competition, monopoly, market power etc.
7. Interpret Competition Act 2002.
8. Solve the problems of Anti-competitive agreements and related issues.
9. Examine by identifying causes related to prohibition on abuse of dominant position.
10. Present and defend opinions through judgments on regulation of combinations.
11. Formulate CCI role and Competition law jurisprudence compilation in developing a new pattern/ proposing alternative solutions.

Detailed Syllabus: (per session plan)

Unit/Session(i n hours)	Description	Case Laws
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<p>Module 1 Introduction</p>	<ul style="list-style-type: none">• Introduction to Basic Concepts of economics –<ul style="list-style-type: none">➤ Competition➤ Monopoly, Perfect Competition, Oligopoly➤ Market Power➤ Market-relevant market-relevant product market and geographic market <ul style="list-style-type: none">• Development of Competition Law in US and EU• Competition Policy- erstwhile Industrial Policy, and Changes in the economy	<ul style="list-style-type: none">• Mahalanobis Committee• Monopolies Inquiry Commission (MIC)• TELCO v Registrar of RT Agreement (1977) 2 SCC 55• Continental T.V. v GTE Sylvania (1977) 433 U.S. 36• Mahindra & Mahindra Limited v/s Union of India (1979). 2 SCC 529• Voltas Ltd v/s Union of India AIR 1995 SCC 1881.
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	<ul style="list-style-type: none"> • Introduction of the Law in India • Relationship of Competition law with IPR, Arbitration Law etc. 	
<p>Module 2</p> <p>The Competition Act, 2002</p>	<ul style="list-style-type: none"> • Basic features (MTP, RTP and UTP) • Reasons for repeal of the MRTP Act • Purpose of Competition Law • Preamble of the Act • General Structure • Basic Concepts • Definitions under the Act • Raghavan Committee 	<ul style="list-style-type: none"> • Brahm Datt v. Union of India (2005) 2 SCC 431
<p>Module 3</p> <p>Prohibition of Anti-Competitive Agreements</p>	<ul style="list-style-type: none"> • Prohibition of Agreements-anticompetitive agreements <ul style="list-style-type: none"> ➤ Agreements likely to have adverse effects on competition ➤ Vertical and Horizontal Agreements • Cartels and their anti-competitive behavior • Case examples 	<ul style="list-style-type: none"> • Future Group's Kishore Biyani, vendors accuse Flipkart of undercutting to destroy competition, available at http://articles.economicstimes.indiatimes.com/2014-10-08/news/54784739_1_future-group-kishore-biyani-marketplaces. • M/S Jasper Infotech Private Ltd. v. M/S Kaff Appliances (India) Private Ltd Case No. 61/2014 • Indian Foundation of Transport Research & Training v Sh. Bal Malkait Singh, President and Ors. Case No. 61 of 2012 • M/s Rohit Medical Store vs Macleods Pharmaceutical Limited & Ors. Case No. 78 of 2012



Module 4 Prohibition on Abuse of Dominant Position	<ul style="list-style-type: none">• Relevant market• Meaning of Dominant position• Abusive behaviors of a dominant enterprise	<ul style="list-style-type: none">• Maharashtra State Power Generation Company Ltd. v. M/s. Mahanadi Coalfields Ltd. & Anr Case No. 78 of 2012• Ashoka Smokeless Coal (P) Ltd. v. Union of India. (2007) 2 SCC 640.
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<p>(15 hours)</p>	<ul style="list-style-type: none">• Predatory Price• Unfair Price• Price Discrimination	<ul style="list-style-type: none">• M/s. Madhya Pradesh Power Generating Company Limited v. M/s. South Eastern Coalfields Ltd. & Anr.13, (MP Gen Co Case). Case No. 5 of 2013• Belaire Owners' Association vs. DLF Limited & Ors. Case No. 19 of 2010.• M/s. DLF Limited v. Competition Commission of India. SC Civil Appeal No. 6328 of 2014
<p>Module 5 Regulations of Combinations</p>	<ul style="list-style-type: none">• Acquisition, merger amalgamation-definitions• Mandatory notification and Regulation of combinations• Enquiry into combinations and assessing appreciable adverse effect on competition	<ul style="list-style-type: none">• Jet – Etihad (Jet – Etihad Case)• Combination Registration No. C – 2013/05/122 dated December 11, 2013.• Shamsheer Kataria v. Honda Sael Cars Ltd. & Ors. Case No. 03 of 2011



<p>Module 6 Competition Commission of India</p>	<ul style="list-style-type: none">• Establishment• Membership-composition, qualifications and appointments• Resignation removal and suspension• Duties, Powers and Functions of Commission• Procedures for enquiry• Orders and notices• Duties of Director General• Penalties under the Act	<ul style="list-style-type: none">• Asish Ahuja v. Snapdeal & Anr. Case No. 17 of 2014, dismissed by order under Section 26 (2) of the Act dated May 19, 2014.• M/s. Excel Crop Care Limited v. Competition Commission of India & Ors Appeal 79 of 2012, Order dated October 29, 2013• Case No. 7 of 2012, In Re: Consim Info Private Limited v. Google Inc.,• USA and Google India Private Limited and Case No. 30 of 2012,• Consumer Unity & Trust Society (CUTS) v. Google Inc., USA and Google India Private Limited and• Case No. 67 of 2010 Magnolia Flat Owners Association v. M/s. DLF• Universal Limited & Ors.• State of Madhya Pradesh v. Nerbudda Valley Refrigerated Products Company Private Limited &Ors. (2010) 7 SCC 751
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	<ul style="list-style-type: none"> • Competition Appellate Tribunal/ NCLAT • Competition Advocacy 	<ul style="list-style-type: none"> • State of H.P. & Ors. v. Gujarat Ambuja Cement Ltd. & Anr. (2005) 6 SCC 499. • Paradip Port Trust v. Sales Tax Officer & Ors. (1998) 4 SCC 90. • Karnataka Chemical Industries & Ors. v. Union of India & Ors. (2000) 10 SCC 13. • Namit Sharma v. Union of India (2013) 1 SCC 745.
60 Hours		

Text Book

1. ABIR ROY & JAYANT KUMAR, COMPETITION LAW IN INDIA (2nd edition, reprint 2016)

Reference Books

1. DR. H.K.SAHARAY, TEXTBOOK ON COMPETITION LAW (2nd edition, 2016)
2. K SHARMA, GUIDE TO COMPETITION LAW (1st Edition 2016)
3. ASHOK CHAWLA, LAW RELATING TO COMBINATIONS UNDER COMPETITION LAW (2015).
4. S.M.DUGAR, REVISED BY ARIJIT PASAYAT, SUDHANSU KUMAR GUIDE TO COMPETITION LAW- CONTAINING COMMENTARY ON THE COMPETITION ACT, 2002; MRTP ACT, 1969 & THE CONSUMER PROTECTION ACT, (1986, 6th edition 2016)

 Marwadi University	<p>Faculty of Law B.A. LL.B. (Hons) Semester VIII</p>				
Subject Name	Taxation Law-II (Indirect Tax Law & Practices)	Credit	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code	10FL0804	4	3	0	2

Course Objectives

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The course is designed to achieve the following objectives:

- To acquaint the students with basic principles underlying the provisions of indirect tax laws and to develop a broad understanding of the tax laws and accepted tax practices.
- To define various aspect of indirect taxes (GST) like, Registration, Concept of Supply etc.
- To provide an overview of Integrated Goods and Services Tax Act, 2017, Union Territory Goods and Services Tax Act, 2017 and GST (Compensation to States) Act, 2017.
- To provide knowledge on Custom Laws in India.

Prerequisites:

None

Course Outcomes

On completion of this course, the learners will be able:

- To understand the concept of indirect taxes, indirect tax system in India, difference between direct and indirect tax and Double Tax Avoidance Treaty.
- To interpret the various principles underlying the Indirect Taxation Statutes with reference to Goods and Services Tax Act, 2017
- To describe the provisions of IGST Act, 2017, UTGST Act, 2017 and its working and Provisions of GST (Compensation to State) Act, 2017.
- To acquire the ability to analyse and interpret the various provisions of Custom Laws.

Detailed Syllabus: (per session plan)

Unit/Session(in hours)	Description	Case Laws/Reading Material
Module 1 Introduction To Indirect Taxes in India [10 Hours]	<ul style="list-style-type: none"> Basic Features of Indirect Taxes- Advantages and Disadvantages Indirect Tax System in India Indirect Taxes in Post Reforms What is the difference between Direct Tax and Indirect Tax? Double Tax Avoidance Treaty 	<ul style="list-style-type: none"> <i>Union of India v. Mohit Minerals (P) Ltd</i> (2018) SCC Online SC 1727. <i>Jain Brothers v. Union of India</i>, AIR 1970 SC 778



<p>Module 2 Goods and Service Tax [20 Hours]</p>	<ul style="list-style-type: none">• Concept of Indirect Taxes at a glance: Background; Constitutional powers of taxation; Indirect taxes in India – An overview; Pre-GST tax structure and deficiencies.	<ul style="list-style-type: none">• M/S Comsol Energy Private Limited v. State of Gujarat [R/Special Civil Application No. 11905 of
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| | <ul style="list-style-type: none">• Basics of Goods and Services Tax ‘GST’: Basics concept and overview of GST; Constitutional Framework of GST; GST Model – CGST / IGST / SGST / UTGST; Taxable Event; Concept of supply including composite and mixed supply; Levy and collection of CGST and IGST; Composition scheme & Reverse Charge; Exemptions under GST.• Concept of Time, Value & Place of Taxable Supply: Basic concepts of Time and Value of Taxable Supply; Basics concept of Place of Taxable Supply.• Input Tax Credit & Computation of GST Liability- Overview.• Procedural Compliance under GST: Registration; Tax Invoice, Debit & Credit Note, Account and Record, Electronic way Bill; Return, Payment of Tax, Refund Procedures; Audit.• Levy excise duty on tobacco and alcohol.• Applicability of Service Tax in Electricity Sector.• Consequence of non-compliance of procedure.• Penalties | <p>2020 decided on December 21, 2020]</p> <ul style="list-style-type: none">• <i>Customs (Import) vs M/S. Dilip Kumar and Company</i> (2018) 9 SCC 1• <i>High Court of Gujarat, VKC Footsteps India Pvt. Ltd. v. Union of India</i> [2020] 118 taxmann.com 81 (Gujarat)]• <i>Skill Lotto Solutions (P.) Ltd. v. Union of India</i> [2020] 122 taxmann.com 49 (SC)• <i>Paresh Nathalal Chauhan v. State of Gujarat</i> [2020] 113 taxmann.com 462 (Gujarat)]• <i>Bai Mamubai Trust v. Suchitra</i>, 2019 (31) GSTL 193• <i>State of West Bengal and v. Calcutta Club Ltd.</i> AIR 2019 SC 310 |
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<p>Module 3 Basic Overview on Integrated Goods and Service Tax (IGST), Union Territory Goods and Service Tax (UTGST), and GST</p>	<ul style="list-style-type: none">• Integrated Goods and Services Tax Act, 2017• Union Territory Goods and Services Tax Act, 2017• Provisions relating to Advance Ruling• GST Compensation to States• Consequence of non-compliance of procedure.• Penalties	<ul style="list-style-type: none">• Dharmendra M. Jani v. UOI & Ors WP NO.2031 OF 2018 dated June 09, 2021• <i>Balaji Theatre v. Chief Secretary</i> [2020] 118 taxmann.com 160 (Madras)• <i>Bharti Airtel Ltd. v. Union of India</i> [2020] 119
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<p>Compensation to States [15 Hours]</p>		<p>taxmann.com 27 (Delhi)</p> <ul style="list-style-type: none"> • <i>Mohit Minerals (P.) Ltd. v. Union of India</i> [2020] 113 taxmann.com 436 (Gujarat)]
<p>Module 4 Customs Laws [15 Hours]</p>	<ul style="list-style-type: none"> • Basic Concepts of Customs Laws- Introduction to Custom Duty, Constitutional Provisions, Important Definitions. • Types of Duties- Basic customs duty, Protective duties, Safeguard duty, Countervailing Duty on subsidized articles, Anti-dumping duty. • Valuation under Customs-Valuation of Imported Goods Valuation of Export Goods. • Import and Export Procedure- Import Procedure (including warehousing) Export Procedures, Deemed Exports, Duty drawback • Customs (Import of Goods at Concessional Rate of Duty) Rules, 2017 • Consequence of non-compliance of procedure. • Penalties 	<ul style="list-style-type: none"> • Mohd. Zahid Vs. State Through NCB, 2021 Latest Caselaw 645 SC • Brajesh Singh Vs. Sunil Arora, 2021 Latest Caselaw 323 SC • M/S. L.R .Brothers, Indo Flora Ltd. Vs. Comissioner Of Central Excise, 2020 Latest Caselaw 489 Sc • Union Of India Vs. M/S G.S. Chatha Rice Mills, 2020 Latest Caselaw 523 SC
<p>60 Hours</p>		

Text Book

1. V.S. DATEY, TAXMANN'S INDIRECT TAXES LAW AND PRACTICE (2020).

Reference Books

1. BHARAT'S, COMPREHENSIVE BOOK ON INDIRECT TAXES (2021).
2. Study materials on GST by ICAI and ICSI.



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Online Resources

<https://www.gst.gov.in/>

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Rajkot

Subject Name	Public Interest Lawyering, Legal Aid & Paralegal Services (Clinical Paper IV)	Credits	Teaching Scheme		
			Theory	Practical	Tutorial
Subject Code	10FL0805	4	0	4	0

Course Objectives

The course is designed to achieve the following objectives:

- To familiarize students to the socio-legal aspects and to sensitize them with the problems of the downtrodden and weaker sections of the society.
- To acquaint students with the schemes of National Legal Services Authority of India (NALSA).
- To give the students an insight into the role of Para-Legal Volunteers.
- To understand the relevance and significance of Public Interest Litigation (PIL).

Prerequisites

None

Course Outcomes

On completion of this course, students will be able-

- To know and understand the structure and working of the legal services institutions under the Legal Services Authorities Act, 1987.
- To analyze and evaluate the significance of Public Interest Litigation(s) and its effects on the society.
- To coordinate with the legal services institutions and other Authorities for the best interest of beneficiaries and stakeholders.
- To draft various documents essential to a public interest practice.



Detailed Syllabus: (per session plan)

Unit/Session(in hours)	Description	Case Laws/ Reading Material
<p>Module 1 Introduction (9 hours)</p>	<ul style="list-style-type: none"> • Introduction to Public Interest Lawyering. • PIL against the State and other Public bodies; • Difference between Public Interest Litigation and Private Interest Litigation; Judicial Responses— Meaning of Social Action Litigation, Concept of Locus Standi. 	<ul style="list-style-type: none"> • Douglas NeJaime: The View from below: Public Interest Lawyering, Social Change and Adjudication. • Bandhua Mukti Morcha v. Union of India and Others AIR 1984 SC 802.
<p>Module 2 Legal Aid & Paralegal Activities (9 hours)</p>	<ul style="list-style-type: none"> • Legal Aid under the: <ol style="list-style-type: none"> (i) Constitution; (ii) Code of Criminal Procedure; and (iii) Code of Civil Procedure <ul style="list-style-type: none"> ➤ The Legal Services Authorities Act, 1987- ➤ Legal Aid and Law Schools; Legal Aid and Voluntary Organizations ➤ legal Aid and Legal Profession; District Legal Aid Committee. • Paralegal Services: <ul style="list-style-type: none"> ➤ Who is Paralegal? ➤ Duties of Paralegal 	<ul style="list-style-type: none"> • M. C. Mehta & Another v. Union of India & Others AIR 1987 SC 1086. • Sunil Batra v. Delhi Administration and Others AIR 1978 SC 1675.
<p>Module 3 Lok Adalats (12 hours)</p>	<ul style="list-style-type: none"> • Lok Adalat's —Their jurisdiction, working and Powers under the Legal Services Authorities Act, 1987. 	
<p>Module 4 Clinical Aspect (30 hours)</p>	<ul style="list-style-type: none"> • Writing of applications for Legal Aid. The students shall take part in extension program like Lok Adalat, Legal Aid Camps, Legal Literacy Camps, etc., under the guidance of the Course Teacher. 	



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60 Hours		
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Text Book

1. DR. S. S. SHARMA, LEGAL SERVICES, PUBLIC INTEREST LITIGATION AND PARA-LEGAL SERVICES, (Central Law Agency 2006).

Reference Books

1. KAILAS RAI, PUBIC INTEREST LITIGATION, LEGAL AID AND PARA LEGAL SERVICES, (Central Law Publication 2021).
2. P.M. BAKSHI, PUBLIC INTEREST LITIGATION, (Whytes & co. 2018).
3. MAMTA RAO, LAW RELATING TO PUBLIC INTEREST LITIGATION, (Eastern Book Company 2018).

 Marwadi University	Faculty of Law B.A. LL.B. (Hons) Honours Course III Semester VIII				
	Subject Name	Law on Corporate Finance	Credit	Teaching Scheme	
Subject Code	10BL0801	4	Theory	Practical	Tutorial
			3	0	2

Course Objectives

1. To introduce the functions & rules applicable to corporate finance
2. To imbibe basic concepts which enable the financial decision making by Company
3. To determine various investment tools, strategy and instruments etc.

Course Outcomes

On completion of this course, students will be able to

12. Know basic on Equity Public/ Private Funding.
13. Illustrate Indian Equity- Non-Fund Based regulation.
14. Solve the problems of Debt Funding – Indian Fund Based (Corporate Debt).
15. Examine by identifying causes related Debt Funding – Indian Non-Fund Based.
16. Establish opinion through judgments on regulation on Foreign Funding – Instruments & Institutions





17. Elaborate Company Listing on Indian/International Stock Exchanges procedures and laws & solutions in related problems.

Detailed Syllabus: (per session plan)

Unit/Session(in hours)	Description	Case Laws/ Reading Material
MODULE 1 INDIAN EQUITY PUBLIC FUNDING (10 hours)	<ul style="list-style-type: none"> • Concept of ‘Securities’ • Types of Issues • Eligibility Requirements to be Complied with for an IPO under SEBI(ICDR) Regulations, 2018 <p>Indian Equity – Private Funding</p> <ul style="list-style-type: none"> • Alternative Investments Fund Managers Directive • SEBI (Alternative Investment Funds) Regulations, 2012) • Angel Funds • Seed Funding • Private Equity • Venture Capital 	<p>The Alternative Investment Policy Advisory Committee, 2nd Report, 2016</p> <p>Country Framework Report for Private Participation in Infrastructure by World Bank and Public-Private Infrastructure Advisory Facility, 2000</p>
MODULE 2 INDIAN EQUITY- NON FUND BASED (10 hours)	<ul style="list-style-type: none"> • SEBI (ICDR) Regulations, 2018 • Eligibility • Rights of FCD/PCD holders • Bonus out of Free Reserves • Bonus Issue not to be in lieu of Dividend • Implementation of Proposal within fifteen days • Procedure for Issue of Bonus Shares • SEBI (LODR) Regulations, 2015 in reference with Sweat Equity 	<p>Analysis of Non-fund Based Financial Services: Some Insights from India by Gursharan Singh Kainth, 2011 published in Research in World Economy 2(1)</p>



MODULE 3 DEBT FUNDING – INDIAN FUND BASED (CORPORATE DEBT) (10 hours)	<ul style="list-style-type: none">• Introduction• Debt Market• Debentures• Types of Debentures• Security• Tenure• Mode of Redemption• Basis of Negotiability• Governing Framework For Debt Securities• The Companies Act, 2013 & the Companies (Share Capital and Debentures) Rules, 2014	Securities and Exchange Board of India vs. Prebon Yamane (I) Ltd. (03.11.2015 - SC) : MANU/SC/1266/2015 Securities and Exchange Board of India vs. ICAP India Pvt. Ltd. (24.11.2015 - SC) : MANU/SC/1359/2015 Gujarat Urja Vikas Nigam Limited vs. Amit Gupta and
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	<ul style="list-style-type: none"> • SEBI (Issue of Capital and Disclosure Requirements) Regulations, 2018 • SEBI (Issue and Listing of Debt Securities) Regulations, 2008 • SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015 (“Listing Regulations”) • RBI Guidelines <p>Debt Funding – Indian Fund Based (Government Debt & Banking Finance)</p> <ul style="list-style-type: none"> • Bonds- An Introduction • Masala Bonds • Bank Finance • Credit Facilities Provided by the Banks • Overdrafts • Cash Credit Account (CC A/C) • Bills Finance • Leasing Finance • Hire-Purchase Finance • Rupee Export Credit 	<p>Ors. (08.03.2021 - SC) : MANU/SC/0157/2021</p> <p>The National Stock Exchange of India Ltd. vs. Competition Commission of India (05.08.2014 - COMPAT)</p> <p>State Bank of India vs. Jah Developers Pvt. Ltd. and Ors. (08.05.2019 - SC)</p>
<p>MODULE 4 DEBT FUNDING – INDIAN NON-FUND BASED (10 hours)</p>	<ul style="list-style-type: none"> • Introduction • Credit Facilities Provided by the Banks • Letter of Credit • Types of Letter of Credit • Parties involved in Letter of Credit Finance • Documents handled under Letters of Credit • Uniform Customs and Practice for Documentary Credit (UCPDC 600) • Bank Guarantee • Appraisal Methodology for Different Type of Non Fund Based Credit Products • Credit Appraisal • Assessment of Limit of Letter of Credit • Assessment of Limit of Bank Guarantee 	<p>Central Bureau of Investigation vs. Hari Singh Ranka and Ors. (18.07.2017 - SC) : MANU/SC/1708/2017</p> <p>Bank of Baroda vs. Kotak Mahindra Bank Ltd. (17.03.2020 - SC) : MANU/SC/0313/2020</p> <p>Maharashtra State Electricity Distribution Company Ltd. vs. Datar Switchgear Limited and Ors. (18.01.2018 - SC) : MANU/SC/0017/2018</p> <p>SKS Power Generation (Chhattisgarh) Ltd. and Ors. vs. Canara Bank (11.08.2021 - BOMHC) : MANU/MH/2123/2021</p> <p>Standard Chartered Bank vs.</p>



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Heavy Engineering
Corporation Ltd. and Ors.
(18.12.2019 - SC) :
MANU/SC/1775/2019

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<p>MODULE 5 FOREIGN FUNDING – INSTRUMENTS & INSTITUTIONS (10 hours)</p>	<ul style="list-style-type: none"> • Regulatory Framework in India • Euro Issue • External Commercial Borrowings (ECBs) • Procedure of Raising ECB • Special Dispensations under the ECB Framework • Issue of FCCBs and Depository Receipts (DRs) • American Depository Receipts (ADRs)/Global Depository Receipts (GDRs) 	<p>Indian Social Action Forum vs. Union of India (UOI) (06.03.2020 - SC) : MANU/SC/0297/2020</p> <p>Manzoor Ali Khan vs. Union of India (UOI) (06.08.2014 - SC) : MANU/SC/0668/2014</p> <p>Subramanian Swamy vs. Manmohan Singh and Ors. (31.01.2012 - SC) : MANU/SC/0067/2012</p>
<p>MODULE 6 LISTING – INDIAN STOCK EXCHANGES (10 hours)</p>	<ul style="list-style-type: none"> • SEBI (LODR) Regulations, 2015 – A brief overview <p>International Listing</p> <ul style="list-style-type: none"> • Singapore Exchange Limited (SGX) • National Association of Securities Dealers Automated Quotations (NASDAQ) • London Stock Exchange • Main Market • Alternative Investment Market (AIM) • NOMAD • Listing of Depository Receipts on the PSM • Luxembourg Stock Exchange • Listing a share/GDR on BdL market • Listing Shares /GDRs on the Euro MTF • US Securities and Exchange Commission • Securities Exchange Act, 1934 	<p>Website of various international stock exchanges</p>
<p>60 Hours</p>		

Text Book

1. Principles of Corporate Finance Law by Eilis Ferran and Look Chan Ho, 2014, Published to Oxford Scholarship

Reference Books



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- SEBI Manual
- SEBI Monthly Bulletin
- Companies Act 2013 and Rules
- Corporate Law Adviser
- SEBI and Corporate Laws

Websites :

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Dean
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Rajkot



- www.sebi.gov.in
- www.nseindia.com
- www.bseindia.com
- www.rbi.org.in
- www.mca.gov.in

 Marwadi University	Faculty of Law B.A. LL.B. (Hons) Honours Course III Semester VIII				
	Subject Name	Penology & Victimology	Credit	Teaching Scheme	
Subject Code	10CR0801	4	Theory 3	Practical 0	Tutorial 2

Course Objectives

The objectives of this course are as follows:

6. Give an overview of the concept and rationale behind punishment.
7. Enumerate sentencing and discuss the need for sentencing guidelines.
8. Enunciate the Victimological jurisprudence and its need in India.
9. Discuss the treatment to the victims of crime.
10. To keep students abreast of the latest developments and changes in the field of criminal law.

Prerequisites

None

Course Outcomes

After the completion of this course, students will be able to:

7. Understand contemporary issues and challenges of punishment system.
8. Explain the typologies and theories of victimization.
9. Apply the procedure for the proper treatment to victims.
10. Analyse the sentencing policies of India.
11. Evaluate efficacy of capital punishment in Indian context.

Detailed Syllabus:



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Unit/Session (in hours)	Description	Case Law/ Reading Material
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<p>Module 1</p> <p>Introduction to Penology & Capital Punishment</p> <p>(12 hours)</p>	<ul style="list-style-type: none"> • Introduction to Penology <ul style="list-style-type: none"> ➤ Meaning, Definition and Objective of Penology. ➤ Theories of Punishment ➤ Punishment – Meaning, Objectives and Kinds of Punishment • Capital Punishment <ul style="list-style-type: none"> ➤ Conceptualising Capital Punishment. ➤ Effect of Death Penalty: Deterrent and Retributive. ➤ Death Penalty across Cultures- U.S., U.K. and India. 	<p>Case Law</p> <ul style="list-style-type: none"> • Rajendra Prasad v. State of Uttar Pradesh, (1979) 3 SCC 646. • Bachan Singh v. State of Punjab, (1980) 2 SCC 684. • Mithu v. State of Punjab, (1983) 2 SCC 277. • Channulal Verma v. State of Chhattisgarh, November 2018.
<p>Module 2</p> <p>Sentencing Policy</p> <p>(12 hours)</p>	<ul style="list-style-type: none"> • Sentencing Policy <ul style="list-style-type: none"> ➤ Meaning of Sentences and Sentencing ➤ Factors to be considered while awarding any sentence. 	<p>Case Law</p> <ul style="list-style-type: none"> • Jagmohan Singh v. State of U. P., (1973) 1 SCC 20. • Ediga Anamma v. State of Andhra Pradesh, (1974) 4 SCC 443. • Santa Singh v. State of Punjab, 1976 AIR 2386. • Dagdu v. State of Maharashtra, AIR 1977 SC 1579. • Machhi Singh v. State of Punjab, 1983 SCR (3) 413. • Ravji v. State of Rajasthan (1996) 2 SCC 175. • Swamy Shradhananda (2) v. State of Karnataka (2008) 13 SCC 767. • Santhosh Kumar Satish bhushan Bariyar v. State of Maharashtra, (2009) 6 SCC 498. • Sangeet v. State of Haryana, (2013) 2 SCC 452. • Shanker Kisanrao Khade v. State of Maharashtra, (2013) 5 SCC 546. • Mukesh v. State of NCT of Delhi, (2017) 6 SCC 1. • Rajendra Prahladrao Wasnik v. State of Maharashtra, AIR 2019 SC 1. • Manoharan v. State by Inspector of Police, (2019) 7 SCC 716.



Module 3 Victimology	<ul style="list-style-type: none">• Victimology<ul style="list-style-type: none">➤ Victimology- Meaning and theories of Victimology.	Readings <ul style="list-style-type: none">• United Nations Declaration of Justice for Victims of Crime and Abuse of Power, 1985.
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(12 hours)	<ul style="list-style-type: none"> ➤ Meaning and types of Victims and Impact of Victimization ➤ International Perspectives of Victim's Rights: United Nations Declaration of Justice for Victims of Crime and Abuse of Power, 1985 	<ul style="list-style-type: none"> • Kumaravelu Chockalingam, Measures for crime victims in the Indian Criminal Justice System < https://www.unafei.or.jp/publications/pdf/RS_No81/No81_11VE_Chockalingam.pdf>
<p>Module 4</p> <p>Treatment to Victims</p> <p>(12 hours)</p>	<ul style="list-style-type: none"> • Treatment to Victims ➤ Specific Victimization: Children, Women, Prisoners, SC/ST, Restitution, Compensation and Assistance to Victims in U.S.A, U.K and India. ➤ Victim's Right to Compensation under the Indian Criminal Justice System. ➤ Victim's Right to legal assistance. 	<p>Case Law</p> <ul style="list-style-type: none"> • <i>Smt. Nilabati Behera v. State of Orrisa, AIR 1993 SC 1961.</i> • <i>Rudal Shah v. State of Bihar, (1983)4 SCC 141.</i> • <i>State of Punjab v. Ajaib Singh, (1995) 2 SCC 486.</i> • <i>Ankush Shiwaji Gaikwad v. The State of Maharashtra, AIR 2013 SC 2454.</i> • <i>Suresh v. State of Haryana, AIR 2015 SC 518.</i>
<p>Module 5</p> <p>Contemporary Issues and Challenges</p> <p>(12 hours)</p>	<ul style="list-style-type: none"> • Contemporary Issues and Challenges ➤ Sexual violence and calls for the death penalty. ➤ Victim Compensation in acid attack cases. ➤ Victim Compensation in Rape cases. 	<p>Case Law</p> <ul style="list-style-type: none"> • <i>Laxmi v Union of India, 2014 4 SCC 427.</i> • <i>Parivartan Kendra v Union of India, (2016) 3 SCC 571.</i> • <i>Nipun Saxena Vs. Union of India, (2019) 2 SCC 703.</i>
60 Hours		

Text Books

1. AHMAD SIDDIQUE, CRIMINOLOGY, PENOLOGY AND VICTIMOLOGY, [Eastern Book Company 2016].

Reference Books

1. PROF. N.V. PARANJPE, CRIMINOLOGY & PENOLOGY INCLUDING VICTIMOLOGY (Central Law Publications 2020-2021).
2. S.S SRIVASTAVA, CRIMINOLOGY, PENOLOGY & VICTIMOLOGY (Central Law Agency 2021)



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Faculty of Law

B.A. LL.B. (Hons)
Honours Course IV
Semester VIII

Law of Corporate Governance

Credit

Teaching Scheme

Dean
Faculty of Law
Marwadi University
Rajkot



Subject Name			Theory	Practical	Tutorial
Subject Code	10BL0802	4	3	0	2

Course Objectives

The course is designed to achieve the following objectives

- To provide the basic idea about the corporate governance and its implication upon the various stakeholders of the society and the legal system.
- To familiarize them with the legislative framework of corporate governance in India.
- To enable a student to get a detailed picture about the role of Board of Directors in corporate governance.
- To impart detailed picture about the role of Auditors in corporate governance.
- To familiarize with the role of SEBI in corporate governance.

Prerequisites

None

Course Outcomes

On completion of this course, the learners will be able:

- To understand the concept of corporate governance and will also be able to appreciate the principles, theories and models of corporate governance.
- To explain the legislative framework of corporate governance in India.
- To describe about the role of Board of Directors in corporate governance.
- To analyse the role of Auditors in corporate governance.
- To interpret the role of SEBI in corporate governance.

Detailed Syllabus:

Unit/Session(in hours)	Description	Case Laws/Reading Material
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<p>Module 1 Introduction to Corporate Governance (12 hours)</p>	<ul style="list-style-type: none"> • Meaning of Corporate Governance • Corporate Governance: Shareholder vs. Stakeholder perspective. • Historical Antecedents of Corporate Governance • OECD Principles of Corporate Governance • Corporate Governance Committees- Cadbury, Green bury, Hample, Kumar Mangalam Birla, Narayan Murthy, N.C. Chandra • Concept of shareholder democracy 	<ul style="list-style-type: none"> • https://ijcrt.org/papers/IJCRT1893330.pdf • https://essays.pw/essay/corporate-governance-in-india-past-present-and-future-finance-essay-146564 • https://www.sebi.gov.in/sebi_data/condondo/cs/corpgov1_p.pdf
<p>Module 2 Legislative Framework of Corporate Governance (12 hours)</p>	<ul style="list-style-type: none"> • Legislative Provisions of Corporate Governance in Companies Act, 2013 • Securities (Contracts and Regulations) Act, 1956 (SCRA), • Depositories Act, 1996 • Securities and Exchange Board of India Act, 1992 • Listing Agreement, Banking Regulation Act, 1949 • Other Corporate Laws 	<ul style="list-style-type: none"> • https://www.scribd.com/document/408406433/Pradeep-Kumar-Gupta22020091612606-1
<p>Module 3 Board of Directors (12 hours)</p>	<ul style="list-style-type: none"> • Directors- Introduction, Types of Directors and their duties and responsibilities. • Independent Directors and Women Directors • Board Committees - Constitution and Scope of Board Committees, Need, Functions and Advantages of Committee Management, Types of Committees- Audit Committee, Remuneration Committee, Shareholders' Grievance Committee, other committees. • Board Committees' Charter 	<ul style="list-style-type: none"> • http://www.jesd-online.com/dokumentu/upload/separated/Vol%204%20No%201_Paper8.pdf
<p>Module 4 Auditors and Other Disclosures (12 hours)</p>	<ul style="list-style-type: none"> • Appointment and Removal of Auditors, • Position of auditors, role and responsibilities of statutory auditors as set under the Companies' Act 2013. • Role of National Financial Reporting Authority (NFRA) • Audit committee- composition and role, Related Party Transactions ("RPT"), Subsidiary Company disclosure, compulsory auditor rotation, • Auditors right to representation before shareholders meeting 	<ul style="list-style-type: none"> • https://eprints.whiterose.ac.uk/142492/1/Indian%20corp%20gov%20evolution%20PDF_Proof.PDF



<p>Module 5 Role of SEBI in Corporate Governance (12 hours)</p>	<ul style="list-style-type: none"> Regulatory aspect followed by SEBI for protection of Shareholders Mechanism develops by SEBI for protection of minority shareholders 	<ul style="list-style-type: none"> Sharma, Purna, Role of Sebi in Corporate Governance (June 5, 2021). Available at SSRN: https://ssrn.com/abstract=3868952 or http://dx.doi.org/10.2139/ssrn.3868952 https://www.sebi.gov.in/sebi_data/attachdocs/1357290354602.pdf http://www.ijetsr.com/images/short_pdf/1519035295_167-173-mccia922_ijetsr.pdf
<p>60 Hours</p>		

Text Book

1. JAYATI SARKAR & SUBRATA SARKAR, CORPORATE GOVERNANCE IN INDIA (SAGE Publications 2012).

Reference Books

1. RENU JATANAS, CROWTHER, DAVID, CORPORATE SOCIAL RESPONSIBILITY (Deep and Deep Publication, Delhi 2007).
2. CHATTERJI, MDHUMITA, CORPORATE SOCIAL RESPONSIBILITY (Oxford Publications, Delhi 2011).
3. A RAMAIYA, Guide to the Companies Act.

 Marwadi University	<p>Faculty of Law B.A. LL.B. (Hons) Honours Course IV Semester VIII</p>				
<p>Subject Name</p>	<p>Administration of Criminal Justice</p>	<p>Credit</p>	<p>Teaching Scheme</p>		
			<p>Theory</p>	<p>Practical</p>	<p>Tutorial</p>
<p>Subject Code</p>	<p>10CR0802</p>	<p>4</p>	<p>3</p>		<p>2</p>

Course Objectives



The course is designed to familiarize students with the following:

- To create acquaintance on administration of criminal justice in India.
- To learn the concept of criminal law with schools of criminology.
- To be aware of the criminal proceedings in India.
- To understand the relevancy of crime and society.

Prerequisites

None

Course Outcomes

On completion of this course, students will be able to:

- Describe jurisprudential aspects of Criminal Justice Administration.
- Analyze the manner in which society responds to crime.
- Evaluate the merits of various theories of crime.
- Understand the interconnection of crime and society in India.
- Apply and elaborate about the facets of Human Rights and Criminal Justice System in India.

Detailed Syllabus: (per session plan)

Unit/Session(in hours)	Descriptions	Case Laws/Reading Material
<p>Module 1</p> <p>Introduction to Criminal Justice System</p> <p>(10 hours)</p>	<ul style="list-style-type: none"> Meaning, Purpose, Social Relevance and Legislative Process of Criminal Justice System Models of Criminal Justice System – Crime Control Model, Due Process Model etc. Ethics and Morality In Criminal Jurisprudence Adversarial and Inquisitorial Systems Malimath Committee Report on Reforms in Criminal Justice System Sentencing: Principles, Approaches, Procedures 	<ul style="list-style-type: none"> Malimath Committee Report on Reforms in Criminal Justice System



<p>Module 2</p> <p>Introduction to general concept of criminal law, School of Criminology. (15 hours)</p>	<ul style="list-style-type: none"> • General Principle of Crime - <i>Actus reus, Mens rea</i> • Strict and Absolute liability • Relationship between Crime and society • Schools of Criminology – Pre-Classical, Classical, Neo-classical, Positivism in Criminology, Sociological School, Biological School 	<p>Case Laws:</p> <ul style="list-style-type: none"> • Ryland v. Fletcher, • M.C. Mehta v. Union of India, 1987 SCR(1) 819 • Union Carbide Corporation Etc. ... v. Union of India. 1992 AIR 248 • Indian Council of Environment Legal Action v. Union of India, AIR 1996 SC 1446
<p>Module 3</p> <p>Criminal Proceedings in India (10 hours)</p>	<ul style="list-style-type: none"> • Methods of reporting Crime in India • Investigation and Inquiry • Arrest, Bail • Search and Seizures • Rights of the Accused during investigation, trial etc. • Witness protection measures in Law 	<ul style="list-style-type: none"> • Ravindra Saxena v. State of Rajasthan, AIR 2010 SC 1225 • Nikesh Tarachand Shah v. Union of India, AIR 2017 SC 5500 • Selvi and Ors. V. State of Karnataka, AIR 2010 SC 1974 • Mohammed Ajmal Mohammad Amir Kasab and Ors. v. State of Maharashtra and Ors., AIR 2012 SC 3565 • Nandini Satpathy v. P.L Dani, MANU/OR/0095/1978 • M.P. Sharma and Ors. v. Satish Chandra and Ors. AIR 1954 SC 300 • Khatri v. State of Bihar AIR 1981 SC 1068 • Sheela Barse v. the State of Maharashtra, AIR 1983 SC 378



<p>Module 4</p> <p>Criminal Justice System and Social Defense</p> <p>(12 hours)</p>	<ul style="list-style-type: none">• Prison Justice Administration• Victim Compensation• Legal aid and legal services• Social Defence a Modern Approach to Criminal Problems• Social Defence Programmes<ul style="list-style-type: none">- Care and Protection of Children, Integrated Programme for Street Children, Inter-country Adoption of Children, Prevention of Alcoholism and Substance Abuse• Public Interest Litigation	<ul style="list-style-type: none">• D.K.Basu v. State of West Bengal, (1997) 6 SCC 642 30• Rudul Shah v. State of Bihar, AIR 1983 SC 1086• Nilabati Behra v. State of Orissa, AIR 1993 SC 1960• Gudalure Cherian v. Union of India
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<p>Module 5</p> <p>Human Rights Protection through Criminal Justice System</p> <p>(14 hours)</p>	<ul style="list-style-type: none"> • Violation of Human Rights by the State • Punitive And Preventive Detention – Procedure and Safeguards • Promotion of Communal Harmony and Prevention of Communal Violence by the State • Human Rights in Prison Administration • Role of NHRC and SHRC in protection of Human Rights of Accused and Victim • Human Rights Advocacy – Role of NGOs and other institutions 	<ul style="list-style-type: none"> • Navtej Singh Johar and Ors. v. Union of India and Ors., AIR 2018 SC 4321 • Stohl, M., Carleton, D., Lopez, G., & Samuels, S. (1986). State Violation of Human Rights: Issues and Problems of Measurement. Human Rights Quarterly, 8(4), 592–606. https://doi.org/10.2307/762194
60 Hours		

Text Book

1. MEHRAJUD-DIN MIR, CRIME AND CRIMINAL JUSTICE SYSTEM IN INDIA, (Deep and Deep Publications, New Delhi, 1984)

Reference Books

1. K N CHANDRASEKHARAN PILLAI [ED.] R V KELKAR'S OUTLINE OF CRIMINAL PROCEDURE (Eastern Book House 2002)
2. LAW OF COMMISSION OF INDIA, FORTY-SECOND REPORT CH. 3 (1971)
3. MALIMATH COMMITTEE REPORT 2004
4. PATRIC DEVLIN THE CRIMINAL PROSECUTION IN ENGLAND.

 Marwadi University	<p>Faculty of Law</p> <p>B.A.LL.B. (Hons.)</p> <p>Semester VIII</p>				
Subject Name	Internship (Supreme Court/Law Firm/Corporate House II) 4 Weeks	Credit	Teaching Scheme		
Subject Code		2	Theory	Practical	Tutorial
			0	0	0

Course Objectives:



The course is designed to achieve Following Objectives:

- To involve students in legal research, analysis and reasoning
- To appreciate values of the profession, including the importance of pro bono service and the responsibility to promote justice.

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Learning Outcomes:

After completion of the course, students would be able to :

- Identify, accurately formulate, and apply the rules or principles of law pertinent to the situation;
- Draw and explain relevant factual analogies and distinctions;
- Develop, elaborate, and evaluate legal theories relevant to the situation; and
- Critically examine the rules, principles, and reasoning upon which legal arguments are based.

Detailed Syllabus:

Sessions (in hours)	Nature of Work done	Learning Outcome	Remarks
1 st week			
2 nd week			
3 rd week			
4 th week			

RULES

1. All Internships mentioned in the above-mentioned table shall be completed by a student in order to be eligible for the award of the degree of B.A.LL.B.(Hons.)/B.Com.LL.B. (Hons.).

2. An internship can be arranged by a student or the same can be arranged by Faculty of Law, Marwadi University, Rajkot.

2.1 Procedure to be followed when student is self-arranging internship

a. Student shall submit the details of the internship office to the internship committee before beginning the internship as per the internship calendar notified by the Internship Committee.

b. Student shall obtain a recommendation letter from Dean, Faculty of Law before starting the internship.

c. Student shall submit the Internship Confirmation Letter before starting the internship.

d. If a student is self-arranging the Internship, the parameters set up by Faculty of Law, Marwadi University, Rajkot shall be fulfilled by the Organisation / Lawyer / Company.

e. Student shall not change the internship office without obtaining approval from the Internship Committee at Faculty of Law, Marwadi University, Rajkot.

f. If a student changes the internship office without obtaining the approval from the Internship Committee, such internship shall not be considered for any purpose by Faculty of Law, Marwadi University, Rajkot.



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g. Student shall be informing the internship office regarding issuing of Confidential Internship Certificate and Internship Completion Certificate. If the internship office refuses to issue any of the

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Dean
Faculty of Law
Marwadi University
Rajkot



documents mentioned above, the internship committee shall not make any communication to the internship office, it shall be the sole responsibility of the student to get documents mentioned above.

2.2 Procedure to be followed when Faculty of Law, Marwadi University, Rajkot will arrange the Internship

a. Student shall submit the request in writing of arranging internship to the Internship Committee at Faculty of Law, Marwadi University, Rajkot three months prior from the starting the internship, failing which Faculty of Law shall not be responsible to arrange the internship, Student shall be responsible for self-arranging the internship and he/she shall be following all the steps mentioned in

b. The internship office arranged by Faculty of Law, Marwadi University Rajkot, shall be final. The student shall be joining the internship office on time. No request for change of internship office shall be entertained.

c. No preferences from a student with regard to place of internship or internship office shall be entertained by Internship Committee, Faculty of Law, Marwadi University, Rajkot.

d. Student shall bear the cost of stay, travel and any other expenses during the time of internship. Student will have to arrange his/her accommodation. e. If a student does not join the Internship office as provided to him by Internship Committee, Faculty of Law, Marwadi University, Rajkot, in future no assistance what so ever shall be provided by Internship Committee to that student except providing him a recommendation letter.

PROCESS DURING AND AFTER COMPLETION OF INTERNSHIP

11. Student shall maintain daily record of work as per the format provided below and submit weekly progress report to their Faculty Coordinator allocated by the Internship Committee.

12. Format of Weekly Report: Name of the Student:

Course: B.A.LL.B.(Hons.)/B.Com.LL.B.(Hons.) Semester:

Name of the Internship: NGO/LC-1/LC-2/HC-1/HC-2/SC-1/SC-2/Placement

Name of the Internship Office:

Name of the Reporting Head at Internship Office:

Week: 1/2/3/4 Dates: DD/MM/YYYY to DD/MM/YYYY

Sr. No. Date Nature of Work done Learning Outcome 1 2 3 4

2. There shall be a separate weekly report for each week of internship. The weekly report in soft copy shall be submitted to Faculty Coordinator as per the schedule notified by the Internship Committee.

3. At the end of the internship a Final Report both in hard copy as well as in soft copy prepared by the student shall be submitted to the Faculty Coordinator.

4. Late submission of weekly reports and Final Reports shall attract deduction of the marks by the Faculty Coordinator.

5. If weekly report submission is delayed by more than seven days from the due date, it shall be considered as no weekly report submission on the part of the student.

6. The mode (google form, email etc.) of Weekly and Final Internship report submission shall be notified by the Faculty Coordinator. Submission in any other mode shall be considered as no submission on the part of student.





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7. The Final Report of the Internship shall be submitted in hard copy to the Faculty coordinator, while submitting the Final report in hard copy the Student shall sign the sheet of final report submission available with Faculty coordinator.

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Rajkot



8. The student must make sure that the weekly and final report submitted by him/her shall not be a plagiarised, copied or similar to the work submitted by any other student of Faculty of Law, Marwadi University, Rajkot.
9. In case weekly or final report have been found to be plagiarised, copied or similar to the work submitted by any other student of Faculty of Law, Marwadi University, Rajkot then such case shall be considered to be a case of use of unfair means in examination. A committee shall be constituted by the Dean, Faculty of Law to inquire into the cases of use of unfair means. The decision shall be taken by Dean, Faculty of Law, Marwadi University based on the recommendations made by the inquiry committee.
10. The student shall submit a copy of the Internship Certificate counter signed by the her/him to the Faculty Coordinator allocated by the Internship Committee.
11. Non-submission of the certificate shall lead to cancellation the Internship and the student shall be repeating the same internship again in future.
12. A student shall make sure the internship office is submits the Confidential Internship Certificate to the Faculty Coordinator via mail or post in a sealed envelope.
13. Internship Confidential Certificate must be signed and seal of the Internship office/Advocate must be there on it, without signature and seal Internship Confidential Certificate shall not be considered for any purpose.
14. After the submission of final internship report, a viva-voce examination shall be conducted in which the student shall be examined by external/internal examiner. Students shall be evaluated based on the work they have done during the internship, presentation and practical knowledge gained.
15. If a student fails to complete internship, such student shall be declared fail. He/she shall have to complete the same internship in future in order to become eligible for the award of Degree of B.A.LL.B./B.Com.LL.B.
16. In case any misconduct or unprofessional behaviour of a student during internship is being reported by the internship office to the Internship Committee, Faculty of Law, Marwadi University, Rajkot, the same shall be inquired by a committee constituted by the Dean, Faculty of Law, Marwadi University, Rajkot and the decision shall be taken by the Dean, Faculty of Law, Mawardi University, Rajkot based on the recommendations made by the inquiry committee.
17. The format of the Final Internship Report is as follows

List of Contents

Sr.No.

Title Page No.

1 Acknowledgement

2 Table of Statutes

3 Abbreviations

4 Introduction

5 Internship Work Overview

6 Conclusion

7 Experience sharing

8. Evaluation Scheme:



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CONFIDENTIAL CERTIFICATE

Name of the Student:

Institute/Organization:



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Dean
Faculty of Law
Marwadi University
Rajkot



Name & Address of the Supervisor:

STUDENT PERFORMANCE

Specific remarks about the overall performance of the student toward tasks: (Enthusiastic; eager to learn; receptive; diligent; highly engaged; conscientious; indifferent; disinterested)

Skill of the student in executing tasks: (Well developed critical thinking & analytical skills; shows initiative; learns quickly; productive; meets deadlines; needs to ask more questions; often fails to understand or follow directions; requires close supervision)

How far the student is Dependable: (Conscientious; exercises good judgment; follows through consistently on tasks; persistent with difficult tasks; hesitant to make decisions; careless in meeting obligations)

General Conduct & Character: (Positive attitude; suitable dress & grooming; prompt; accepts praise and criticism appropriately; accountable; makes excuses; overly casual in approach)

Maintaining relationships with others: (Respectful; cooperative; receives suggestions well; open; mature; tactful; friendly; shy; impolitic; argumentative)

Merit Based Overall Evaluation of the Interns Performance:

- Outstanding (performed beyond expectations)
- Very good (high quality performance)
- Good (performed all tasks as expected)
- Average (marginal performance)
- Unsatisfactory (performance mostly inadequate)

(SIGNATURE OF THE SUPERVISOR WITH OFFICE SEAL)

DATED

Course having focus on
Employability
Entrepreneurship
Skill development
during last five years in BBA
(2017-2022)

2017-2018

Elective

PROGRAM	Bachelors Of Business Administration
SEMESTER	I
COURSE TITLE	Mathematics For Business
COURSE CODE	04BB0106
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Calculate simple and compound interest on investments
- Understand repayments of loan using EMIs
- Structure and solve problems using matrices
- Understand and establish relationship between variables using functions to determine equilibrium
- Determine minimum and maximum (optimum) value of cost and profit

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	MATHEMATICS OF FINANCE Introduction, Simple Interest and Compound Interest – Concept and problem solution Future Value (FV) - Annuity: Amount of ordinary annuity, Amount of annuity due Present Value (PV) -ordinary annuity and annuity due Loan Amortization and Equated Monthly Installments (EMIs) - Reducing balance and flat rate of interest Use of MS Excel	10
II	FUNCTIONS Introduction, Constants, Variables, Types of functions– Linear function and Polynomial functions Functions in Business: Cost function, Revenue function and Profit function, construction of cost functions, Profit function and Break Even Point (BEP)	10
III	DIFFERENTIATION AND APPLICATIONS OF DERIVATIVES Limit of a function, important results, differentiation of algebraic functions – formulae (no derivation) Derivative of function of one variable, derivative of sum, difference, product and quotient of two functions (no derivation), chain rule, differentiation of implicit function, price elasticity of demand, second order derivative	12

	Application of derivatives – Marginal cost, Marginal revenue, Marginal Profit, Maxima and Minima	
IV	DETERMINANTS Determinant of second order and of third order, Minor of an element Expansion of determinant, Properties of determinant, Use of determinants in solving simultaneous linear equations – Cramer's Rule for two and three linear equations Use of MS Excel to calculate determinant	06
V	MATRICES AND APPLICATIONS Introduction, Definition, Types of matrices, Algebra of matrices (Addition and Subtraction), Additive Inverse of a matrix, Structure problems in matrix form, Multiplication of matrices (Max 3X3) Minor, cofactor, adjoint and Inverse of Matrix, Solution of system of linear equations using inverse of coefficient matrix (Max 3) Use of MS Excel to calculate inverse of matrix	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	A. Dikshit and J. Jain	Business mathematics	Himalaya Publishing House	Latest
T-02	P. Hazarika	Business Mathematics	S. Chand and Sons	Latest
T-03	P. Mariappan	Business Mathematics	Pearson Education	Latest

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	D C Sancheti and V K Kapoor	Business Mathematics	Sultan Chand and Sons	Latest
R-02	Zamarudeen and Qazi	Business Mathematics	Vikas Publishing	Latest

PROGRAM	Bachelors Of Business Administration
SEMESTER	I
COURSE TITLE	Career Readiness Program
COURSE CODE	04CR0101

COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

Objectives:

- The “*Linguistics for Interpersonal Interaction*” course is designed to make the Learners feel comfortable understanding, thinking and speaking in English.
- Having undergone the training, the Learners will feel confident about his or her own English-speaking skills.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
Unit I	Phonology: Varieties of Language and Standard English, Phonetics and Phonology - Speech Mechanism and Articulatory Phonetics, English Phonemes. Characterization and Classification of Vowels - Diphthongs and Monophthongs.	6
Unit-II	Syntax and Morphology: Nouns, Pronouns and Determiners - Misconceptions related to usages of noun forms, Using Possessives, Types of Pronouns, General Determiners and Specific Determiners. Verbs and related forms - Types of verbs and their forms, Stative and Dynamic, Lexical and Delexical Adjectives and Adverbs - Word formation, Order of Adjectives, Types of Adverbs Preposition and Phrasal verbs - Preposition of time, Preposition of Movements, Preposition of Place, Phrasal Verbs Conjunctions - Coordinating and Subordinating, Using Conjunctions in formal settings. Present Continuous – Form, Usages, Misconception Present Simple & Simple Past – Form, Usages, Misconception	8
Unit - III	Reading Comprehension: Processing Strategy - Comprehension Strategy, Meta-cognitive Strategy, Prediction and Pre-prediction.	4
Unit - IV	Spoken Discourse: Coherence and Cohesion - Situational Sociolinguual interaction, Conversation Practice. Feature of Spoken Discourse - Semantic and Pragmatic Meanings, Conversation Practice (Role Play)	6

Learning Outcomes:

After studying this course, student should be able to:

- Articulate phonetics and phonology, Noun, Pronoun, Verb
- Reading and processing comprehension.

Evaluation:

The students will be evaluated on following evaluation scheme:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment (Term Work)	30% (I.A.)
C	End-Semester Examination (Viva)	50% (External Assessment)

PROGRAM	Bachelors Of Business Administration
SEMESTER	I
COURSE TITLE	Principles Of Management
COURSE CODE	04LS1102
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Demonstrate their knowledge of business and management principles.
- Get acquainted with management process and functions.
- Comprehend the modern management techniques and its relevance in business

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Management Meaning, Nature and Characteristics of Management – Scope of Management - Functional areas - Management as a Science and an Art - Management & Administration – Levels of management & Managerial Skills - Evolution of Management Thoughts - Principles of management - Ethics in Management.	10

II	Planning in Management Need and importance of planning - basic purpose of planning - Planning process, Types of plans - Objectives - Management By Objectives Decision-making Decision making – Nature and importance- types of decisions – process	10
III	Organizing Need for organization - purpose of organization, fundamental principles of organization - Types of organization - Departmentalization, Committees - Centralization Vs decentralization of authority and responsibility Staffing Staffing – Introduction - Need for Staffing - Importance of staffing -Process of staffing	10
IV	Directing Directing – Meaning, nature and importance – Theories of Motivation – Maslow's, Herzberg's & McGregor's Leadership – Introduction - Formal and Informal Leadership – Characteristics – Styles of Leadership - Importance of Communication as a leader Coordinating Coordination – Introduction - Importance of coordination - Principles of coordination	10
V	Controlling Meaning and steps in controlling – Pre-requisites of a strong control system -Methods of establishing control Modern Management Techniques Introduction to various latest management techniques: Business process re-engineering, business outsourcing, benchmarking, kaizen, six sigma, knowledge management, just in time management, total quality management.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	L. M. Prasad	Principles of Management	Sultan Chand and Sons	Ninth Edition - 2015

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	V.S.P. Rao	Management: Text and Cases	Excel Books India	Second edition
R-02	Koontz & O'Donnell	Principles of Management	McGraw Hill	Forth edition

PROGRAM	Bachelors Of Business Administration
SEMESTER	I
COURSE TITLE	Microeconomics
COURSE CODE	04LS1103
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Apply economic reasoning to the analysis of selected contemporary economic problems.
- Understand how households (demand) and businesses (supply) interact in various market structures to determine price and quantity of goods and services produced and consumed.
- Use economic problem solving skills to discuss the opportunities and challenges of the increasing globalization of the world economy.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO MICROECONOMICS	10

	Meaning and definition of Microeconomics, Nature and scope of Microeconomics, Difference between microeconomics and macroeconomics. Central economic problems of society.	
II	CONSUMER BEHAVIOUR Utility analysis: Meaning of Cardinal and Ordinal utility. Cardinal Utility: Law of diminishing Marginal utility, Law of Equi-marginal Utility, Ordinal Utility: Indifference curve analysis, properties of indifference curve analysis, Marginal rate of substitution, Budget line and consumer's Equilibrium.	10
III	DEMAND AND SUPPLY ANALYSIS Determinants of demand , law of demand, exceptions to law of demand. Elasticity of demand and its applications: Price elasticity, Income elasticity and cross elasticity. Concept and Law of Supply , Factors Affecting Supply	10
IV	PRODUCTION AND COST ANALYSIS Production Function: Short run and long run production functions, laws of returns, and law of returns to scale. Cost Function : classification of costs, short run and long run cost curves and their interrelationship, Planning curve and envelope curve, internal and external economics of scale, revenue curves, optimum size of the firm, factors affecting the optimum size	10
V	EQUILIBRIUM OF FIRM AND INDUSTRY Perfect competition, monopoly, monopolistic competition, discriminating monopoly, aspects of non-price competition; group equilibrium, excess capacity, selling costs, oligopolistic behavior.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	H. L. Ahuja	Principles of Economics	S. Chand Publishing house	11 th ed. 2015

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	N.GregoryMankiw	Principles of Micro Economics	Cengage	6 th ed.
R-02	Pindyck, R.S., D. L. Rubinfeld and P. L. Mehta	Microeconomics	Pearson	7 th ed.
R-03	D. Salvatore	Microeconomic Theory	Tata McGraw Hill	5 th ed
R-04	D N Dwivedi	Managerial Economics,	Vikas Publishing House	4 th ed.

PROGRAM	Bachelors Of Business Administration
SEMESTER	I
COURSE TITLE	Business Organizations & Structures
COURSE CODE	04LS1104
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Describe the business structure and their organization.
- Discuss the changes that have taken place in there structure and organization pattern over the time

Course Contents:

Unit	Unit / Sub Unit	Sessions
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No		
I	INTRODUCTION Defining Business, Industry and Commerce. Classification of Activities of Business – Different types of Industry – Commerce – Trade – Trade supporting activities – Advantages and Disadvantages of Business. Their interrelationship in today's environment. Business and Society.	8
II	FORMS OF BUSINESS ORGANIZATION-I Sole Proprietorship, Partnership, Co-operative Society, Hindu Undivided Business, Franchise, Outsourcing.	12
III	FORMS OF BUSINESS ORGANIZATION- II Company – Types including Transnational company, Multinational Company, Joint Ventures & Business Alliances etc. and their structures. Limited Liability Partnership and MSMEs.	8
IV	BUSINESS COMBINATION: Concept, Causes and Forms- Associations, Federations, Consolidations, conglomerate etc.	10
V	GOVERNMENT, PUBLIC SECTOR & NOT FOR PROFIT ORGANIZATIONS : Non Government Organization, Trusts, Societies, Public Sector Enterprises , Stock And Commodities Exchange.	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	S.A Sherlekar & V.S Sherlekar	Modern Business Organisation and Management	Himalaya Publishing House Pvt. Ltd.	Fourth- 2017

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Y.K. Bhushan	Fundamentals of Business Organisation and Management	Sultan Chand & Sons	2013
R-02	Dr. Alice Mani	Business Organization & Environment	SBH	2 nd Edition
R-03	Muniraju S.K. Podder	Business Organisation & Environment	VBH	(2012)
R-04	Kaul, V.K	Business Organisation and Management	Pearson Education	11 th Edition
R-05	Chhabra, T.N.,	Business Organisation and Management	SunIndia Publications, New Delhi	10 th Edition.

PROGRAM	Bachelors Of Business Administration
SEMESTER	I
COURSE TITLE	Fundamentals Of Accounting
COURSE CODE	04LS1105
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Analyze business transactions and will be able to prepare the Financial Statements.
- Understand the need of uniformity in Accounting.
- Analyze the effects of different Financial Accounting methods on the Financial Statements.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Basics of Book – keeping and Accounting Introduction to Book Keeping and Accounting – Branches of Accounting – Systems of Accounting – Basis of Accounting – Characteristics of Accounting Information – Users of Accounting Information – Basic Accounting Terms – Classification of Accounts and its Rules – Accounting Equation Accounting Concepts and Conventions Accounting Principles: Accounting Concepts and Conventions – Fundamental Accounting Assumptions – Introduction to Ind AS – Applicability of Ind AS.	08
II	Process of Accounting Books of Original Entry – Journalizing (including GST) – Difference between Cash Discount and Trade Discount, Ledger – Preparation, Posting and Overview of Electronic Ledgers under GST: Electronic Cash, Credit and Liability Ledger – Practical problems on Journal and Ledger – Preparation of Trial Balance – Redrafting of Trial Balance – Errors and their Rectification	16
III	Final Accounts Types of Expenditure and Income – Meaning of Deferred Revenue Expenditure – Classification of Assets and Liabilities under different head – Contingent Asset and Contingent Liability – Distinguish between Provisions and Reserves – Types of Reserves – Preparation of Financial Statements of sole proprietorship – Impact of GST on Financial Statements – Format of Companies Financial Statements as per Companies Act, 2013.	14
IV	Depreciation Meaning and difference between Depreciation, Depletion and Amortization – Need of Depreciation – Depreciation methods (Straight Line Method and Written Down Value Method) – Method of recording Depreciation (Charging to Asset Account and Creating provision for Depreciation/ Accumulated Depreciation) – Treatment of Disposal of Fixed assets.	06
V	Valuation of Inventory Meaning of Inventory - Inventory Record Systems: Periodic and Perpetual - Methods of Stock Valuation: FIFO, Weighted Average and LIFO	04

Note: Any revision in Indian Accounting Standard will become applicable immediately.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T - 01	P.C.Tulsian	Financial Accounting	Pearson	Latest
T - 02	Dr. S. N. Maheshwari	Financial Accounting for Management	Vikas Publishing House	Latest
T - 03	Ambrish Gupta	Financial Accounting	Tata McGraw, Hill Publishing Co. Ltd. New Delhi	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R - 01	Jain, S.P. and K.L. Narang.	Financial Accounting.	Kalyani Publishers,	Latest
R - 02	Charles T. Horngren and Donna Philbrick	Introduction to Financial Accounting	Pearson	Latest
R - 03	Deepak Sehgal	Financial Accounting	Vikas Publishing H House	Latest

Elective

PROGRAM	Bachelors Of Business Administration
SEMESTER	I
COURSE TITLE	Computer Essentials
COURSE CODE	04LS1107
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Draft Document / Worksheet and Presentation
- Understand the Computer Hardware and Software Fundamentals
- Detail some of the problems that are encountered when developing documents and worksheets
- Describe briefly some of the technologies that are used to support online applications

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	COMPUTER BASICS Data- Instruction and Information-Characteristics of Computers- Various fields of application of Computers- Input-output Devices (Hardware-Software- Human ware and Firmware)-Advantages and Limitations of Computer- Block Diagram of Computer- Function of Different Units of Computer- Classification of Computers. Data Representation-Different Number System (Decimal- Binary- Octal and hexadecimal) and their Inter Conversion.	10
II	COMPUTER SOFTWARE Types of Software- Application software and system software- Compiler and Interpreter-Generations of languages-Low and High Level Languages-Computer Memory: Primary Memory & Secondary memory. Cache memory-optical memory- Storage Media. Introduction to Operating System-All Directory Manipulation-Creating Directory- Sub Directory-Renaming-Coping and Deleting the Directory File Manipulation-Creating a File-Deleting- Coping- renaming a File Using accessories such as calculator- paint brush- CD player etc.	10
III	INTRODUCTION TO MS- OFFICE (WORD) Introduction to Word Processing- Features - Formatting Documents- Paragraph Formatting- Indents- Page Formatting- Header and Footer- Bullets and Numbering- Tabs- Tables- Formatting the Tables- Finding and	10

	Replacing Text- Mail Merging etc..	
t IV	INTRODUCTION TO MS- OFFICE (EXCEL) Introduction to Electronic Spreadsheets- Feature of MS-Excel- Entering Data- Entering Series- Editing Data- Cell Referencing- ranges- Formulae- Functions- Auto Sum- Copying Formula- Formatting Data- Creating Charts- Creating Database- Sorting Data- Filtering etc.	10
V	INTRODUCTION TO MS- OFFICE (POWERPOINT) PowerPoint- Features of MS PowerPoint Clipping- Slide Animation- Slide Transitions- Slide Shows- formatting etc.- Creating formal presentations- inserting different objects- arts- charts- pictures etc. to slide.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	P.K.Sinha	Fundamental of Computers	B.P.B. Publications	

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Curtin, Foley, Sen, Martin,	Information Technology	Information Technology, Tata MC Graw Hill	2007
R-02	Sanjay Saxena	A First Course in computers	Vikas Publication	

Course: B.B.A.

SEMESTER	I
TITLE OF THE SUBJECT	READING AND WRITING FOR BUSINESS
COURSE CODE	04SL0102
DURATION	24 Hours

Objectives:

The course will enable the students:

- To read and interpret formal business writings such as reports, articles and reviews;
- To know structures of formal business letters and reports;
- To write formal business letters and reports;
- To inculcate a taste for reading and writing habits pertaining to the world of business.

Pre Requisites: None

Course Duration:

- The course duration is of 24 sessions of 60 minutes each.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
Unit I	Introduction to Business world 1. Reading a business case-study – “Tripping Along” by Deep Kalra from <i>Stay Hungry Stay Foolish</i> 2. Reading 3 business articles (general in nature) from the newspapers/magazines i. “Paytm: the wonder wallet” from Forbes India. ii. “Millennials: How They Live and Work” from Gallup. iii. “The Right Culture: Not About Employees Happiness” from Gallup.	12
Unit-II	Reading and writing for business 1. Reading business letters (of sales, inquiry, order, complaint, and adjustment) 2. Writing business letters (Any two types) 3. Reading a few short business reports 4. Writing a short business report	12

Learning Outcomes:

After studying this course, student should be able to:

- Inculcate formal reading and writing skills required to communicate with colleagues in the workplace.
- Writing effective business letters, reports.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

		Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	25% (External Assessment)
D	Viva	25%

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Raman M. and Singh P	Business Communication	Oxford University Press	20 th edition, 2011
T-02	Kumar S. and Lata P.	Communication Skills	Oxford University Press	6 th edition, 2013

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Murphy H., Hildebrandt H. and Thomas J	Effective Business Communication	Tata McGraw-Hill	2008
R-02	Sharma R. and Mohan K	Business Correspondence and Report Writing	Tata McGraw-Hill	4 th edition, 1998
R-03	Lesikar R., Flatley M., Rentz K., Pande N	Business Communication	Tata McGraw-Hill	11 th edition, 2009

1. Arakali, Harichandan. "Paytm: The wonder wallet." Forbes India, 16 Nov. 2016, <http://www.forbesindia.com/printcontent/44825>
2. Clifton, Jim. Millennials: How They Live and Work." Gallup, 11 May 2016, <http://www.gallup.com/opinion/chairman/191426/millennials-live-work.aspx>

3. Harter, Jim. "The Right Culture: Not About Employee Happiness." Gallup, 12 April 2017, http://www.gallup.com/businessjournal/208487/right-culture-not-employeehappiness.aspx?g_source=WORKPLACE&g_medium=topic&g_campaign=tiles
4. Kalra, Deep. "Tripping Along." *Stay Hungry Stay Foolish*, edited by Rashmi Bansal, IIM Ahmedabad, 2008, pp. 130-143.

Course: B.B.A.

SEMESTER	I
TITLE OF THE SUBJECT	SPEAKING AND PRESENTATION SKILLS
COURSE CODE	04SL0103
DURATION	24 Hours

Objectives:

The course will enable students

1. To share information on familiar matters/issues in English.
2. To make effective presentations in English.
3. To gain confidence in speaking in English.

Pre Requisites: None

Course Duration:

- The course duration is of 24 sessions of 60 minutes each.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
Unit I	Speaking/Interacting in an Academic Context Greetings, Introducing self and peers, Asking and sharing information, Expressing points of view, Discussions, Facing viva voce, Group discussions, Facing an interview (interview skills).	12
Unit-II	Effective Presentation Skills Introduction to effective presentation skills, Preparing the presentation (Collection of Data/Information, exploring the topic etc.), Using ICT for the presentation, Getting ready for the presentation, Effective body language, Effective pronunciation, Interacting with the audience (Q & A), Practice (with video recording), Feedback and Suggestions.	12

Learning Outcomes:

After studying this course, student should be able to:

- Inculcate speaking skills required to communicate with colleagues in the workplace.
- Effective presentation skills in business, Pronunciation, Interacting with audience.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

		Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	25% (External Assessment)
D	Viva	25%

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Sprague Jo, and Douglas Stuart	<i>The Speaker's Handbook</i>	Thomson Wadsworth	8 th edition, 2008

Recommended Readings/ Viewings:

- Select TED Talks
 - Select INK Talks
 - Select Toastmasters Videos
 - Select Courtroom Dramas
 - Select Videos of speakers like Steve Jobs, Sundar Pichai etc.
1. "Communication." themuse. 2017. <https://www.themuse.com/tags/communication>. Accessed 4 July 2017.
 2. Presentation Magazine. 2017. <https://www.presentationmagazine.com/>. Accessed 4 July 2017.
 3. "Presentation Skills." *SKILLS YOU NEED*. 2017. <https://www.skillsyouneed.com/presentation-skills.html>. Accessed 4 July 2017.
 4. Siddons Suzy. *The Complete Presentation Skills Handbook*. Kogan Page, 2008.



Marwadi University

Bachelor of Commerce/Business Administration/(Hon.)

Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

PROGRAM	Bachelors Of Business Administration
SEMESTER	II
COURSE TITLE	Statistics in Business
COURSE CODE	04LS0205
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Learn the important statistical concepts
- Understand Application and implementation of statistical methods in field.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	<p>Basic Concepts Basics of Statistics: Introduction, Definition, Application of Statistics in Business, Economics and Industry. Presentation of Data: Data collection methods (Primary Vs. Secondary, Population Vs. Sample), Classification and Tabulation of quantitative data, Frequency distribution and Cumulative frequency distribution, Graphical Presentation of data (Histogram, Polygon and Ogive), Use of MS-Excel to create Frequency Distribution and Graphs Univariate Analysis: Descriptive Measures (Central Tendencies and Variation): Meaning of Central Tendency, Averages – Arithmetic mean, Mode, Median and Percentiles, Variation – Range and Variance and Standard Deviation of ungrouped and grouped data. Coefficient of Variation, Choice of good measures. (Use of MS Excel Statistical function to find descriptive measures)</p>	14
II	<p>Probability Theory Counting ($m \times n$) rule, Permutation and Combination (Use of MS Excel to compute permutation and combination)</p> <p>Theory of Probability: Definition, Basic terminology of Probability, three approaches of assigning probability (Classical, Relative Frequency and Subjective</p>	08



Marwadi University

Bachelor of Commerce/Business Administration/(Hon.)

Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

	approach), Rules of probability, Addition rule, Multiplication rule for independent and dependent events.	
III	Probability Distribution: Random variable, probability distribution and mathematical expectation Discrete Probability Distribution: Binomial, Poisson Continuous probability Distribution: Normal Distribution – Properties and Applications (Use of MS Excel Statistical function to compute Binomial, Poisson and Normal probability)	08
IV	Bivariate Analysis Correlation and Regression Analysis: Meaning of correlation, types of correlation, method of correlation – Karl Pearson’s coefficient of correlation, Meaning of Regression, regression coefficients and two lines of regression, use of regression in prediction. (Use of MS Excel Statistical Function to compute correlation and regression)	10
V	Time based Analysis Time Series and Index Numbers: Basic Concepts, Components of Time series (Trend, Seasonal Variation, Cyclic and Random / Irregular variation), methods to determine trend and Seasonal Indices – simple averages, Use of Time Series in Business and Economics. Overview of Index Numbers as an important statistical tool in economics.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:



Marwadi University

Bachelor of Commerce/Business Administration/(Hon.)

Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	J K Sharma	Fundamentals of Business Statistics	Vikas Publication	Latest Edition
T-02	N D Vohra	Business Statistics	McGraw Hill Education	Latest Edition
T-03	D P Apte	Statistical Tools for Managers Using MS EXCEL	Excel Books	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Lewin and Rubin	Statistics for Management	Prentice-Hall of India	Latest
R-02	Sancheti D.C. and Kapoor V.K	Statistics: Theory, Methods & Application	Sultan Chand & Sons	Latest
R-03	S.C. Gupta	Fundamentals of Statistics	Himalaya Publishing House	Latest
R-04	S P Gupta	Statistical Methods	Sultan Chand	Latest
R-05	R. P. Hooda	Introduction to Statistics	Macmillan	Latest
R-06	S.C. Aggarwal & R.K Rana	Basic Statistics for Economists	V.K. India.	Latest
R-07	Beri, G.C	Business Statistics	TMH	Latest
R-08	Chandan J S	Statistics for Business and Economics	Vikas Publications	Latest

PROGRAM	Bachelors Of Business Administration
SEMESTER	II
COURSE TITLE	Applications Of Spreadsheet



Marwadi University

Bachelor of Commerce/Business Administration/(Hon.)

Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

COURSE CODE	04LS0212
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

COURSE OUTCOMES:

- Able to perform routine organizational tasks using Spreadsheets.
- Can be able to understand about pivot tables and how to use it for routine purpose.
- Able to manage spreadsheet and be able to compare data in to different spreadsheet.
- Create a dynamic spreadsheet.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Manage Worksheet Data, Reorder and Summarize Data Understanding software for spreadsheet, learning basic menu items, Basic operations like create, open and save a file, worksheets and workbooks, Renaming Inserting Data in proper tabular format, Basic formatting like changing fonts, size, merging and splitting cells, Coloring cells, conditional formatting	06
II	Functions & Formulas Basic Arithmetic Functions, Conditional Functions, Lookup Functions, Sorting and Filtering Data, Paste Special, Data Validation, Converting Text to Table, Working with multiple sheets	09
III	Data Analysis and Printing Analyze data dynamically by using PivotTables, Filter, show, and hide PivotTable data, Edit PivotTables, Format PivotTables, Create PivotTables from external data, create dynamic charts by using Pivot Charts, Page Setup and Printing	09

Evaluation:



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Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Cox et al	Step by Step 2007 Microsoft Office System	PHI Learning Private Limited	Second Edition, 2009

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Curtis Frye	Microsoft Excel 2016 Step by Step	Microsoft Press	Latest

PROGRAM	Bachelors Of Business Administration
SEMESTER	II
COURSE TITLE	COST ACCOUNTING
COURSE CODE	04LS1202
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Learn the important cost concepts
- Understand Application and implementation of costing methods



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Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Fundamentals of Cost accounting Objectives and functions of cost accounting, Meaning of Cost, Methods of costing, Techniques of costing, Cost ascertainment and cost estimation, Classifications of cost, Special costs for management decision making, Elements of cost, Steps of installation of a costing system, Advantages of cost accounting, Limitations or objections against cost accounting, Essentials of a good cost accounting system	8
II	Direct Expense Material Cost: Material Control, Techniques of inventory control; ABC, Stock Levels and Economic order Quantity. Proper storage of Materials. Labour Cost: Meaning, Labour Remuneration: Methods of Remuneration: Time rate system, Piece rate system, Incentive plans, Group bonus plans.	9
III	Overheads: (Apportionment) Meaning of overhead cost, Classification of overhead cost, Segregation of semi-variable cost, overheads distribution, Allocation and apportionment of overheads (primary distribution), Re-apportionment of service department cost (secondary distribution). Methods of costing Unit Costing: output costing, Costing procedure, Treatment of Stocks, Items Excluded from Cost, Treatment of Scrap	11
IV	Methods of costing Job and Batch Costing: Job Costing Procedure, Batch costing, Economic Batch Quantity. Process Costing: Introduction, Essential Characteristics of Process Costing, Process Costing and Job Costing— A Comparison, Costing Procedure, Normal Loss and abnormal loss, Normal Gain and abnormal Gain.	11
V	Methods of Costing Operating Costing: Operating costing, Cost unit, Transport costing, Transport costing procedure, Boiler house and power house costing, Canteen costing.	9

Evaluation:



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Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M. N. Arora	A Textbook on Cost and Management	Vikas Publication	Latest Edition
T-02	Paresh Shah	Cost and Management Accounting	Oxford Publication	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Ravi M kishore	Cost and Management Accounting	Taxmann	Latest
R-02	V Rajshekharn&Lalitha	Cost Accounting	Pearson	Latest
R-03	CharlesT, Horngren, S M	Cost Accounting	Pearson	Latest
R-04	P C Tulsiyani	Cost Accounting	S Chand	Latest
R-05	Khan and Jain	Management Accounting	TMH	Latest

PROGRAM	Bachelors Of Business Administration
SEMESTER	II
COURSE TITLE	Macroeconomics



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Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

COURSE CODE	04LS1203
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Comprehend why household, business, government and global behavior determine the aggregate demand for goods and services.
- Understand the basics of national income accounting.
- Apply economic reasoning to understand the operation of an economy.

Course Contents:

Unit No	Unit/Sub-unit	Sessions
I	Introduction to Macroeconomics & National Income: Nature and Scope of Macroeconomics, Circular Flow of Income and National Income Accounting , Concepts of GDP and NDP- Sectoral Composition of National Income - GDP measured at Factor Price and Constant Prices- Concept of GNP and NNP, Factor Cost and National Income-Per Capita income, Disposable Income and Personal Disposable Income- Measurement of National Income – Difficulties in measuring National Income	10
II	Keynesian Economic Theory Say's Law of Market and its criticism by Keynes. Simple Keynes Model of Income Determination. Concepts of Consumption Function, Saving Function and Investment Function. Average Propensity to consume, Marginal Propensity to Consume, Investment Multiplier–Marginal Efficiency of Capital and factors affecting MEC.	10
III	Money Supply and Central Bank Meaning and Evolution of Money- Definition of Money- Functions of Money – Demand for Money - Quantity Theory of Money- Fisher's Equation of Exchange-Cambridge Theory. Supply of Money – Determinants of Money Supply- Components of Money Supply-	10



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Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

	RBI's Approach-M1, M2, M3, M4.	
IV	<p>Business Cycle & Inflation</p> <p>Concepts of Business cycle – Four phases of Business Cycle – Interest rate –Loanable fund Theory and Liquidity preference theory- Motives for liquidity preference--Transaction Motive, Precaution Motive, Speculative Motive. Factors affecting interest Rate, Inflation-Meaning, Types, Causes, Effects-Inflation and Investment.</p>	10
V	<p>Open Economy Macroeconomics</p> <p>Balance of Payments –Meaning and assessment, Balance of payment and disequilibrium causes and remedies. Introduction to Foreign Exchange Rates-Fixed V/s Flexible foreign exchange rates. Exchange rate determination.</p>	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	H.L.Ahuja	Macro Ecoomics	S.Chand	20 th ,2015



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Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	D.M.Mithani and Prof. Nayak	Macroeconomics II	Himalaya Publication	1 st edition
R-02	D. N. Dwivedi	Macroeconomics Theory and policy	Tata Mcgraw Hill	4 th edition
R-03	Mankiw	Macroeconomics-Indian edition	Cengage	1st

PROGRAM	Bachelors Of Business Administration
SEMESTER	II
COURSE TITLE	Organizational Behavior
COURSE CODE	04LS1204
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand individual differences and utilize them effectively in making groups to achieve organizational objectives.
- Apply knowledge of models and theories to promote the effectiveness in workplace

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO ORGANIZATIONAL BEHAVIOUR Introduction to OB- Meaning, Definition, Scope, Contributing disciplines, Determinants of OB, Evolution of OB, challenges and Opportunities for Organization Behavior	07



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Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

II	<p>UNDERSTANDING INDIVIDUAL BEHAVIOR Understanding Personality: Meaning, Types, Determinants, Personality Attribute influences Organizational behavior Perception : Meaning, factors, link between perception and Individual decision making Attitude: Meaning, components, Types of attitude, Formation of attitude, Attitude and workforce diversity. Values : Meaning, Types and Importance of values Motivation : Meaning, Types and Theories- Hierarchy of Needs Theory, Theory X and Theory Y, Two-Factor Theory , carrot and stick Approach to Motivation Learning : Meaning and Various Approaches of Learning</p>	15
III	<p>GROUP BEHAVIORS AND LEADERSHIP Group; Meaning, classification of Group, stages of Group formation Understanding teams; Meaning, Difference Between Group and Team, Types of Team Leadership; Meaning of leadership , leadership styles, traits, Theories; Trait Theory</p>	09
IV	<p>ORGANIZATION STRUCTURE AND ORGANIZATION CULTURE Organization Structure; Work Specialization, Departmentalization , Chain of Command , Span of Control, Centralization and Decentralization, Formalization Organizational Designs :Simple Structure ,Bureaucracy ,Matrix Structure , Virtual Organization , Boundaryless Organization Organization Culture –Meaning, Definition, Features, Importance of Culture.</p>	10
V	<p>ORGANIZATIONAL CHANGE AND CONFLICT MANAGEMENT Organizational Change: Meaning – Factors influencing change - Resistance to change - Overcoming resistance Conflict Management: Meaning – types of conflict –factors affecting conflict in organization.</p>	07

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)



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Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

C	End-Semester Examination	50% (External Assessment)
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SUGGESTED READINGS:

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Robbins	Organizational Behaviour	Prentice Hall	Latest Publication
T-02	K. Aswathappa	Organizational Behaviour	HPH	Latest Publication
T-03	P.G. Aquinas	Organizational Behavior	Excel Books	Latest Publication

Reference Books

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	John W. Newstrom & Kieth Davis	Organizational Behaviour	McGraw Hill	Latest Publication
R-02	Fred Luthans	Organizational Behaviour	McGraw Hill	Latest Publication



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Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

PROGRAM	Bachelors Of Business Administration
SEMESTER	II
COURSE TITLE	E-Commerce
COURSE CODE	04LS1206
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Comprehend why household, business, government and global behavior determine the aggregate demand for goods and services.
- Understand the basics of national income accounting.
- Apply economic reasoning to understand the operation of an economy.

Course Contents:

Unit No	Unit/Sub-unit	Sessions
I	INTRODUCTION TO E COMMERCE Introduction to E-Commerce – History of E-commerce, types of E-Commerce - Comparison of traditional commerce and e-commerce. Business models under E-Commerce – Business to Business (B2B) - Business to Customer model (B2C), Consumer-to-Consumer (C2C) - Consumer-to-Business (C2B) model - Peer to-Peer (P2P) model – emerging trends - Advantages and Disadvantages of e-commerce - web auctions, virtual communities - portals - e-business revenue generation models.	10
II	HOW TO SET UP E COMMERCE BUSINESS Why do I want to set up an E-Commerce enterprise?:- competition, global research, customer service, value edition, operations oriented process, 'pettish' products; What do I want to do on the net? Web	10



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Subject Name: English for Workplace

	development and maintenance, static web pages, integration with operational database, dynamic web site, customer transaction, transaction processing/ payment, merchant account, transaction processing, online credit card frauds, full E-Commerce.	
III	PAYMENTS IN E – BUSINESS E-payment systems – An introduction - B to C payments - B to B payments - Types of E- payment system – Credit card - debit cards - accumulating balance - online stored value payment systems - Secure Electronic Transaction (SET) protocol - payment gateways - digital cash - digital wallets - agile wallet - smart cards and digital cheques.	10
IV	SECURITY OPERATIONS FOR E-BUSINESS Possible Security threats – implementation of E-commerce security – encryption – Decryption - protecting client computers - E-Commerce Communication channels and web servers Encryption - SSL protocol – Firewalls - Cryptography methods – VPNs - protecting networks - policies and procedures	10
V	MARKETING OF E-BUSINESS E-Commerce and marketing - B to B and B to C marketing and branding strategies - Web transaction logs – cookies - shopping cart database – DBMS – SQL - data mining - CRM (customer relationship Management) system – permission marketing - affiliate marketing - viral marketing.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	K. Bajaj & D. Nag	E-Commerce: The cutting edge of business	TMGH	Latest



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Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Becker, S. Ann (ed.),	Electronic Commerce: Concepts, Methodologies, Tools and Applications	IGI Global	2007

Course Description

The course will help the students to develop their ability to communicate in English for workplace. The course will introduce the students to various workplace situations

through videos, audios, and simulations and develop students' texts workplace. language for

Course Objectives

The course will enable the students

1. to familiarize with workplace culture;
2. to share information and collect information;
3. to express one's views and agree or disagree with others;
4. to write workplace documents.

Recommended Reading:

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Unit 1: Working together

1. Making requests, suggestions, agreeing and disagreeing
2. Accepting and declining an invitation
3. Giving feedback and verifying information
4. Communication in a meeting (Induction meetings)
5. Telephonic conversation

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Subject Name: English for Workplace

Expressions:

3. Let's Talk video: Requests and Command
in <https://youtu.be/TrCsLOqOuSg>

at Work:
English:



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Subject Name: English for Workplace

4. Let's Talk video: Making suggestions and recommendations:

<https://youtu.be/Bjglvhc6Hnc>

5. Online article: BBC - Agreeing and disagreeing:

<http://learnenglishteens.britishcouncil.org/exams/speaking-exams/agreeing-and-disagreeing>

6. Youtube video: Making, Accepting & Declining an Invitation in English.

<https://youtu.be/GqwpBEynsyo>

7. BBC video: Giving feedback - 18 - at Work:

https://youtu.be/UKz1Fsw_e8c

8. Online article: Effective Meetings:

http://people.ucalgary.ca/~design/engg251/First%20Year%20Files/effect_mee_t.pdf

9. Youtube video: Useful Telephone Phrases: https://youtu.be/6tfFRD_e1V0

Unit 2 Writing for Workplace

1. Letter Writing
2. Email writing
3. Report writing
4. Writing Notices
5. Minutes of meeting

Recommended Readings/Viewings:

1. Online article: Letterbarn: Sample Employment and Workplace Letters: <http://letterbarn.blogspot.in/2008/12/sample-recruitment-letters-training-and.html>
2. Online article: Business letter examples: <https://www.thebalance.com/business-letter-examples-samples-and-writing-tips-2059673>



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3. BBC Learning English video: Writing an Email- 18 - English at work:

<https://youtu.be/aO3Det4ir8U>



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4. BBC Article: English Email:
for <https://learnenglish.britishcouncil.org/en/english-emails>
5. Blog: My School: How to write notice and circular:
<http://english-cbse.blogspot.in/2011/09/how-to-write-notice-and-circulars.html>
6. Online article: Drafting of Notices, Circulars, Minutes and Resolutions:
<http://www.yourarticlelibrary.com/business/reports/drafting-of-notices-circulars-minutes-and-resolutions/75904/>

Teaching Scheme:

Teaching Scheme (Hours per week)	Evaluation Scheme					Total Marks	
	Theory	ES E	IA	CS E	Viva		Term Work
2 Hours		00	30	20	25	25	100

1. IA will consist of the following components (30 marks):

a. Assignments (20 Marks): Students will prepare assignments as following.

Writing a letter, a circular, a notice and a minute of meeting on the givensubjects. (05 Marks each)

b. In-Class Participation (10 Marks)

2. CSE (20 marks):

Term End Simulation: Performing a simulated

wor



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Workplace scene/situation and video/audio recording it. (20 Marks) on a given

3. **Viva (25 Marks):** Viva will be conducted at the end of the semester. It will be based on the CSE, Term Work, Assignments and topics covered in the syllabus.

4. **Term Work (25 Marks):**



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Term-End Presentation: Students will make a presentation based on topics provided by the faculty at the end of the semester.

Further Suggested Readings:

1. Cosgrove Anthony, *English at Work (with audio CD and practical language activities in the UK)*, Cambridge University, 2011
2. BBC video series on English at Work (45+ videos): Link:
https://www.youtube.com/playlist?list=PLcetZ6gSk969oGvAl0e4_PgVnlGbm64bp
3. FutureLearn course on English for Workplace:
Link: <https://www.futurelearn.com/courses/workplace-english/2/todo/10069>
4. Video conference on first day of joining:
<https://view.vzaar.com/9734063/video>
5. Maheshwari, *English at the workplace*, Laxmi Publication, 2006
6. MuktiSanyal, VarmaPromodini, *English at the Workplace II*, Oxford University Press, 2007
7. HelgesenMarc, Adams Keith, *Workplace English:Office File*, Longman, 1996
8. Schofield, James, *Collins Workplace English*, Harper Collins Publisher, 2012

Course Description

The course offers select English movies as a medium for teaching English language skills. Given that 'context' is a vital aspect for language learning, film as an audio-visual

'text' re-creates reality whilst presenting its viewers with demonstrations of varied

linguistic contexts. This course thus aims to create a sense of ease in learning English in a contextual manner. Moreover, the objectives of learning language are fluency and accuracy. These aims can be achieved



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best by various language contexts (situations) demonstrated in movies. Also, movies present language in a more accessible fashion for the students to easily acquire language skills.

Course Objectives

The course will enable the learners to

1. further enhance their basic language skills;
2. identify and use different language functions in an audio-visual context;
3. learn to use film and its elements as tools for language learning.

Unit 1: Language Functions, Contexts & Movies

In this unit, students will learn, understand, and explore English through clips from various selected movies. They will primarily study a number of language situations, as shown in the clips, in order to understand how English can be used in varying contexts. This unit aims to improve the students' basic language skills LSRW by dealing with

varying language activities by focusing on strengthening their vocabulary,

interpretation skills, reading non-verbal cues, pronunciations, and also their writing skills. Students would explore the following language activities in this unit:

1. Introducing the course
 - a. Instructors will introduce each film included in the syllabus along with a very brief background of the recommended movies, and



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- b. Students will be asked to list the kinds of movies they prefer and also provide a reason for their preferences
2. Focusing on dialogues and understanding parts of speech
3. Creative Writing: Making a pamphlet (for Continuous Semester Evaluation)
4. Reading nonverbal cues in context
5. Vocabulary building exercises – word meanings, making sentences & finding images and synonyms and antonyms
6. Interpreting dialogues & pronunciation
7. Daily Conversations

Recommended Web-links

1. www.fluentu.com/english/blog/learn-english-movies-film-esl/?lang=en
2. www.academia.edu/.../The_Impact_of_Using_Movies_on_Learning_English_language
3. <https://speechyard.com/us/video/>
4. <https://www.learnenglish.de/improveenglish/films.html>

Unit 2: Detailed Analyses of the Movies

Students would be asked to watch the selected movies and individual scenes in order to transcribe dialogues, respond to and discuss various issues dealt within the movies, answer questionnaires, and write movie reviews. They will also be asked to interpret the trailers of these movies and discuss them in groups. The following activities will be covered in this unit:

- a. Dialogue and monologue transcription
- b. Interpreting the trailers [Group discussion]
- c. Interpreting the scene(s) [Group discussion in context]
- d. Movie comprehension (a short film and a long scene will be played in class)
- e. Reading and Writing Movie reviews
- f. Describing/Discussing the posters of the movies,
- g. Describing characters & themes (Questionnaire)
- h. Giving feedback/expressing opinions.



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Recommended Web-links

1. <http://www.imdb.com>
2. <https://www.rottentomatoes.com/>
3. warmupsfollowups.blogspot.com/
4. www.learnenglishfeelgood.com/eslvideo/
5. <http://www.esl-galaxy.com/video.htm>

Evaluations and Assessment:

The evaluation and assessment would consciously

Teaching Scheme (Hours per week)	Evaluation Pattern					Total Marks
	ESE	IA (In-Class Participation & Assignments)	CSE	Term-End Presentation	Viva	
Theory						
2	00	30	20	25	25	100

1. IA (Internal Assessment): The IA consists of two components. First being the In-

Class participation of 10 marks. The second assignments consisting being three

prepared by students and submitted during the semester. It carries 20 marks. The list of three assignments is as follows:

- a. Transcribing a monologue of a major character (5 marks)
- b. Plot description on the basis of a trailer (5 marks)
- c. Comprehension of a short film/ long scene (10m)

2. CSE (Continuous Semester Evaluation): Students will be assigned a particular

film(s) for this endeavour. It carries 20 marks. Students will be given the topic by the end of the first fortnight of the semester. The details of the task are as follows:



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-
- a. Preparing a four-page pamphlet on the selected film, describing the production details, film synopsis, and other details.



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Subject Name: English through Movies

3. Term-End Presentation: They will be assigned two movies for the term-work. It carries 25 marks. The students will write two movie reviews. The reviews have to be handwritten. After the submission of the review file, they will be making a presentation of their written submission. The reviews carry 15 marks and the presentation will carry 10 marks.

4. Viva: It carries 25 marks. Viva will include questions on their term work on movie reviews. Out of 25 marks, 10 marks will be allotted for their term-work and 15 marks for their linguistic skills along with their understanding of the course materials.

Selected Movies

1. *Harry Potter and the Philosopher's Stone*. Directed by Chris Columbus, WarnerBros. Pictures, 2001.
2. *Paperman*. Directed by John Kahrs, Walt Disney Animation Studios, 2012.



3. *Steve Jobs*. Directed by Danny Boyle, Universal Pictures, 2015.
4. *The Social Network*. Directed by David Fincher, Columbia Pictures, 2010.
5. *WALL-E*. Directed by Andrew Stanton, Walt Disney Pictures & Pixar Studios, 2008.



10.

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PROGRAM	Bachelors Of Business Administration
SEMESTER	III
COURSE TITLE	Marketing Management
COURSE CODE	04BB0301
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Comprehend Fundamental Marketing Concepts and marketing environment.
- Apprehend the concepts of Basic 4Ps of Marketing.
- Understand and apply the concepts of Segmenting and Targeting Customers.
- Comprehend various channels of distribution and various means of promotion.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO MARKETING MANAGEMENT Introduction to marketing management – Need of marketing management, Definition, Scope, Core Marketing concepts, Understanding – Needs, Wants and Demand, Customer Value & Satisfaction, Functions of marketing, Eras in marketing, Marketing environment, Marketing mix , Role of marketing manager.	08
II	CONSUMER BEHAVIOUR & SEGMENTATION Understanding Consumer behaviour, Factors affecting Consumer Buying Decisions, Consumer Buying Process, difference between Consumer buying and Industrial buying. Introduction to Segmenting, Concept, Importance and Bases of segmentation, Targeting & Positioning, Product differentiation.	10
III	PRODUCT AND PRICE Understanding Product and its importance, Product Levels, Product mix, Branding, Product Life Cycle & Strategies at various levels, New Product Development, Overview of Packaging, Introduction to Service marketing, SERVQUAL Pricing: Introduction to Pricing, Factors affecting Pricing and Strategies for Pricing.	10
IV	DISTRIBUTION Introduction to Distribution – Meaning and Importance, Channels of Distribution, Channel members, Wholesaling and Retailing, Introduction to Logistics.	08

V	PROMOTION Introduction to Promotion – Types, Scope, Tools, Advertising – Roles, 5MS; Personal selling, Public relations, Direct Marketing & sales promotion – concept and characteristics. Brief introduction to Latest trends in marketing (Online Marketing - Green marketing and Rural Marketing)	10
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Philip Kotler & Kevin Lane Keller	A Framework for Marketing Management	Pearson Education.	Sixth Edition (2016)

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Philip Kotler; Kevin Lane Keller; Abraham Koshy; MithileshwarJha	Marketing Management: A South Asian Perspective	Pearson Education	Latest Edition
R-02	Tapan Panda	Marketing Management	Excel Books	Latest Edition
R-03	Rajan Saxena	Marketing Management	TMGH	Fourth Edition

PROGRAM	Bachelors Of Business Administration
SEMESTER	III
COURSE TITLE	Human Resource Management
COURSE CODE	04BB0302
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Explain the importance of human resources and their effective management in organizations.
- Analyze the key issues related to administering the human elements such as recruitment, training, compensation, management development and employment relations.
- Understand the process of job analysis and appreciate its importance as a foundation for human resource management practice.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction: An Introduction to Human Resource Management, characteristics and significance of HRM, Skills and Competencies of a Human Resource Manager, changing skill requirement, changing employee expectations, Challenges faced by HR managers.	08
II	Procurement: Human Resource Planning, process and significance, job analysis – job description and job specification, Recruitment - Selection – Placement and Induction, HRM Workshop: Linking Concepts to Practice.	12
III	Development: Identification of training needs, Methods of training, Difference between Training & Development. Introduction to Management Development, DO YOU KNOW?: Where Are the Jobs?(class discussion).	10
IV	Compensation: Introduction - Basic factors in determining pay rates, Basic, Supplementary and Executive Remuneration, types of employee benefits and services, Ethical issues in Compensation Management: <i>Discussion</i> .	10
V	Employment Relations: Employee Relationship Management– Definitions and Main Aspects, Industrial Disputes & Conflicts, Contemporary issues in Human Resource	08

	Management.	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Pravin Durai	Human Resource Management	Pearson: Dorling Kindersley (India)	4th

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	K. Aswathappa	Human Resource and Personnel Management, Text and Cases	Tata MC Graw-Hill	6 th , 2010
R-02	Gary Dessler & BijuVarkkey	Human Resource Management	Pearson	14 th , 2016
R-03	V.S.P. Rao	Human Resource Management - Text and Cases	Excel Books	2006

PROGRAM	Bachelors Of Business Administration
SEMESTER	III
COURSE TITLE	Business Environment
COURSE CODE	04BB0303

COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the meaning and relationship of environment and business
- Know the characteristics of modern business
- Explain the competitive structure of an industry

Course Contents:

Unit No.	Unit / Sub Unit	Sessions
I	INTRODUCTION TO BUSINESS ENVIRONMENT Introduction to Business environment - salient features – importance - internal & external environment –Macro & Micro Factors(SWOT Analysis- Firm Specific) environment scanning: features - process & techniques -Social and Cultural Factors, Business Environment with reference to global integration, ecological environment protection Act	10
II	ECONOMIC ENVIRONMENT & POLITICAL ENVIRONMENT Political structure: Legislature institutions – executive institutions – judiciary institutions - Economic systems: capitalism, socialism; mixed economy, mixed economy of India; LPG - Liberalization, Privatization & Globalization and its impacts –Highlights of New industrial policy & its implication in India –Fundamentals of fiscal policy.	10
III	TECHNOLOGICAL & LEGAL FRAMEWORK Impact of Technology on Business –Overview of Technological Policies- ISO standards- Bureau Of Indian Standards–Important features of Intellectual property rights – Trademarks –The Competition Act 2002: Basics of Foreign Exchange Management Act 1999 (FEMA): Features – objectives - application of the Act - FEMA Vs FERA.	10
IV	SOCIAL ENVIRONMENT Business and Society, Changing Concepts and objectives of Business, Interdependence of business and society, technological development and social change, Consumers' rights & consumerism, Consumer protection Act; corporate governance.	10
V	INTERNATIONAL BUSINESS ENVIRONMENT Importance of International Business, Types of International Business, Protectionism, EXIM policy, EPZs, EOUs, SEZ, WTO, regional blocks.	8

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
1	Francis Cherunilam	Environment For Business	Himalaya Publishing House	2 nd edition 2011

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
1	Mishra, S.K. and Puri V.K	Economic Environment of Business	Himalaya Publishing House	1 st - 2011
2	Paul Justin	Business Environment-Text and Cases	TATA McGraw Hill Publishing	3 rd - 2010
3	Vivek Mittal	Business Environment	Excel Books	2 nd - 2010
4	Raj Agarwal	Business Environment	Excel Books	5 th - 2002
5	Francis Cherunilam	Business Environment, Text & Cases	Himalaya Publishing House	25 th - 2016
6	Aswathappa K	Essentials of Business Environment	Himalaya Publishing House	13 th - 2016
7	Morrison J	The International Business Environment	Palgrave	2 nd - 2006
8	Richard G. Lipsey	An Introduction to Positive Economics	ELBS, Oxford	7 th - 1989

List of Journals /Periodicals/ Magazines/ Newspapers etc.

1. International Journal of Business Environment

2. International Journal of Entrepreneurship & Business Environment Perspectives
3. Journal of World Business
4. Economic & Political Weekly
5. Intellectual Property Rights
6. Corporate Governance
7. Business India / Business World
8. Banking & Finance
9. Industrial Economist
10. Fortune, Global Business Review,
11. Economic Survey- GOI
12. World Development Report
13. India Development Report (Latest Edition)
14. RBI Annual Report, etc

PROGRAM	Bachelors Of Business Administration
SEMESTER	III
COURSE TITLE	Research Methodology
COURSE CODE	04BB0304
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Gain basic knowledge on research methods.
- To make decisions based on actual business conditions using statistical method.
- Demonstrate knowledge in different types of research methods and techniques.
- Perform statistical analysis and compile structured reports that reflect appropriate decision making.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	RESEARCH PROCESS – 1 Objective, Introduction, Scope of Business Research , Managerial value of Business Research, Business Research in a Global context , Ethics and Business Research , Types of Business Research, Stages in Research Process , Importance and criteria of Good research, Need for Research Design, Features of good research design.	12
II	RESEARCH PROCESS – 2 Introduction to Qualitative and Quantitative Research, Sampling Design – Census and Sample survey, Characteristics of good sample design, Sampling Methods – Random sampling and non-random Sampling.	06

	Sampling and non-sampling Errors , sample size determination.	
III	DATA COLLECTION, MEASUREMENT AND SCALING Data collection methods – Primary and Secondary Data , Measurement in Research, Measurement Scale, Meaning of Scaling, Scaling Techniques and it's construction , Questionnaire Design, Developing Measurement Tools using Excel functions.	12
IV	PROCESSING AND ANALYSIS OF DATA Measures of Relationship – Simple Correlation and Simple Regression Analysis, Formulation and statement of hypothesis, confidence interval, Type-I error, Type-II error, one-tailed , two tailed, , Testing of hypothesis(population mean and population proportion for single population)	12
V	PREPARING REPORTS Technical and Academic Report Writing, Significance of Report writing, Layout of Research Report, Precaution for writing Research Report and Conclusion.	06

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
TEXT BOOKS:-

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Deepak Chawla & Neena Sodhi	Research Methodology, Concepts And Cases	Vikas Publication	2/e,2016

REFERENCE BOOKS:-

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Naval Bajpai	Business Research Methodolgy	Pearson Education	1/e,2011

R-02	Cooper And Schindler	Business Research Methods	Mcgraw-Hill Publication	12/e,2014
R-03	D.K. Bhattacharya	Research Methodology	Excel Books	2/e,2006
R-04	J K Sachdeva	Business Research Methodology	Hph	2/e,2011
R-05	Uma Sekaran & Roger Bougie	Research Methods For Business – A Skill Building Approach	Wiley	6/e,2013
R-06	Naresh K Malhotra	Marketing Research	Pearson Education	5/e,2007

PROGRAM	Bachelors Of Business Administration
SEMESTER	III
COURSE TITLE	Financial Management
COURSE CODE	04BB0305
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand how to maximize shareholders value by applying various financial decision.
- Compute cost of capital, capital budgeting, dividend decision and working capital.
- Learn various sources of finance.
- Understand capital structure theories and its importance.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Financial management: Meaning, Nature and Scope. Functions and objectives. Wealth Vs. Profit Maximization; Role of Finance Manager in 21 st Century. Time Value of Money: Concept, Compounding, Discounting and Annuity (Numerical).	8
II	Financing Decision: Sources of Financing – Equity, preferred and debt capital. Cost of Capital: Cost of equity, preferred and debt capital, weighted average cost of Capital (WACC). Capital Structure – determinants, theories – NI, NOI &; MM Hypothesis. Leverage – Operating, financial &; combined.	12
III	Investment Decision: Nature of investment decisions; different types of investment; investment	12

	appraisal methods – Non discounting cash flow methods (Payback period, ARR) and discounting cash flow methods (NPV, IRR & PI).	
IV	Dividend decisions: Types of dividend, dividend distribution practices, Walter's, Gordon's & MM dividend models; principles of dividend policy. Dividend payment practices in corporate India.	6
V	Working Capital: Meaning, significance and classification. Financing & sources of working capital; estimation of working capital requirement, operating cycle period. Basic concepts of cash, receivables, & inventory management. New dimensions in management of working capital in modern era.	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Prasanna Chandra	Financial Management – Theory & Practices	New Delhi, TMH	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	I.M. Pandey	Financial Management	Vikas Publication	Latest Edition

R-02	M.Y. Khan and P.K. Jain	Financial Management – Text, Problems & cases	New Delhi, TMH	Latest Edition
R-03	Rajiv Srivastava and Anil Sharma	Financial Management	Oxford University Press	Latest Edition
R-04	Horne, James C Van.	Financial Management And Policy	Phi Learning Pvt Ltd	Latest Edition

PROGRAM	Bachelors Of Business Administration
SEMESTER	III
COURSE TITLE	Business Laws
COURSE CODE	04BB0306
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Explain the basic elements of forming an enforceable contract and agreement.
- Classify various negotiable instruments and reason of its dishonor.
- Enumerate the types of companies its management and its rules of corporate governance.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INDIAN CONTRACT ACT, 1872 GENERAL PRINCIPLE OF LAW OF CONTRACT Introduction, Object of the Law of Contract, Nature of Contract, Essential elements of a Valid Contract, Classification of Contract and Kinds of Contracts, offer and acceptance, Consideration, Capacity to Contract, Free Consent, Performance of Contract, Distinguish between Agreement and Contract, Discharge of Contract, Remedies for breach of Contract, Quasi Contract.	10
II	SALE OF GOODS ACT, 1930 Introduction, Formation of Contract of Sale and its features, Condition and warranties, Caveat Emptor, performance of contracts, Rights of an unpaid seller, remedies for breach of contract of sale, Finder of loss goods, Auction sale.	10

III	NEGOTIABLE INSTRUMENTS ACT,1881 Definition, Introduction, Characteristics and Types of Negotiable Instruments, Essential elements of negotiable instruments, parties to negotiable instruments, Dishonor and Discharge of Negotiable instrument.	10
IV	COMPANIES ACT, 2013 - I Introduction, Historical development of company law in India, Types of Companies, Registration of Companies, Memorandum of Associations, Article of Associations, prospectus.	10
V	COMPANIES ACT, 2013 - II Type of Meetings, Directors, Appointment and removal of Directors, Board of directors, Rules of corporate governance related to business of company, NCIT (National Company Law Tribunal), NCLAT (National Company Law Appellate Tribunal) , Special Courts with major amendments.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books :

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M. C. Kuchhal	Mercantile Laws	Vikas Publication	Latest Editions
T-02	N. D. Kapoor	Elements of Business Law	Sultan Chand and sons.	Latest Editions

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication

R-01	S.S.Gulsan	Business Law	New Age International Publishers	Latest Edition
R-02	Avtar Singh	Business Law	Eastern Book Co.	Latest Edition
R-03	Desai T.R	Indian contract act, sale of goods act, partnership act	Universal Law Publications	Latest Edition
R-04	Munish Bhanderi	Corporate Allied Law	Best world's	Latest Edition

PROGRAM	Bachelors Of Business Administration
SEMESTER	III
COURSE TITLE	Fundamentals of Digital Marketing
COURSE CODE	04BB0307
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

COURSE OUTCOMES:

- Detail what is meant by the term 'digital marketing'
- Understand the role of digital marketing in any product / service / concept
- Detail the steps of marketing online
- Show how some of the technologies detailed in the course are used in concert to realise a typical marketing situation

Course Contents:

Unit	Unit / Sub Unit	Sessions
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No		
I	OVERVIEW OF DIGITAL MARKETING Introduction to Digital Marketing : history – importance - good practice in Digital Marketing –Critical issues & challenges – applications of Digital Marketing in development of brands, driving sales, encouraging product and service development and innovation – digital marketing as an aid for recruitment and training	08
II	WEB MARKETING Bookmarking and News Aggregators, Really Simple Syndication (RSS), Blogging, Live Chat, User Generated Content (Wikipedia etc), Multi-media - Video (Video Streaming, YouTube etc), Multi-media - Audio & Podcasting (iTunes etc), Multi-media - Photos/Images (Flickr etc), Google Alerts and Giga Alert (Brand, product and service monitoring online) Crowd sourcing, Virtual Worlds (Second Life, There, Habboetc)	08
III	SEARCH ENGINE OPTIMISATION (SEO) Basics & working of Search Engines - Popular Search Engines. Crawlers / Spiders, Visibility on Search Engines Meta Tag Optimization, Image optimization, Creating/uploading Robots file, Creating/uploading HTML & XML Sitemap, Bold & Italic Tag - Page Rank - 404 Error Redirects, 301 / 302 redirection, Competitor analysis, Pre/post-website analysis, Alexa report, Some Common SEO tools & plug-ins, Anchor Text, Heading tag,	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Ian Dodson	The Art of Digital Marketing: The Definitive Guide to Creating Strategic, Targeted, and Measurable Online Campaigns	Wiley	2016

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Philip Kotler	Marketing 4.0 : Moving from Traditional to Digital	Wiley	2016
R-02	Ryan Deiss	Digital Marketing for Dummies	John Wiley & Sons	2015

PROGRAM	Bachelors Of Business Administration
SEMESTER	IV
COURSE TITLE	Production & Operations Management
COURSE CODE	04BB0401
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the relevance of production and operations management in industry.
- Apply the techniques of inventory management and quality management.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction: Meaning, Nature and Scope of Production and Operation Management, Types of production processes	08
II	Plant location and Lay out: Factors considered in location, Types of Layout , PPC (Only concept)	10
III	Materials Management: Importance of Materials Management, Concept of purchasing, principles of purchasing and process of purchasing. Types of purchasing: Inventory management, its prime importance, Inventory Control Techniques - ABC, FSN, GOLF, VED, SOS (only concepts).	12
IV	Methods Study & Maintenance Management: Methods Study, Work Study and Time Study: (only Concept), Maintenance Management: Need of maintenance management, Types of maintenance management	10
V	Quality Management: lean manufacturing, JIT, Kaizen, ISO series, TQM	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	K. Aswathappa and K. Shridhara Bhat	Production and Operation Management	Himalaya Publishing House	Second Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	S.A.Chunawalla and D.R. Patel	Production and Operation Management	Himalaya Publishing House	Ninth Edition
R-02	Kanishka Bedi	Production and Operation management	Oxford higher education	Second Edition
R-03	Mahadevan B	Operations Management	Pearson Education	Second Edition

PROGRAM	Bachelors Of Business Administration
SEMESTER	IV
COURSE TITLE	Management Information System
COURSE CODE	04BB0402
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Comprehend types of MIS applications in organizations
- Deliberate the expansion of management information systems in organizations.
- Critically evaluate security challenges associated with the use of Information system.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Management Information Systems: Meaning of information system, difference between information and data, Role	10

	and Importance MIS in modern business. Types of decisions and the use of information system.	
II	Types of Information system Transaction processing system, Office Automation system, Management Information system, Decision support system, Executive support system, Group decision support system, Geographic Information system	10
III	Enterprise Resource Planning and Enterprise Applications Meaning of ERP- Its role in modern organization, merits and demerits. Enterprise Applications- Customer relationship management systems, supply chain management systems, Knowledge Management system and its role in modern business.	10
IV	Networks and its types Types of Network, LAN, WAN, MAN, CAN, PAN. Its advantages and disadvantages, Topologies, communication medium, wired and wireless networks, Meaning of internet and intranet and the difference between the two.	10
V	Security challenges in India Types of computer crimes, sources of information technology vulnerabilities. Remedies for preventing unauthorised use of information technology Challenges faced by working population- working conditions, individual's health and social issues.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Laudon, Kenneth C. and Laudon, Jane P	Management Information Systems: Managing the Digital Firm	Pearson Education	13 th edition 2014

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	Jawadekar, W. S	Management Information Systems	Tata-McGraw Hill	2nd edition ,2002
R-02	O'Brien J.	Management Information Systems – Managing Information Technology in the Business Enterprise	Tata McGraw Hill	11 th edition, 2011
R-03	McLeod, Raymond and Schell, George P	Management Information Systems	Pearson Education	9th edition, 2012

PROGRAM	Bachelors Of Business Administration
SEMESTER	IV
COURSE TITLE	Income Tax Law And Practice
COURSE CODE	04BB0403
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the residential status and tax incidence based on it
- Calculate income under all the five heads of Income
- Gain knowledge regarding the exempt income
- Gain knowledge regarding the deductions from total income
- Calculate tax payable on taxable income
- Understand the concept of tax deduction and tax collected at source

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION, RESIDENTIAL STATUS AND EXEMPT INCOME Levy of income tax - Rates of tax & slab - Important Definitions - Relevance and significance of residential status - Types of residential status and its Determination - Incidence of tax based on residential status - Income which do not form part of total income - Conditions to be satisfied for availing exemptions	05
II	INCOME UNDER THE HEAD SALARY & INCOME FROM HOUSE PROPERTY Definition of Salary – Chargeability - Treatment of various	15

	<p>Allowances - Perquisites and their valuation - Deductions from gross Salary - Retirement benefits - Provisions regarding Provident Fund - Computation of taxable salary (Practical Problems)</p> <p>Chargeability of income from house property - Composite rent - Annual value and its determination - Deductions from annual value - Deemed ownership - Computation of taxable income under this head (Practical Problems)</p>	
III	<p>INCOME UNDER PROFITS AND GAINS OF BUSINESS AND PROFESSION & INCOME FROM CAPITAL GAIN Meaning of Business and Profession – Chargeability of income from profits and gains of business and profession - Allowable expenses – Expressly disallowed expenses - Deemed profits and incomes - Computation of taxable income under this head (Practical Problems)</p> <p>Chargeability of income from capital gain - Capital asset – Transfer - Short term and Long term capital assets - Short term and Long term capital gain - Exemptions from long term capital gain - Computation of capital gains (Practical Problems)</p>	16
IV	<p>INCOME FROM OTHER SOURCES AND DEDUCTIONS FROM GROSS TOTAL INCOME Income taxable under other sources - Deductions allowed - Inadmissible deductions - Computation of taxable income from other sources (Practical Problems)</p> <p>Chapter VI-A deductions from the gross total income [Section 80C to 80U] -</p>	08
V	<p>TAX PAYABLE, TAX DEDUCTION AT SOURCE & ADVANCE TAX Calculation of taxable income and tax payable</p> <p>Deduction of tax at source under various sections [only those applicable to individual] – Concept of tax collected at source – Liability for payment of advance tax and due dates</p>	04

Note: Any change in the provisions of Income Tax Act, 1961 as per budget or otherwise, shall be respectively made applicable to the syllabus. The syllabus of an academic year shall be the provisions of the relevant Assessment Year.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Dr. V. K. Singhania and Dr. Monica Singhania	Students' guide to Income Tax (University Edition)	Taxmann	Latest
T-02	Dr. Girish Ahuja and Dr. Ravi Gupta	Direct Tax Law and Practice	Bharat Publication	Latest
T-03	CA. T. N. Manoharan	Direct Tax Laws	Snow White Publication	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Dr. Girish Ahuja and Dr. Ravi Gupta	Practical Approach to Tax Laws and Practice	Bharat Publication	Latest
R-02	Dr. V. K. Singhania and Dr. Monica Singhania	Students' guide to Income Tax	Taxmann	Latest
R-03	Gaur, V. P. & Narang, B. K.	Income tax Law and practice	Kalyani Publishers, New Delhi	Latest
R-04	Prasad, B.	Income tax Law and practice	New Age Publications	Latest
R-05	B.B. Lal and N. Vashisht	Direct tax	I. K. International Publishing House	Latest

PROGRAM	Bachelors Of Business Administration
SEMESTER	IV
COURSE TITLE	Indian Financial System
COURSE CODE	04BB0404
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- To understand the fundamentals of financial markets.

- To examine impact factors of Money Market, Capital Market & Foreign Exchange Market
- To appreciate the Need and Working of Financial Intermediaries.
- To recognize the importance and various functions of Market Regulation

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Indian Financial System Structure of Financial System, Instruments of Financial System, organised and unorganised Financial System; Components: Financial Assets, Financial Intermediaries, Financial Markets (money and capital markets in India) Relevance of various interest/return rates, Regulatory framework,	10
II	Role of Financial Institutions in Indian Financial System Financial Institutions and its meaning, Functions and Role of Financial Institutions; Money market institutions: Meaning, Role of the Central Bank(RBI) in money markets; Commercial banks: Meaning and Functions; Indigenous Financial Agencies: Bankers, Money lenders, Discount houses, Accepting houses(only meaning and features); Capital Market institutions: (Meaning and functions) Merchant Banks, Investment companies, Management Investment companies, Development banks, Mutual Funds ; Special Financial Institutions: Factors for their growth (need) ; Objectives and functions of: (1) IDBI (2) IFCI (3) SFCs (4) ICICI (5) EXIM Bank of India; Non-Banking Finance Companies: Meaning, Role, Types of NBFC services; Functions SEBI.	10
III	Financial Instruments Financial Instruments Meaning, importance and classification of Financial instruments; Short-term, Medium-term and Long Term Instruments; Primary and Secondary Securities; Innovative Instruments	10
IV	Functions of Financial Markets in India Financial Market in India: Capital Market, Money Market: meaning, function, types.	08
V	Meaning and Importance of Financial services in India Meaning, importance and types of Financial Services; 1. Factoring: Meaning, Types, costs and benefits of factoring 2. Leasing: Meaning, Definition, advantages to lessor and lessee, types of leases (operating, finance, leveraged, sales and lease-back, leveraged and cross-border.) 3. Underwriting: Meaning and benefits 4. Credit Rating Agencies: Meaning and role of such agencies. A brief idea about: CRISIL, CARE ICRA. 5. Others: A brief idea about: NSDL, STCI.	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Khan M. Y	Indian Financial System	Tata McGraw Hill	7 th edition 2014
T-02	Vasant Desai	The Indian financial system and Development	Himalaya Publishing House	5 th edition 2017
T-03	Pathak B. V.	Indian Financial System	Pearson	4 th edition 2014

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	Bhole L. M. & Mahakud J	Financial Institutions and Markets: Structure, Growth & Innovations	Tata-McGraw Hill	8 th edition ,2012
R-02	Khan M. Y	Financial Markets and Institutions	Tata McGraw Hill	5 th edition, 2010
R-03	Khan M. Y	Financial Services,	Tata-McGraw Hill	6 th edition, 2011
R-04	C.Sudarsana Reddy	Financial Management- Principles and Practice,	Himalaya Publishing House	1 st edition, 2010

PROGRAM	Bachelors Of Business Administration
SEMESTER	IV
COURSE TITLE	Entrepreneurship
COURSE CODE	04BB0405
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Comprehend Fundamental Concepts for starting the business
- Apprehend the concepts of industrial environment and preparing a business plan.
- Understand available sources for raising funds for start-ups.
- Comprehend various challenges and possible solutions for starting a business units.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	ENTREPRENEURSHIP - AN INTRODUCTION Meaning & Definition of Entrepreneurship, Common History & Entrepreneurial Characteristics, Required skills of an Entrepreneurs, Entrepreneurial Process, Role of Entrepreneurship in Economic Development of the Nation, Advantages & Drawbacks of Entrepreneurship, Introduction to Intrapreneurship	10
II	UNDERSTANDING INDUSTRIAL ENVIRONMENT: Industry - Large Scale - Small Scale - Tiny - Ancillary - Cottage, Challenges for Small Scale Industries, Registration process of SME, Definition & Symptoms of industrial sickness and suggested remedies for sick units, Domestic & International Entrepreneurship Options	12
III	PREPARING BUSINESS PLAN: Generation of Project Ideas, Sources of Business Ideas, Methods to generate business ideas , Feasibility Analysis: Economic, Managerial competency. Marketing, Financial & Technical, Environmental Scanning and SWOT analysis. Structure of a business plan, Importance of Business Plan, process of Preparation of Business Plan.	10
IV	SOURCES OF FINANCE FOR BUDDING ENTREPRENEURS: Debt V/S Equity, Internal V/s External Funds, Options for Borrowing Funds, Various Financial Institutions Supporting entrepreneurial activities, Introduction to Venture Capital Funding, Managing Growth	08
V	SUCCESS & FAILURE STORIES OF ENTREPRENEURSHIP: Discussions of various business stories & Cases of Successful Businesses, Lessons to be learnt from various organizational	08

	failures Launching the New Venture: Choosing the legal form of new venture, protection of intellectual property, and marketing the new venture	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Kumar Arya	Entrepreneurship	Pearson Education.	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	Desai Vasant	The Dynamics of Entrepreneurial Development & Management	Himalaya Publishing House	Latest Edition
R-02	K Ramchandran	Entrepreneurship – Indian Cases on Change Agents	TMGH	Latest Edition
R-03	Rashmi Bansal	Stay Hungry Stay Foolish	IIM Ahmedabad CIIE publication	-

PROGRAM	Bachelors Of Business Administration
SEMESTER	IV
COURSE TITLE	Management Of Services
COURSE CODE	04BB0406

COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand service marketing and utilize them effectively in managing products and people to achieve organizational objectives.
- Apply knowledge of models and theories to promote the effectiveness in workplace

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO SERVICES: Introduction to Services, Nature & Characteristics of Services, Classification of services, Consumer Versus Industrial Services	06
II	SERVICES MARKETING MIX : Introduction to the 7P's of Service Marketing, Product-Service Continuum, Standalone service Products, Service Products bundled with tangible Products	08
III	CUSTOMER SATISFACTION & SERVICE QUALITY Monitoring and measuring customer satisfaction, Order taking and Fulfillment, Service Guarantee – Handling complaints effectively, Defects, failures & Recovery, Service Quality Models – GAPS Model & SERQUAL	10
IV	TECHNOLOGY & SERVICE STRATEGY : Applying Technology to service sittings, e- services, Global and Indian Scenario in service sector, Importance of Service marketing, Every business is a service business, Service as a key differentiator	08
V	TYPES OF SERVICES : Introduction to Various Service Sectors : Hospitality; Transportation; Tourism; Information Technology; Banking & Insurance; Telecom ; Entertainment	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)

B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Zeithaml, Bitner, Gremler & Pandit	Services Marketing	McGraw-Hill	Latest Publication
T-02	R. Srinivasan	Services Marketing	Prentice-Hall of India	Latest Publication

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	Christopher Lovelock	Services Marketing	Pearson	Latest Publication
R-02	Rampal & Gupta	Services Marketing	Galgotia	Latest Publication

PROGRAM	Bachelors Of Business Administration
SEMESTER	IV
COURSE TITLE	Basics of French Language
COURSE CODE	04BB0407
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the basics of French Language.
- Start basic conversations using French Language

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION Introduction – Greetings – Alphabet- Definite Articles - Indefinite Articles - Gender - Colour - Demonstrative Pronouns - Numbers (0 to	08

	60) - Numbers (61 to 100) - Time Telling – 1 - Time Telling – 2 - Days and Months - Family Members & Possessive Adjectives	
II	GRAMMER - I To have & To be - To go & To call - 1st Group Verbs with 'er' - 2nd Group Verbs with 'ir' - Irregular Verbs- Negative Sentences – 1 - Negative Sentences – 2	08
III	GRAMMER - II Numbers (Singular-Plural) – Prepositions - Future Proche - Future Simple - Passé imparfait - Le conditionnel - Yes/No Questions - WH Questions - Pasa Compose – 1 - Pasa Compose – 2 - Past Simple - Les nationalités et Professions – Les présentations oral - Les présentationsécrit	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	J. Girardet	A1 ECHO Methode de francaise	CLE International	Latest
T - 02	J. Girardet	Cahier Personnel D'apprentissage	CLE International	Latest

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Operations Research
COURSE CODE	04BB0501
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

Understand and Formulate decision problem as mathematical model and solve using appropriate operations research technique.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	<p>Basics of Operations Research (OR) Introduction, Concepts, Definition, Characteristics, Potential Applications, Steps in OR Problems, Basic Operations Research Techniques, Role of Computers in OR</p> <p>Linear Programming Problem (LPP) 1 – Formulation: Introduction to Linear Programming, Applications of LPP, Requirements and Assumptions Underlying LPP, Generalized Linear Programming Problems, LPP Model Formulation – Maximization and Minimization Problems (Max 3-Variables and 4-Constraints)</p> <p>Linear Programming Problem (LPP) 2 – Graphical Method: Concept of Feasible Region, Solution of LP Problems using Graphical Method, Maximization and Minimization Problems (Max 4-Constraints), Special Cases in LPP – Multiple or Alternate Optimum Solutions, Unbounded Solution and Infeasible Solution</p> <p>Note: Constraints of all types (Less than type, Greater than type and combination of both the types) should be covered</p>	12
II	<p>Linear Programming Problem (LPP) 3 – Simplex Method: Simplex Method – Only Maximization LPP, Two or three Variables and Two Constraints (Max Three Iterations), All Constraints to be Less Than or Equal To type Concept of Slack Variable, Unique or Alternate Optimal Solution, Shadow Prices of Resources, Utilized and Unutilized Capacity of Resources</p> <p>Concept of Duality: Introduction to Duality, Relation between Primal Problem and Dual</p>	10

	LPP, Conversion of Primal Problem to Dual LPP, <i>Note: Mixed-constraints and Unrestricted Variables, Max 3-Variables and 3-constraints</i>	
III	Transportation Problem (TP) Introduction, Structure of TP, Solution of TP – Initial Feasible Solution (IFS) using North West Corner Method (NWCM), Least Cost Method (LCM) and Vogel's Approximation Method (VAM), Finding Optimal Solution using MODI Method, Types of Transportation Problem – Balanced and Unbalanced, Minimization and Maximization, Case of Degeneracy and Prohibited or Restricted Route, Unique Optimum Solution and Multiple Optimum Solutions <i>Note: Max 4X4 Transportation Matrix, MODI Method - Maximum One Iterations after IFS, Degeneracy to be covered at Conceptual Level, Not to be Included in Numerical</i>	10
IV	Assignment Problem (AP) Introduction, Structure of AP, Solution of AP using Hungarian Method, Types of Assignment Problems - Balanced and Unbalanced, Minimization and Maximization, Restricted Assignment, Unique Optimum Solution and Multiple Optimum Solutions, Travelling Salesman Problem <i>Note: Max 5X5 Assignment Matrix, Maximum Two Iterations after Row and Column Minimization</i>	08
V	Probabilistic Operations Research Models Waiting Line Models: Queuing Models – Concepts, General structure of a queuing system. Single-channel queuing model: Poisson-distributed arrivals and exponentially distributed service times with infinite source population. M/M/1 queuing models. Digital Simulation: Introduction, Areas of Applications, Steps involved in Monte Carlo Simulation, Application of Simulation Method, Advantages and Disadvantages of Simulation, Application in Queuing, Inventory, Profitability and Investment problems	08

Note: Guidelines for the Faculty

Instructor is required to demonstrate solution of OR problems using QM for Windows Software. Not to be included for assessment / examination

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition &Year of Publication
T-01	J K Sharma	Operations Research	Laxmi Publication	6 th ed.,2017

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	N D Vohra	Quantitative Techniques in Management	Tata McGrawHill	4 th .ed.,2010
R-02	V K Kapoor	Operations Research	Sultan Chand and Sons	7 th .ed.,2001

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Strategic Management
COURSE CODE	04BB0502
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Differentiate between strategies made at different levels of organization.
- Create & implement strategy formulation at various levels of management

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction:	8

	Strategy – Introduction to Strategy, Levels of Strategy, Difference between Policy, Strategy and Tactics. Vision, Mission & goals (Concept & difference) Strategic Management – Definition, Process of Strategic Management.	
II	Environment Analysis: Concept of Environment – Internal & External. SWOT Analysis, Environmental Sector, Environmental Scanning. Internal Environment – Factors & Methods of analysis – Internal, Comparative & Comprehensive Analysis.	10
III	Strategy Formulation – Business Level Strategy & Functional Level Generic Business Level Strategy – Cost Leadership, Differentiation & Focus – Business Strategy for different industry conditions. Functional Plans & Policies – Financial – Marketing – Operations – Personnel.	10
IV	Strategy Formulation – Corporate Level Strategy Concentration – Integration – Diversification – Internalization Strategies – M&A, Joint Venture, Strategic alliance. Digitalization Strategies - Retrenchment & Restructuring (Only concepts).	10
V	Strategic Implementation evaluation & Control: Strategy Implementation - Nature & Barrier to strategy implementation – Strategic Leadership – Strategic Control – Operational Control – Techniques of Strategic Evaluation & Control	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Azhar Kazmi	Strategic Management and Business Policy	Tata McGraw Hill Publications	3 rd Edition
T -02	Subba Rao	Strategic Management	Himalaya Publication	2 nd Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	John A. Pearce II, Richard B. Robinson Jr. and Amita Mital	Strategic Management	Tata McGraw Hill Publications	8 th Edition
R-02	Adrian Haberberg and Alison Rieple	Strategic Management	Oxford University Press	1 st Edition
R-03	V S Ramaswami, S Namaumari	Strategic Planning & Formulation of Corporate Strategy	Macmillan, India	1 st Edition

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Project Management
COURSE CODE	04BB0503
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Analyze the project idea for better selection.
- Identify the completion of project in a better control way.
- Understand the topics like planning, selection and implementation.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Project: Introduction, Characteristics of a project, element of a project, target and needs of a project, types of projects, functions of project manager, project management body of knowledge, benefits of project management.	9
II	Idea Generation and Initiation: Generation and Screening of Project Ideas, Market and Demand Analysis, Technical Analysis, Financial Estimates and Projections,	10

	Project Life Cycle.	
III	Project Planning and Selection: Project Scope, Scope of a Project and Scope Verification, SWOT Analysis, Organization Structure, Work Breakdown Structure, Project Selection Methods.	10
IV	Project Implementation: Estimation, Scheduling, Network Techniques for Project Management- CPM & PERT (only network diagram and Critical path identification), Project Risk, Project Communication.	10
V	Project Closeout: Project Evaluation, Project Auditing, Project Closeout Reports, Project Review and Administrative Aspects.	9

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Kamaraju Ramakrishna	Essentials of Project Management	PHI Learning Private Limited	2010
T-02	Prasanna Chandra	Projects: Planning, Analysis, Selection, Financing, Implementation and Review	McGraw Hill Education.	8 th Edition 2014

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	SitangshuKhatua	Project Management and Appraisal	Oxford Higher Education	2011
R-02	Clifford F Gray, Erik W Larson	Project Management-The Managerial Process	McGraw Hill Education (India) Pvt. Ltd.	6 th , 2014

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Brand India : From Local to Global
COURSE CODE	04BB0504
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

COURSE OUTCOMES:

- To understand key elements in building and maintaining brands and brand equity.
- To understand the role they have to play in the development of India

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Branding Concept of Brand, Types of Brand, what can be branded, Characteristics, brand evolution, brand level, Understanding branding challenges and opportunities, Local Brands & Global Brands	06
II	Brand India The Concept of Brand India: India as a Product, Transformation of the product into Brand India. The Evolution of Brand India: the History of Brand India, the Development of Brand India. The Justifications for Brand India: True Development cannot be Sector-specific or Need-based, Holistic Approach, All-Round Development. The Benefits of Brand India: Highest Standard of Education, Increased Employability, Social Equality, Law and Order, Corruption Control, Sense of Patriotism, Economic Development, India as the World's Only Hyper Brand.	10
III	Brand India at a Global Level	

	The Implementation of Brand India: Quality Education, Robust Education System, Civic Sense, Ethics, Governance, Removal of Red Tapism, Strong Judiciary, Social Justice, Make in India, Digital India, Start-Up India , Stand-Up India, Skill India, the Role of India Brand Equity Foundation.	08
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Project)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination (Viva)	50% (External Assessment)

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	S. A. Chunawala	Brand Management	Himalaya Publishing House	Fifth edition
T-02	Sharif D. Rangnekar	Realizing Brand India: The Changing Face of Contemporary India	Rupa Publications	February, 2005

Reference Books

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	DR. S. L. Gupta	Brand Management – Text & Cases	Himalaya Publishing House	Second edition
R-02	Keller, K.L.	Strategic Brand Management	Prentice Hall Of India.	Third edition
R-03	Sunanda Mongia	Brand India: Master Images and Narratives in the Backdrop of	B R Publishing Corporation	First Edition -2005

		Globalism		
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MARWADI UNIVERSITY

Subject Code: 04BB0506

Credits: 4

Guideline
Internship
(BBA/BBA (H) Sem – V)



MARWADI UNIVERSITY



Rajkot-Morbi Road, At & Po. Gauridad,
Rajkot-360003, Gujarat, India.

Phone : 0281-2924155 / 56, www.marwadiuniversity.in

INTERNSHIP (04BB0506)(BBA/BBA (H)) Content

Components

A project report should contain the following parts in the order shown:

- ☛ Fly page (1 Blank Pages)
- ☛ Title page (please see sample, Annexure I), containing: (1 Page)
 - The project title;
 - The full name of the Candidate/s, enrollment no/s. and Guide name/s;
 - The degree for which the project is submitted;
 - The name of the University, i.e. Marwadi University
 - The month and year of submission
- ☛ Student Declaration (1 Page) (Annexure II)
- ☛ College Certificate (1 Page) (Provided by Guide/Supervisor)
- ☛ Company Certificate (1 Page)
- ☛ Preface (1 Page)
- ☛ Acknowledgement (1 Page)
- ☛ Executive Summary (1 Page)
- ☛ Table of Content (1 Page)
- ☛ Introduction and History of Company (15 to 20 Pages)
- ☛ Vision & Mission of Company (2 Pages)
- ☛ Organization Structure (1 to 2 Pages)
- ☛ Departmental Study (15 to 20 Pages)
 - Marketing Department
 - Finance Department
 - Human Resource Department
 - Production Department
 - Accounting Department
 - R & D Department etc...
- ☛ SWOT Analysis (2 to 4 Pages)
- ☛ Overview of Industry & Major Players (4 to 5 Pages)
- ☛ Porter's Five Force Model Analysis of Industry (2 to 4 Pages)
- ☛ Learning form Internship (1 to 2 Pages)
- ☛ Conclusion (1 Page)
- ☛ Bibliography (1 Page)
- ☛ Annexure (if Any) (1 Page)

Language, Style and Format

- ☛ Language
 - Project should be written in English.
- ☛ Final Version
 - The final version of the project must be free from spelling, grammatical and other errors when submitted.

Specification for Project Report

1	Paper Size	International A4, not less than 75 gsm white paper
2	Margins	Left - 1.5" Right - 0.75" Top and Bottom - 1.0"
3	Line Spacing	10 to 12 characters per inch must be used with 1.5 line spacing.
4	Paragraph Spacing	Double Lines/Vertical space of around 12 points should be left between the section title line and the first paragraph of each section and subsections, start without any indentation, In single column format with full justification.
5	Pagination	At bottom–Center Beginning with the first page of chapter 1 (Introduction) to all pages shall be numbered consecutively using Arabic numerals (i.e. 1,2,3) From the title page to the page before the chapter 1 starting page, shall be lower case Roman numerals (e.g. i, ii, iii etc.) No Page Number on Title Page
6	Chapter(s):	New Chapter on New Page font size of 20 should begin with an additional top margin of 30 mm (total 55 mm) Capitalize the first letter all the words. Use boldface letters and numbers only
7	Sections and Subsections (left aligned)	A vertical space of around 36 point should be left between the chapter heading and the title of the first section of every chapter. For all subsequent sections/subsections, leave a vertical space of around 24 points before the section/subsection headings. For example, say the first and second sections in chapter 5 shall be numbered as 5.1 and 5.2, respectively. Likewise, the third subsections of sections 1 and 2 in a chapter 4 shall be numbered as 4.1.3 and 4.2.3, respectively. Same style as in chapter heading but with font size of 14 and 12 for section and subsections,
8	Font Type	Times New Roman
9	Font Size(FS)	For normal–12

10	Bold/Italic/Underline	Should be used for specific purposes only
11	Alignment	Page Justify
12	Tables/Graphs/Diagrams/figures Equations	All tables, figures, and equations must be numbered sequentially and chapter-wise using Arabic numerals. It must reflect the chapter number also, e.g. 2.1, 6.25 etc. e.g., Figure 2.1, Table 3.2. While a caption (figure number) should be placed below the figure, a caption (table number) should be placed above the table Images, Photographs, etc. must be scanned in resolution at least 600 dpi.
13	Figures and Illustrations	Figures, tables, etc., should be positioned according to the scientific publication conventions of the discipline.
14	Borders	NO
15	Header/Footers	Single Line (as per this page) Footer (as per this page): Left side Marwadi University, Rajkot, Right Side Pg. No “NO header/footer on Title page”
16	Word Breaking	No word Breaking
17	Printing	Single side only
18	Report Binding	Hard Bound Cover–BlackColor Writing–Golden color only
19	Copies of the Report	Hard Bound: Total 2 Copy (one for Student, one for Dept. Records) Soft: 01 Copy PDF.

References & Bibliography

All references must be cited in the text by the reference number using superscripts. No links between superscripts in the text and actual references in the Reference Sections may be used. Notes may be used to cite manuscripts in preparation,

Unpublished observations and personal communications. References cited should follow the style given below example:

PAPERS

1. Thiel WJ and Nguyen LT, “Fluidized bed film coating of an ordered powder mixture to produce micro encapsulated ordered units.” *J. Pharm. Pharmacol.* **1984**, *36*, 145-152.
2. Isyumov N, “Criteria for acceptance of wind induced motions of tall



buildings”, International Conference on Tall buildings, Rio DeJanerio, CTBUH, 2003.

WEB SITE

1. Boggs, D, “Acceleration and Drift due to Gust forces”, accessed on 10 July 2009, www.cppwind.com/papers/structural/PEAKvsRMS.pdf

BOOKS

1. Pelzar MJ., Chan ECS., and Krieg NR. In Microbiology; 5th Edn; Tata McGraw Hill Publishing Company Limited, New Delhi, 1993, pp 536.

DISSERTATIONS/PROJECTS

1. Vaishnav D.K, PhD Thesis, “.....” Marwadi University, July 2012.
2. Pathak VK. Ph.D. Thesis, “.....” Gujarat University, 1979.



ANNEXURE - I

[SAMPLE TITLE PAGE]

[Project Title]

(5 blank lines)

By

(single line)

[Your name as found in official MU records - your enrollment number]

(two lines)

[Guide name]

(3 blank lines)

A Project Submitted to

Marwadi University in Partial Fulfillment of the Requirements for the [Degree name] in
[Name of Program/Branch]

(3 blank lines)

Month and Year



MARWADI UNIVERSITY

Rajkot-Morbi Road, At & Po. Gauridad,
Rajkot-360003, Gujarat, India.



ANNEXURE - II

STUDENT DECLARATION

I hereby declare that this project Report titled _____
_____ submitted by me to the Faculty of
Liberal Studies, Marwadi University is a bonafide work undertaken by me and it is not
submitted to any other University or Institution for the award of any degree diploma /
certificate or published any time before.

Date: DD/MM/YYYY

Place: Rajkot

Signature of the Student

[Name of Student]

[Enrollment No.]

Evaluation Scheme

Internship consists of 4 Credit, 100 marks and shall be evaluated on two components i) Internal Assessment & ii) Viva.

Particular	Weightage (%)	Conducted By
Internal Assessment (IA)	50%	Supervisor/ Guide
Viva Voce	50%	Viva Panel

I. **Internal Assessment** shall consist of 50 marks, which will be carried out by supervisor/guide.

II. **Viva Voce** shall carry 50 marks and will be conducted by a Panel of two examiners.

Duration & Time Period

☛ Duration of Internship: Minimum 15 Days and Maximum 30 Days.

☛ Internship must be in between 10th May 2018 to 20th June 2018.

Reporting Schedule

Sr. No.	Review	Particular	Marks
1	First Review (After 10 Days of Commencement of Internship)	<ul style="list-style-type: none"> ☛ Introduction and History of Company (15 to 20 Pages) ☛ Vision & Mission of Company (2 Pages) ☛ Organization Structure (1 to 2 Pages) ☛ Departmental Study (15 to 20 Pages) <ul style="list-style-type: none"> • Marketing Department • Finance Department • Human Resource Department • Production Department • Accounting Department • R & D Department etc... 	15
2	Second Review (within two days after completion of Internship)	<ul style="list-style-type: none"> ☛ SWOT Analysis (2 to 4 Pages) ☛ Overview of Industry & Major Players (4 to 5 Pages) ☛ Porter's Five Force Model Analysis of Industry (2 to 4 Pages) ☛ Learning form Internship (1 to 2 Pages) ☛ Conclusion (1 Page) 	15
3	Third Review (Within 10 Days after Completion of Internship)	Final submission of Internship Report to Supervisor (Soft Copy)	20

Specialization: Finance

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Management of Financial Markets
COURSE CODE	04BB0507
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the fundamentals of financial markets
- Understand ways in which financial markets will be managed
- Understand the role of regulators in management of financial markets
- Understand about instruments to be traded in the financial markets

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Financial Markets: Meaning, Definition, Functions, Classification, Key players in financial market (Stock Exchange, Brokers, Dealers, Traders, Depositories, Clearing corporation), Security Exchange Board of India	8
II	Capital Market: Overview, Function of capital market, Primary market reforms, Issues in capital market, secondary market reforms, Capital market scams Primary Market: Mechanism in India, Initial Public Offer (IPO), Methods of IPO (type of IPO), eligibility norms, Book Building Process, Limitations Reverse book building, Green shoe option Secondary Market: Meaning, Function of Secondary, Post reforms stock market scenario, organizational structure of stock exchanges, listing of securities, trading and settlement, Internet trading, Stock Market Indices(Nifty & Sensex)	15
III	Money Market: Meaning, Development Money market in India , Money market instruments, Money market intermediaries	7
IV	Debt Market: Meaning, history and characteristics of debt market, participants in the debt market, private corporate debt market, measures to boost liquidity in the secondary market Government securities market: Introduction, Trading in Government Securities, Evolution, Role, Significance of Government securities markets, Functions, Salient feature of government securities, Forms of Government Securities, Operation in government security market	8
V	Repo-Market: Definition, REPO and Reverse Repo, Repo	10

	Instrument, Bank Rate and Repo rate, Usage of Repo, Functions, Structure of the Foreign Exchange Market, Asian Clearing Union Foreign exchange Market: Function, Foreign Exchange Dealers Association of India, Instruments of Credit Traded, Asian Clearing Union, FSLRC, Finance Code	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M Y Khan	Financial Services	Mcgraw Hill Education	8th Edition, 2015
T-02	Bharti V. Pathak	The Indian Financial System: Markets, Institutions and Services	Pearson Education India	2011

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Vasant Desai	Financial Markets & Services	Himalaya Publication	2016
R-02	L M Bhole & Jitendra Mahakud	Financial Institutions and Markets: Structure, Growth & Innovations	McGraw-Hill Education	2017
R-03	Gupta N & Agrawal N.	Financial Services	Kalyani Publishers	2015
R-04	K.Sasidharan	Financial Services & System	Tata Mcgraw	8 th Edition

R-05	M Y Khan	Indian Systems	Financial	Tata McGraw- Hill Education	2013
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Specialization: Finance

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Banking
COURSE CODE	04BB0508
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand role of banks in Indian financial system.
- Understand role of central bank as controller of state's currency and interest rates.
- Understand the wider range of functions done by Scheduled commercial banks in India.
- Understand relationship of bank and customer.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction To Indian Banking System: Introduction, Origin, Definition, Characteristics of Banks, Types of Banks, Recent Reforms In Indian Banking, International Security Issues In Banking Systems.	8
II	Role of Central Bank in Indian Banking System: Introduction, Origin, Definition, Objectives, Principle, Functions: Monopoly of Note Issue, Banker's Bank, Bankers to Government, Lender of the Last Resort, Bank of Clearance, Custodian of Foreign Reserves, Maintenance of Reserves, Maintaining Exchange Rate. Monetary Policy: Meaning, Objectives, Instruments of Credit Control, Effects Of Monetary Policy on Price Stability and Development, Limitations of Monetary Policy.	12
III	Function of Commercial Bank in Economic Development- Acceptance of Deposits, Agency Service, Payment and Collection of Cheques, Bill of Exchange and Promissory Notes, Execution of Standing Order, Trustee Business, Safe Custody, Remittance of Funds, Issue of LC, Performance of Government Transactions. Need for Sound Banking System, Role Of Banks in Economic Development: Mobilization Of Saving, Capital Formation, Monetization, Innovation, Priority Sector Bank Lending, Agriculture Lending, Industrial Finance, Export Finance.	10

IV	Loans and Advances Loans: Meaning, Classification, Purpose, Appraisal and Disbursal, Evaluation of Loan Proposal, Mode of Securing Loans Credit and Advances: Cash Credit, Overdraft, Discounting of Bill, Mode of Securing Loans/Advances, Domestic Lending, Global Lending. Asset Classification: Standard Asset, Sub-Standard Asset, Doubtful Asset, Loss Asset, Non-Performing Asset.	10
V	Rights and Duties of Banker and Customer: The Banker – General Responsibility, Specific Duties, Positive Traits of a Banker. Various Rights of Banks. The Customer – Duties of a Customer. Banker-Customer Relationship: Nature, Normal Incidents of the Relationship, Appropriation of Payment.	8

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	D. Muraleedharan	Modern Banking	PHI	2 nd Edition, 2013

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Iyengar, Vijayaragavan	Introduction to Banking	Excel Book	1 st Edition, 2007
R-02	Gordon & Natarajan	Banking Theory, Law and Practice	HPH	3 rd Edition, 2012
R-03	K C Shekhar & Lekshmy Shekhar	Banking Theory and Practice	S.Chand and Company	21 st Edition, 2013

R-04	Macdonald Scott S. Koch, Timothy W.	Management of Banking	Cengage Learning	7 th Edition, 2009
R-05	Nadar E Narayanan	Money and banking	PHI	1stEdition, 2013

Specialization: Marketing

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Consumer Behavior
COURSE CODE	04BB0509
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Identify the dynamics of human behaviour and the basic factors that influence the consumers decision process
- Demonstrate how concepts may be applied to marketing strategy.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction To Consumer Behavior: Introduction, Consumer Behaviour - Definition - Nature and Scope of Consumer Behaviour – STP (Segmenting, Targeting, Positioning) – Customer Based Brand Equity (CBBE) Model.	10
II	Psychographic Factors Affecting Consumer Behavior: Lifestyle, Opinions, Perception, Learning, Attitude. VALS model. Generation Analysis Indian perspective: Gen X , Gen Y & Gen Z	10
III	Consumer Choice Analysis: Consumer Comparisons - Categories of Consumer Choice processes; Affective based choice, Attribute based choice, Attitude based choice Socio-Cultural Influences On Consumer Behavior Family and Social Class, Family life cycle, Influence of Culture on Consumer Behaviour, Cross-cultural Consumer Behaviour, Diffusion of innovation	10

IV	Consumer Decision Making: Consumer buying process - Impact of technology on consumer behavior Online buyer behavior : Characteristics, Difficulties and Challenges - Post purchase Processes, Customer Satisfaction, and Customer Commitment - The impact of branding on consumer decision making	10
V	Consumer Protection (Rights of Consumers): Consumer Protection Bill – 2018 ,Consumerism Consumer Forums, FSSAI, Hallmark, UNCTAD (Concepts)	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Loudon and Della Bitta	Consumer Behaviour	Tata McGraw Hill	2011

Reference Books

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Blackwell and Engel	Consumer Behaviour	Cengage	10 th Edition
R-02	MajumudarRamanuj	Consumer Behaviour: Insights from Indian Market	PHI	2010
R-03	Hoyer, MacInnis and Dasgupta	Consumer Behaviour	Biztantra	2008
R-04	Evans	Consumer Behaviour	Wiley	2 nd Edition

R-05	Lingquist Jay D	Consumer Behaviour	Cengage	2010
R-06	Coakes, Steed and Dzidic	SPSS 13.0 for Windows	Wiley	2003

Specialization: Marketing

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Retail Marketing
COURSE CODE	04BB0510
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand Retail Marketing Concepts.
- Appreciate the operations management for retailing.
- Understand the latest advancement in Retail Management

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Retailing – An Introduction Definition – functions - types of retailing – forms of retailing based on ownership. Retail life cycle - Retailing in India – Influencing factors – current retail scenario in India.	8
II	Operations Of A Retail Business Store location – Choice –Impacting Factors - Market area analysis – Trade area analysis – Rating Plan method - Site evaluation - Store Layout and visual merchandising – Designing of the Store – Space planning - Inventory management – Merchandising – Category Management – Franchising in Retail	12

III	Consumer Behaviour With Retailing Retail buying decision making process– influence of group and individual factors - Customer shopping trends - Customer Service satisfaction.	10
IV	Retail Marketing Mix Introduction - Product: Decisions related to Merchandise (Products) – delivery of service. Pricing: Factors affecting pricing decisions – approaches to pricing – price sensitivity - Value pricing – Markdown pricing. Place: Channel members – Supply Chain Management in Retail – Retail logistics. Promotion: Setting goals – designing communication – checking effects of communication - promotional mix.	10
V	Role Of Information Technology In Retailing Introduction to Non-store retailing (E tailing) - The impact of IT in retailing - Integrated systems and networking – Retailing from the International perspective - Introduction to technological aids in retail operations (EDI, RFID, Data Warehousing & Data Mining, AI)	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition &Year of Publication
T-01	Swapna Pradhan	Retailing Management	TMH	2E, 11 th Reprint, 2008

Reference Books:

Sr.	Author/s	Name of the Book	Publisher	Edition &Year of
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No				Publication
R-01	Barry R. Berman, Joel R. Evans, Patrali M. Chatterjee	Retail Management – A Strategic Approach	Pearson	2017

Specialization: Human Resource Management

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Employee Welfare & Social Security
COURSE CODE	04BB0511
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the features and objectives of employee welfare
- Familiarized with vulnerable groups of workers and legal provisions related to them.
- earn working conditions of workers and legal provisions related to welfare.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Employee Welfare Objectives of Employee Welfare, Concept of Employee Welfare, Welfare Measures, Theories of Employee welfare, Agencies of Employee welfare, Workers' Education scheme, Statutory and Non statutory schemes of employee welfare, Role of management in employee welfare.	10
II	Welfare of Special Categories of Labour Child Labour, Female Labour, Contract Labour, Construction Labour, Agricultural Labour, Differently abled Labour, BPO & KPO Labour, Social Assistance – Implications.	10
III	Social Security Evolution, definition and objectives of Social security, Essential requirement of Social security, Growth and overview of social security in India.	10
IV	Social Security Legislation in India Overview of Employee's Compensation Act 1923, Employees State Insurance Act, 1948, Maternity Benefit Act, 1961, Factories Act, 1948, Employee's Provident Fund Act of 1952, Payment of Gratuity Act, 1972.	10
V	International Labor organization & Social Security	08

	International norms on social security for labour: the ILO Conventions and Recommendations on Social Security, Comparison of minimum standards of ILO and standards envisaged in Indian Legislation, Law and Practices in Comparative Perspectives In India, UK and USA.	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	P.K. Padhi	Labour and Industrial Laws	PHI Publications private Limited	3rd Edition
T-02	P.R.N.Sinha, S. P.Shekhar / InduBala	Human Resource Management	Cengage	3rd Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	C.S. VenkataRatnam	Industrial Relations	Oxford University Press	2 nd Edition

Specialization: Human Resource Management

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Compensation Management
COURSE CODE	04BB0512
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand a pay system that is consistent for employees within the organization
 - Identify and describe a variety of reward systems used to determine individual pay levels.
- Implement and administer a compensation system according to the firm's policies and the legal requirements.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Concept of Compensation Exploring and defining the compensation context, System of compensating, compensation dimensions, concept of reward, Role of compensation in Organization, Non-financial compensation system, Concept of total reward system-New trends in compensation management, The 3-P compensation concept.	10
II	Compensation and Employee Behavior Bases For Traditional Pay System and Modern Pay System, Establishing Pay Plans, Aligning Compensation Strategy with HR Strategy and Business Strategy, Person focus to Pay, Team Based Pay	10
III	Legislations related to Compensation-I Payment of Wages Act, 1936, Minimum Wages Act, 1948, Payment of Gratuity Act, 1972, Payment of Bonus Act,1965	10
IV	Legislations related to Compensation-II Employees' State Insurance Act, 1948, Employees' P F & Misc Provisions Act, 1952. , Workmen's Compensation Act, 1923.	10
V	Contemporary Strategic Compensation Challenges International Compensation and Competitive Strategies, Executive Compensation Packages, Contingent Employees and Flexible Work Schedules, Compensation for Expatriates and Repatriates.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Micheal Armstrong	Armstrong's Handbook of Reward Management Practice	Kogan Publication	5 th Edition
T-02	B.D.Singh	Compensation & Reward Management	Excel	2 nd Edition
T-03	Dipak Kumar Bhattacharyya	Compensation Management	Oxford	2 nd Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition
R-01	Terence Jackson	International Human Resource Management a Cross-Cultural approach	SAGE	2 nd Edition
R-02	MonirTayeb	International Human Resource Management	Oxford	2 nd Edition

Subject Code: 04CR0501

Subject Name: Career Readiness Program

BBA-BBA(Hon) Year – III (Semester V)

Objective: This course shall enrich students' preparedness for the upcoming competitive exams, MBA entrance test, and/or placements. It will enhance the verbal and numerical skills of the students through the group interactions, practice sessions, and videos.

Credits Earned: 2 Credits

Course Outcomes: After successful completion of this course, student will be able to

- Understand importance of verbal and numerical skills in the competitive exams

- Inculcate smart approach in verbal and numerical problem solving
- Apply the concepts in both competitive exams and placement drives

Pre-requisite of course: NA.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
2	0	0	2	50	00	20	00	30	100

Contents:

Unit	Topics (VA)	Contact Hours
1	Vocabulary: Concepts and Application <ul style="list-style-type: none"> ● Memory Technique ● Contextual Vocabulary ● Root Words ● Sentence Equivalence ● Idioms and Phrases 	2
2	Reading Comprehension and Para-Completion: Concept, Strategies and Application	1
3	<b style="background-color: #ADD8E6;">Grammar Application <ul style="list-style-type: none"> ● Spot the Error ● Sentence Correction 	1
4	Logical Reasoning <ul style="list-style-type: none"> ● Statement and Assumptions ● Statement and Conclusion ● Statement and Arguments ● Statement and Course of Action 	2
5	Vocabulary based Reasoning <ul style="list-style-type: none"> ● Odd one Out ● Analogy and reverse analogy 	1
6	Para Jumble <ul style="list-style-type: none"> ● Para-jumbles/Sentence Rearrangement ● Misfit sentence/identify the odd sentence in the given set ● Identify summary sentence 	1

7	Deductive reasoning <ul style="list-style-type: none"> ● Logical Consistency ● Syllogism ● Facts-Inference-Judgement 	3
8	Creative Writing	1
9	Class Test	2
Total Hours		14

Note: Lab MB513 would be used for practice sessions.

References:

1. How To Prepare For The Verbal Ability & Reading Comprehension For The Cat– By Arun Sharma and Meenakshi Upadhyay
2. Word Power Made Easy– By Norman Lewis
3. A Modern Approach to Verbal & Non-Verbal Reasoning By R.S. Aggarwal
4. The Pearson Guide To Verbal Ability And Logical Reasoning For The CAT by Nishit K. Sinha

Unit	Topics (QA)	Contact Hours
1	Introduction of Course Details & Type of questions in various exams	1
2	Blood Relation & Direction Sense	1
3	Series (Number and Letter series) & Coding and Decoding	1
4	Arrangement (Seating and Data)	1
5	Highest Common Factor and Least Common Multiple	1
6	Average and Problems based on Ages	1
7	Percentage, Profit-Loss & Discount and Simple & Compound Interest	2

8	Ratio, Proportion and Partnership	1
9	Time and Work	1
10	Time, Speed and Distance	1
11	Permutation and Combination	1
12	Probability	1
13	Data Interpretation and Data Sufficiency	1
Total Hours		14

Note: Lab MB513 would be used for practice sessions.

References:

1. **Analytic Reasoning** – By M K Pandey, BSC Publishing Co. Pvt. Ltd.
2. **Quantitative Aptitude** – By Dr. R. S. Agarwal, S. Chand
3. **Quantitative Aptitude** – By Abhijit Guha, MC Graw Hills
4. **Magical Book On Quicker Maths** – By M. Tyra, BSC Publishing Co. Pvt. Ltd.

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
20%	20%	30%	15%	10%	5%

Instructional Method:

a. The course delivery method will depend upon the requirement of content and need of students. The trainer shall train students through interactions, demonstration, brainstorming, group tasks etc.

Students will use supplementary resources

PROGRAM	Bachelors Of Business Administration
SEMESTER	VI
COURSE TITLE	Business Ethics & Corporate Governance
COURSE CODE	04BB0601
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the dynamics of business ethics.
- Identify ethical dilemmas in business & suggest solutions to overcome the problems.
- Learn the concept of corporate governance and its relevance to ethical business activity.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Ethics Meaning and classification of Ethics, Importance of Business Ethics, Nature of ethics as moral value; types of value; Teaching from Scriptures like Gita, Quran, Bible w.r.t. Indian Value Systems in Business.	10
II	Ethical Dilemma and Essence of Decision Making Meaning and structure of Ethical Dilemma in business, Sources of Ethical Problems, Managing Ethical Dilemmas; Understanding Decision making, Model of Cognitive Moral Development, The Process of Making Good Ethical Decision; Dynamics of Ethical Leadership.	10
III	Ethical Issues in Financial Management Introduction to Ethics in Finance, Ethical issues in Financial Markets, Financial service industry and by Financial people in organizations. Case study on Strategic failure of Satyam Computer Service.	10
IV	Ethical Issues in Marketing & HRM Role of Marketing, Areas in Marketing Ethics, Truth and Advertising; Functional Areas of HRM, Need for Workplace ethics, HR related ethical issues, Rights and duties of Employees.	10
V	Introduction to Corporate Governance Definition and attributes of good corporate governance, Corporate governance theories – Agency, Stewardship, Shareholder, stake holder theory, Role of Board of Governors, Factors influencing quality of	08

	Corporate Governance.	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	A. C. Fernando	Business Ethics and Corporate Governance	Pearson	2 nd edition, 2012
T-02	Daniel Albuquerque	Business Ethics: Principles and practice	Oxford Uni. Press	2010

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Murthy C.S.V.	Business Ethics and Corporate Governance	Himalaya Publishing	1 st edition, 2017
R-02	S K Mandal	Ethics in Business and Corporate Governance	Tata McGraw Hill	2 nd edition, 2012
R-03	Ferrell, Fraedrich, Ferrell	Business Ethics	Cengage Learning	11 th edition, 2017
R-04	Rupani Riya	Business Ethics and Corporate Governance	Himalaya Publishing	4 th edition, 2015

PROGRAM	Bachelors Of Business Administration
SEMESTER	VI
COURSE TITLE	Management Accounting
COURSE CODE	04BB0602
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the scope of management accounting.
- Understand the importance of marginal costing in decision making.
- Understand the control mechanism on all the element of cost that affect production.
- Understand the changes in operational and financial position of company.
- Understand the role of Budgetary control in framing financial plan.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Management Accounting Meaning, Definition, Nature, Scope, Functions and Limitations of Management Accounting. Relationship and difference between Management Accounting to Cost Accounting and Financial Accounting. Description of Tools and Techniques in Management Accounting.	7
II	Analysis of Fund Flow and Cash Flow Statement Fund Flow Statement: Meaning and usage of Fund Flow Statement; preparation of fund flow statement (Basic level). Cash Flow Statement (AS-3); Distinction between Fund Flow Statement and Cash Flow Statement, Classification of Cash Flows, Objective and Usage of Cash Flow Statement, Preparation of Cash Flow statement.	12
III	Marginal and Absorption Costing Marginal Costing- Meaning, Characteristics, Advantages and Limitations. Difference between Marginal Costing and Absorption Costing; Income determination under Marginal Costing and Absorption Costing; CVP/BEP Analysis; Safety Margin and Key factors that involves decision making.	11

IV	Budgeting and Budgetary Control Meaning, Objectives, Advantages and Limitations. Essentials of effective budgeting in management process; Installation of Budget System Budgetary Control: Types of budgets preparation, Zero Base Budgeting; Performance Budgeting	08
V	Standard Costing Meaning, Difference between Standard Costing and Budgetary Control, Merits and Demerits of Standard costing, Prerequisite for establishment of standard costing, Efficiency and Activity Ratios, Material, Labor and Overhead Variance.	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
T-01	M. N. Arora	Cost and Management Accounting	Vikas Publishing House	10 th Edition
T-02	P.C. Tulsian	Cost and Management Accounting	S Chand	3 rd Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Jawahar Lal	Cost Accounting	Tata McGraw Hill Publication	5 th Edition
R-02	Paresh Shah	Management Accounting	Oxford Publication	2 nd Edition

R-03	Ravi Kishor	Cost Management Accounting	Taxman	6 th Edition
R-04	Bhattacharya	Management Accounting	Pearson Publication	3 rd Edition
R-05	Hilton, Maher and Selto	Cost Management: Strategies for Business Decision	TMH	4 th Edition

PROGRAM	Bachelors Of Business Administration
SEMESTER	VI
COURSE TITLE	International Business
COURSE CODE	04BB0603
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Study the environmental variables that affect world trade.
- Describe the policies and strategies that can lead to successful global trade.
- Evaluate present and future opportunities and risks for international business activities.
- Develop analytical skills which will help them enhance greater understanding towards world trade.
- Make student understand how the global risks are interconnected.
- Identify and evaluate the complexities of world trade and globalization from home versus host-country, regional, and cultural perspectives.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Overview of Globalization: Drivers, Changing Demographics of the Global Economy, Managing the Global Marketplace, Country Differences Political, Legal, Economic, Social, Technological & Demographics, Micro and Marco business Environment Difference in Cultural Aspects, Values & Norms, Social Structure Language, Education ways to enter Foreign Market, Ethics in	12

	international business Dilemmas, Roots of Unethical Behavior, Ethical decision making.	
II	Global Trade and Investment Environments Trade Theories: -Mercantilism, Absolute & Comparative advantage, Heckscher-Ohlin theory, Porter's Diamond model, Foreign Direct Investments, Benefits of FDI Regional Economic Integrations like European Union, NAFTA, MERCOSUR, CARICOM, Association of Southeast Asian Nation.	10
III	Global Monetary Systems. Foreign Market nature & functions , Exchange Rate Determination, Forecasting & Currency Convertibles, Bretton wood systems, GATT, IMF & WTO, Ways to Enter Market Strategy and Structure, Global Expansion, Profitability & Profit Growth, Organizational Structure & Cultures, Control systems, Incentives & Changes. Basic entry Decisions, & Modes.	12
IV	Business Operations Managing Global Supply Chains, International Logistics Practices, global marketing and R & D, Global Human Resources Management International Labor Relations, Accounting and Financial Issues.	10
V	Global Risk Analysis: - Context base discussion of each issue:- Natural and Man-made disasters, Energy price shocks, Large scale involuntary migrations, Weapons of mass destruction, Terrorists attacks, Failure of national governance, Cyber-attacks.	04

Note: - Unit V should be taught by concern faculty, taking into consideration current happening at global level.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books: -

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
T-01	Charles W L hill Arun K Jain	International Business	Mc-Graw-Hill Companies	10 th Edition
T-02	Daniels John, D. Lee H. Radebaugh and David P. Sullivan.	International Business	Pearson Education	15 th Edition

Reference books: -

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Cherunilam, Francis	International Business:	Prentice Hall of India Ltd.	5 TH Edition
R-02	Mike Peng and Deepak Srivastava	Global Business	CengagePublication s	1 st Edition
R-03	Apte, P.G	International Financial Management	Tata McGraw Hill.	6 th Edition
R-04	Subhash C. J	InternationalMarketing,	CengagePublication s	3 rd Edition

Suggested Readings:-

1. UNCTAD Reports.
2. WTO, Annual Report, various issues.
3. RBI. Report on Currency & Finance, various issues.
4. Economic Survey, Govt. of India.
5. Export-import Policy and Other Documents, Govt. of India.
6. <https://www.mckinsey.com/>
7. https://www.youtube.com/watch?v=UNmsz6_EMJM.
8. <http://www.csis.org/gsi> for globalization think tank.



MARWADI UNIVERSITY

Project (04BB0604)

Credits: 8

Guidelines for the Preparation of Project Report (BBA/BBA(Hons) Semester – VI)



MARWADI UNIVERSITY



Rajkot-Morbi Road, At & Po. Gauridad,

Rajkot-360003, Gujarat, India.

Phone : 0281-2924155 / 56, www.marwadiuniversity.in

Course: BBA/BBA(H)

SEMESTER	VI
TITLE OF THE SUBJECT	Project
COURSE CODE	04BB0604
COURSE CREDIT	8

Project

Project is a composition of practical research work, involving the analysis of a specific problem in the area of the specialization and evaluation of the results of the analysis that serves as a basis for developing specific proposals and implementing the appropriate solution to the problem.

Objective of the Project

The objectives of the Project for BBA/BBA (H) students are:

- a. To demonstrate the student’s knowledge of the literature relating to the problem of study.
- b. To reveal the student’s ability to collect, analyze, interpret and synthesize information/data for analyzing various business situations.
- c. To present the results obtained, in a sequential and logical manner.
- d. To display the student’s ability to discuss coherently the meaning of the results.

Content of Report

A project report should contain the following parts in the order shown:

- ☛ Fly page (1 Blank Pages)
- ☛ Title page (please see sample, Annexure I)
 - The project title;
 - The full name of the Candidate/s, enrollment no/s. and Guide name/s;
 - The degree for which the project is submitted;
 - The name of the University, i.e. Marwadi University
 - The month and year of submission
- ☛ Student Declaration (Annexure II)
- ☛ College Certificate (Provided by Guide/Supervisor)
- ☛ Company Certificate
- ☛ Preface

- ☛ Acknowledgement
- ☛ Executive Summary
- ☛ Table of Content
- ☛ Introduction to Topic
- ☛ Review of Literature (8 to 10 literature review)
- ☛ Research methodology
 - Introduction
 - Statement of problem
 - Research Objectives
 - Scope of the study
 - Research hypothesis (If any)
 - Research design (Research Type)
 - Data Collection sources (Primary and secondary sources)
 - Data Collection Instrument (for e.g. Questionnaire)
 - Sampling Design
 - ☞ Population of the study
 - ☞ Sample Size
 - ☞ Sampling Method
 - Data Analysis Design (a brief outline of tools and techniques to be used for analysis, statistical tools and tests to be used)
 - Limitations of the Project
- ☛ Data Analysis and Interpretation
 - Tabular representation of data
 - Charts
 - Statistical tests
 - Analysis and Interpretation
- ☛ Findings & Suggestions
- ☛ Conclusion
- ☛ Annexure
- ☛ Annexure - Questionnaire
- ☛ Annexure – Any other document
- ☛ Bibliography

Language, Style and Format

- ☛ Language
 - Project should be written in English.
- ☛ Final Version
 - The final version of the project must be free from spelling, grammatical and other errors when submitted.

Specification for Project Report

1	Paper Size	International A4, not less than 75 gsm white paper
2	Margins	Left - 1.5" Right - 0.75" Top and Bottom - 1.0"
3	Line Spacing	10 to 12 characters per inch must be used with 1.5 line spacing.
4	Paragraph Spacing	Double Lines/Vertical space of around 12 points should be left between the section title line and the first paragraph of each section and subsections, start without any indentation, In single column format with full justification.
5	Pagination	At bottom–Center Beginning with the first page of chapter 1 (Introduction) to all pages shall be numbered consecutively using Arabic numerals (i.e. 1,2,3) From the title page to the page before the chapter 1 starting page, shall be lower case Roman numerals (e.g. i, ii, iii etc.) No Page Number on Title Page
6	Chapter(s):	New Chapter on New Page font size of 20 should begin with an additional top margin of 30 mm (total 55 mm) Capitalize the first letter all the words. Use boldface letters and numbers only
7	Sections and Subsections (left aligned)	A vertical space of around 36 point should be left between the chapter heading and the title of the first section of every chapter. For all subsequent sections/subsections, leave a vertical space of around 24 points before the section/subsection headings. For example, say the first and second sections in chapter 5 shall be numbered as 5.1 and 5.2, respectively. Likewise, the third subsections of sections 1 and 2 in a chapter 4 shall be numbered as 4.1.3 and 4.2.3, respectively. Same style as in chapter heading but with font size of 14 and 12 for section and subsections,
8	Font Type	Times New Roman
9	Font Size(FS)	For normal–12

10	Bold/Italic/Underline	Should be used for specific purposes only
11	Alignment	Page Justify
12	Tables/Graphs/Diagrams/figures Equations	All tables, figures, and equations must be numbered sequentially and chapter-wise using Arabic numerals. It must reflect the chapter number also, e.g. 2.1, 6.25 etc. e.g., Figure 2.1, Table 3.2. While a caption (figure number) should be placed below the figure, a caption (table number) should be placed above the table Images, Photographs, etc. must be scanned in resolution at least 600 dpi.
13	Figures and Illustrations	Figures, tables, etc., should be positioned according to the scientific publication conventions of the discipline.
14	Borders	NO
15	Header/Footers	Single Line (as per this page) Footer (as per this page): Left side Marwadi University, Rajkot, Right Side Pg. No “NO header/footer on Title page”
16	Word Breaking	No word Breaking
17	Printing	Single side only
18	Report Binding	Hard Bound Cover–BlackColor Writing–Golden color only
19	Copies of the Report	Hard Bound: Total 2 Copy (one for Student, one for Dept. Records) Soft: 01Copy PDF.

References & Bibliography

All references must be cited in the text by the reference number using superscripts. No links between superscripts in the text and actual references in the Reference Sections may be used. Notes may be used to cite manuscripts in preparation,

Unpublished observations and personal communications. References cited should follow the style given below example:

PAPERS

1. Thiel WJ and Nguyen LT, “Fluidized bed film coating of an ordered powder



mixture to produce micro encapsulated ordered units.” *J. Pharm. Pharmacol.* **1984**, *36*, 145-152.

2. Isyumov N, “Criteria for acceptance of wind induced motions of tall buildings”, International Conference on Tall buildings, Rio De Janeiro, CTBUH, 2003.

WEB SITE

1. Boggs, D, “Acceleration and Drift due to Gust forces”, accessed on 10 July 2009, www.cppwind.com/papers/structural/PEAKvsRMS.pdf

BOOKS

1. Pelzar MJ., Chan ECS., and Krieg NR. In *Microbiology*; 5th Edn; Tata McGraw Hill Publishing Company Limited, New Delhi, 1993, pp 536.

DISSERTATIONS/PROJECTS

1. Vaishnav D.K, PhD Thesis, “.....” Marwadi University, July 2012.
2. Pathak VK. Ph.D. Thesis, “.....” Gujarat University, 1979.



ANNEXURE - I

[SAMPLE TITLE PAGE]

[Project Title]

(5 blank lines)

By

(single line)

[Your name as found in official MU records - your enrollment number]

(two lines)

[Guide name]

(3 blank lines)

A Project Submitted to

Marwadi University in Partial Fulfillment of the Requirements for the [Degree name] in [Name
of Program/Branch]

(3 blank lines)

Month and Year





MARWADI UNIVERSITY
Rajkot-Morbi Road, At & Po. Gauridad,
Rajkot-360003, Gujarat, India.



ANNEXURE - II

STUDENT DECLARATION

I hereby declare that this Project Report titled _____
_____ submitted by me to the Faculty of Liberal
Studies, Marwadi University is a bonafide work undertaken by me and it is not submitted to any
other University or Institution for the award of any degree diploma / certificate or published any
time before.

Date: DD/MM/YYYY

Place: Rajkot

Signature of the Student

[Name of Student]

[Enrollment No.]

Evaluation Scheme

Internship consists of 4 Credit, 100 marks and shall be evaluated on two components i) Internal Assessment & ii) Viva.

Particular	Weightage (%)	Conducted By
Internal Assessment (IA)	50%	Supervisor/ Guide
Viva Voce	50%	Viva Panel

I. **Internal Assessment** shall consist of 100 marks, which will be carried out by supervisor/guide.

II. **Viva Voce** shall carry 100 marks and will be conducted by a Panel of two examiners.

Specialization: Finance

PROGRAM	Bachelors Of Business Administration
SEMESTER	VI
COURSE TITLE	Advance Financial Management
COURSE CODE	04BB0605
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Students will be able to understand basic framework of designing capital structure of a firm.
- Students will be able to evaluate the risk aspect for analyzing investment decisions.
- Students will have knowledge about dividend policy and its relevance in value of a firm.
- Ability to determine cash position of a firm.
- Acquire knowledge on receivables management of the firm.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
---------	-----------------	----------

I	Capital Structure Decision Introduction, PBIT-EPS Analysis, ROI-ROE Analysis, Leverage Analysis, Ratio Analysis, Factors determining capital structure. (Theory & ratio problems)	10
II	Risk Analysis in Capital Budgeting Sources and Perspectives on Risk, Sensitivity Analysis, Scenario Analysis, Break-even Analysis, Hillier Model, Simulation Analysis, Decision tree Analysis, Corporate risk Analysis, Managing Risk. (Theory & Problems)	10
III	Dividend Policies Introduction, Factors affecting Dividend Decision, Bonus Share & Stock Splits, Different forms of dividend, Bonus share and its impact on stock price, Legal and Tax aspects relating to dividend (Theory & Problems)	10
IV	Cash & Liquidity Management Introduction, Cash budgeting, Long term cash forecasting, Reports for control, Cash collection and Disbursement, Optimal Cash balance, Investment of Surplus Funds, Cash Management Models. (Theory) & Problems	10
V	Credit Management Introduction, Terms of payment, Credit policy Variables, Credit Evaluation, Credit Granting Decision, Control of Accounts Receivables, Credit Management in India (Theory & Problems)	8

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Prasanna Chandra	Financial Management	The McGraw-Hill Publishing Company Ltd.	8 th Edition 2011
T-02	Financial Management	M.Y. Khan & P. K. Jain	The McGraw-Hill Publishing Company Ltd.	5 th Edition 2007

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	I M Pandey	Financial Management	Vikas Publishing House Pvt. Ltd.	9 th Edition, 2009
R-02	Vishwanath S. R.	Corporate Finance	Sage Publication	2 nd Edition, 2007
R-03	J.B.Gupta	Strategic Financial Management	Taxmann Publication Pvt. Ltd.	4 th Edition.
T-04	Ravi M. Kishore	Strategic Financial Management	Taxmann Publications Pvt. Ltd.	2 nd Edition

Specialization: Marketing

PROGRAM	Bachelors Of Business Administration
SEMESTER	VI
COURSE TITLE	Advertising Management
COURSE CODE	04BB0606
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Gain an understanding of effectiveness of advertising as an integral marketing tool.

- Learn the majors of advertising programs of organizations with emphasis on the application of marketing concepts for effective decision making.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to advertising Introduction to Advertising –Meaning, Definition of advertising, objectives, its role and functions. Types of Advertising: Commercial, Non-commercial, Primary demand and Selective Demand, Classified and Display advertising, Comparative advertising, Co-operative advertising.	10
II	Advertising Planning Advertising planning framework – factors involved in advertising planning and decision making, the communication & persuasion process segmentation strategy.	10
III	Creative Strategy Creative Strategy: meaning of creativity, Creative strategy and tactics, various advertising Appeals, the mode of message and theme.	10
IV	Advertising budget Advertising Budget – Objectives, preparation and methods of advertising budget; Top down and Build up approach, methods of advertising – Affordable method, Arbitrary allocation method, percentage of sales method, competitive parity method, Objective and Task method; and DAGMAR Approaches	10
V	Advertising Media Decision Concept, Role of Media, Advertising media- Types of Media Print Media (Newspaper & Magazines, Pamphlets, Posters & Brochures), Electronic Media (Radio, Television, Audio Visual Cassettes), Other Media (Direct Mail, Outdoor Media), New Media –Internet and Mobile phones (Characteristics, merits & Demerits of above media, media scenario in Indian Context.)	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M.V.Kulkarni	Advertising Management	EPH	Fourth Edition
T-02	Chunawalla and Sethia S.A,	Foundations of Advertising theory and practice	Himalaya Publishing House	Sixth Edition

Reference Books

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-1	Belch & Belch	Advertising & Sales Promotion	TMH	Eleventh Edition
R-2	Aaker, David A. and Myers John G	Advertising Management	Prentice Hall of India	Second Edition

Specialization: Human Resource Management

PROGRAM	Bachelors Of Business Administration
SEMESTER	VI
COURSE TITLE	Change Management
COURSE CODE	04BB0607
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the objective of managing change in the organization
- Recognize reactions to change and address the resistance
- Learn the competencies required for effective change management

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Organizational Culture and Change Business as a domain for change, Environmental Factors leading to Change, Organizational Culture and Change: Sources and types of Culture, Significance of Culture during change, Strengths and weaknesses of Indian Culture.	10
II	Resistance to Change Meaning and Nature of Organizational Change, Types of Change, Organizational Barriers to Change, Individual and Group Resistance, Overcoming Resistance to Change, Techniques to manage resistance	10
III	Organizational Change and Change Agents Meaning and Types of Change Agents, Key Roles in Organizational Change, Characteristics of good Change Agent, Strategic Management of Change, Factors in selecting Change Strategy, Formulation and Implementation of Change Strategy.	10
IV	Organizational Diagnosis & Development Meaning of Diagnosis, Introduction to Organizational Diagnosis, Collection of Data, Introduction to OD, OD Intervention and Classification, OD Interventions Techniques, Prerequisites for effective use of OD.	10
V	Learning Organization and Models of Change Meaning and nature of Learning Organization, TQM and Learning Organization, Basic Models of OD: Individualistic Model, Group Oriented Model, Organization-oriented model, Lewin's three-step Model, Case study on Change Management in any Industry.	8

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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Harsh Pathak	Organisational Change	Pearson	1 st edition
T-02	Donald R. Brown, Donald Harvey	An Experiential Approach to Organizational Development	Pearson	8 th edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	Thomas Cummings, Christopher Worli	Theory of Organization Development and Change	Cengage Learning	9 th edition
R-02	Wendell L. French, Cecil Bell, Robert A. Zawacki	Organization Development and Transformation: Managing effective change	McGraw-Hill/Irwin	6 th edition
R-03	S.K. Bhatia	Managing Change and Organization Development	Deep and Deep Publications	1 st edition

2018-2019

Elective

PROGRAM	Bachelors Of Business Administration
SEMESTER	I
COURSE TITLE	Mathematics For Business
COURSE CODE	04BB0106
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Calculate simple and compound interest on investments
- Understand repayments of loan using EMIs
- Structure and solve problems using matrices
- Understand and establish relationship between variables using functions to determine equilibrium
- Determine minimum and maximum (optimum) value of cost and profit

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	MATHEMATICS OF FINANCE Introduction, Simple Interest and Compound Interest – Concept and problem solution Future Value (FV) - Annuity: Amount of ordinary annuity, Amount of annuity due Present Value (PV) -ordinary annuity and annuity due Loan Amortization and Equated Monthly Installments (EMIs) - Reducing balance and flat rate of interest Use of MS Excel	10
II	FUNCTIONS Introduction, Constants, Variables, Types of functions– Linear function and Polynomial functions Functions in Business: Cost function, Revenue function and Profit function, construction of cost functions, Profit function and Break Even Point (BEP)	10
III	DIFFERENTIATION AND APPLICATIONS OF DERIVATIVES Limit of a function, important results, differentiation of algebraic functions – formulae (no derivation) Derivative of function of one variable, derivative of sum, difference, product and quotient of two functions (no derivation), chain rule, differentiation of implicit function, price elasticity of demand, second order derivative	12

	Application of derivatives – Marginal cost, Marginal revenue, Marginal Profit, Maxima and Minima	
IV	DETERMINANTS Determinant of second order and of third order, Minor of an element Expansion of determinant, Properties of determinant, Use of determinants in solving simultaneous linear equations – Cramer's Rule for two and three linear equations Use of MS Excel to calculate determinant	06
V	MATRICES AND APPLICATIONS Introduction, Definition, Types of matrices, Algebra of matrices (Addition and Subtraction), Additive Inverse of a matrix, Structure problems in matrix form, Multiplication of matrices (Max 3X3) Minor, cofactor, adjoint and Inverse of Matrix, Solution of system of linear equations using inverse of coefficient matrix (Max 3) Use of MS Excel to calculate inverse of matrix	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	A. Dikshit and J. Jain	Business mathematics	Himalaya Publishing House	Latest
T-02	P. Hazarika	Business Mathematics	S. Chand and Sons	Latest
T-03	P. Mariappan	Business Mathematics	Pearson Education	Latest

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	D C Sancheti and V K Kapoor	Business Mathematics	Sultan Chand and Sons	Latest
R-02	Zamarudeen and Qazi	Business Mathematics	Vikas Publishing	Latest

PROGRAM	Bachelors Of Business Administration
SEMESTER	I
COURSE TITLE	Career Readiness Program
COURSE CODE	04CR0101

COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

Objectives:

- The “*Linguistics for Interpersonal Interaction*” course is designed to make the Learners feel comfortable understanding, thinking and speaking in English.
- Having undergone the training, the Learners will feel confident about his or her own English-speaking skills.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
Unit I	Phonology: Varieties of Language and Standard English, Phonetics and Phonology - Speech Mechanism and Articulatory Phonetics, English Phonemes. Characterization and Classification of Vowels - Diphthongs and Monophthongs.	6
Unit-II	Syntax and Morphology: Nouns, Pronouns and Determiners - Misconceptions related to usages of noun forms, Using Possessives, Types of Pronouns, General Determiners and Specific Determiners. Verbs and related forms - Types of verbs and their forms, Stative and Dynamic, Lexical and Delexical Adjectives and Adverbs - Word formation, Order of Adjectives, Types of Adverbs Preposition and Phrasal verbs - Preposition of time, Preposition of Movements, Preposition of Place, Phrasal Verbs Conjunctions - Coordinating and Subordinating, Using Conjunctions in formal settings. Present Continuous – Form, Usages, Misconception Present Simple & Simple Past – Form, Usages, Misconception	8
Unit - III	Reading Comprehension: Processing Strategy - Comprehension Strategy, Meta-cognitive Strategy, Prediction and Pre-prediction.	4
Unit - IV	Spoken Discourse: Coherence and Cohesion - Situational Sociolinguual interaction, Conversation Practice. Feature of Spoken Discourse - Semantic and Pragmatic Meanings, Conversation Practice (Role Play)	6

Learning Outcomes:

After studying this course, student should be able to:

- Articulate phonetics and phonology, Noun, Pronoun, Verb
- Reading and processing comprehension.

Evaluation:

The students will be evaluated on following evaluation scheme:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment (Term Work)	30% (I.A.)
C	End-Semester Examination (Viva)	50% (External Assessment)

PROGRAM	Bachelors Of Business Administration
SEMESTER	I
COURSE TITLE	Principles Of Management
COURSE CODE	04LS1102
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Demonstrate their knowledge of business and management principles.
- Get acquainted with management process and functions.
- Comprehend the modern management techniques and its relevance in business

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Management Meaning, Nature and Characteristics of Management – Scope of Management - Functional areas - Management as a Science and an Art - Management & Administration – Levels of management & Managerial Skills - Evolution of Management Thoughts - Principles of management - Ethics in Management.	10

II	Planning in Management Need and importance of planning - basic purpose of planning - Planning process, Types of plans - Objectives - Management By Objectives Decision-making Decision making – Nature and importance- types of decisions – process	10
III	Organizing Need for organization - purpose of organization, fundamental principles of organization - Types of organization - Departmentalization, Committees - Centralization Vs decentralization of authority and responsibility Staffing Staffing – Introduction - Need for Staffing - Importance of staffing -Process of staffing	10
IV	Directing Directing – Meaning, nature and importance – Theories of Motivation – Maslow's, Herzberg's & McGregor's Leadership – Introduction - Formal and Informal Leadership – Characteristics – Styles of Leadership - Importance of Communication as a leader Coordinating Coordination – Introduction - Importance of coordination - Principles of coordination	10
V	Controlling Meaning and steps in controlling – Pre-requisites of a strong control system -Methods of establishing control Modern Management Techniques Introduction to various latest management techniques: Business process re-engineering, business outsourcing, benchmarking, kaizen, six sigma, knowledge management, just in time management, total quality management.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	L. M. Prasad	Principles of Management	Sultan Chand and Sons	Ninth Edition - 2015

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	V.S.P. Rao	Management: Text and Cases	Excel Books India	Second edition
R-02	Koontz & O'Donnell	Principles of Management	McGraw Hill	Forth edition

PROGRAM	Bachelors Of Business Administration
SEMESTER	I
COURSE TITLE	Microeconomics
COURSE CODE	04LS1103
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Apply economic reasoning to the analysis of selected contemporary economic problems.
- Understand how households (demand) and businesses (supply) interact in various market structures to determine price and quantity of goods and services produced and consumed.
- Use economic problem solving skills to discuss the opportunities and challenges of the increasing globalization of the world economy.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO MICROECONOMICS	10

	Meaning and definition of Microeconomics, Nature and scope of Microeconomics, Difference between microeconomics and macroeconomics. Central economic problems of society.	
II	CONSUMER BEHAVIOUR Utility analysis: Meaning of Cardinal and Ordinal utility. Cardinal Utility: Law of diminishing Marginal utility, Law of Equi-marginal Utility, Ordinal Utility: Indifference curve analysis, properties of indifference curve analysis, Marginal rate of substitution, Budget line and consumer's Equilibrium.	10
III	DEMAND AND SUPPLY ANALYSIS Determinants of demand , law of demand, exceptions to law of demand. Elasticity of demand and its applications: Price elasticity, Income elasticity and cross elasticity. Concept and Law of Supply , Factors Affecting Supply	10
IV	PRODUCTION AND COST ANALYSIS Production Function: Short run and long run production functions, laws of returns, and law of returns to scale. Cost Function : classification of costs, short run and long run cost curves and their interrelationship, Planning curve and envelope curve, internal and external economics of scale, revenue curves, optimum size of the firm, factors affecting the optimum size	10
V	EQUILIBRIUM OF FIRM AND INDUSTRY Perfect competition, monopoly, monopolistic competition, discriminating monopoly, aspects of non-price competition; group equilibrium, excess capacity, selling costs, oligopolistic behavior.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	H. L. Ahuja	Principles of Economics	S. Chand Publishing house	11 th ed. 2015

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	N.GregoryMankiw	Principles of Micro Economics	Cengage	6 th ed.
R-02	Pindyck, R.S., D. L. Rubinfeld and P. L. Mehta	Microeconomics	Pearson	7 th ed.
R-03	D. Salvatore	Microeconomic Theory	Tata McGraw Hill	5 th ed
R-04	D N Dwivedi	Managerial Economics,	Vikas Publishing House	4 th ed.

PROGRAM	Bachelors Of Business Administration
SEMESTER	I
COURSE TITLE	Business Organizations & Structures
COURSE CODE	04LS1104
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Describe the business structure and their organization.
- Discuss the changes that have taken place in there structure and organization pattern over the time

Course Contents:

Unit	Unit / Sub Unit	Sessions
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No		
I	INTRODUCTION Defining Business, Industry and Commerce. Classification of Activities of Business – Different types of Industry – Commerce – Trade – Trade supporting activities – Advantages and Disadvantages of Business. Their interrelationship in today's environment. Business and Society.	8
II	FORMS OF BUSINESS ORGANIZATION-I Sole Proprietorship, Partnership, Co-operative Society, Hindu Undivided Business, Franchise, Outsourcing.	12
III	FORMS OF BUSINESS ORGANIZATION- II Company – Types including Transnational company, Multinational Company, Joint Ventures & Business Alliances etc. and their structures. Limited Liability Partnership and MSMEs.	8
IV	BUSINESS COMBINATION: Concept, Causes and Forms- Associations, Federations, Consolidations, conglomerate etc.	10
V	GOVERNMENT, PUBLIC SECTOR & NOT FOR PROFIT ORGANIZATIONS : Non Government Organization, Trusts, Societies, Public Sector Enterprises , Stock And Commodities Exchange.	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	S.A Sherlekar & V.S Sherlekar	Modern Business Organisation and Management	Himalaya Publishing House Pvt. Ltd.	Fourth- 2017

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Y.K. Bhushan	Fundamentals of Business Organisation and Management	Sultan Chand & Sons	2013
R-02	Dr. Alice Mani	Business Organization & Environment	SBH	2 nd Edition
R-03	Muniraju S.K. Podder	Business Organisation & Environment	VBH	(2012)
R-04	Kaul, V.K	Business Organisation and Management	Pearson Education	11 th Edition
R-05	Chhabra, T.N.,	Business Organisation and Management	SunIndia Publications, New Delhi	10 th Edition.

PROGRAM	Bachelors Of Business Administration
SEMESTER	I
COURSE TITLE	Fundamentals Of Accounting
COURSE CODE	04LS1105
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Analyze business transactions and will be able to prepare the Financial Statements.
- Understand the need of uniformity in Accounting.
- Analyze the effects of different Financial Accounting methods on the Financial Statements.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Basics of Book – keeping and Accounting Introduction to Book Keeping and Accounting – Branches of Accounting – Systems of Accounting – Basis of Accounting – Characteristics of Accounting Information – Users of Accounting Information – Basic Accounting Terms – Classification of Accounts and its Rules – Accounting Equation Accounting Concepts and Conventions Accounting Principles: Accounting Concepts and Conventions – Fundamental Accounting Assumptions – Introduction to Ind AS – Applicability of Ind AS.	08
II	Process of Accounting Books of Original Entry – Journalizing (including GST) – Difference between Cash Discount and Trade Discount, Ledger – Preparation, Posting and Overview of Electronic Ledgers under GST: Electronic Cash, Credit and Liability Ledger – Practical problems on Journal and Ledger – Preparation of Trial Balance – Redrafting of Trial Balance – Errors and their Rectification	16
III	Final Accounts Types of Expenditure and Income – Meaning of Deferred Revenue Expenditure – Classification of Assets and Liabilities under different head – Contingent Asset and Contingent Liability – Distinguish between Provisions and Reserves – Types of Reserves – Preparation of Financial Statements of sole proprietorship – Impact of GST on Financial Statements – Format of Companies Financial Statements as per Companies Act, 2013.	14
IV	Depreciation Meaning and difference between Depreciation, Depletion and Amortization – Need of Depreciation – Depreciation methods (Straight Line Method and Written Down Value Method) – Method of recording Depreciation (Charging to Asset Account and Creating provision for Depreciation/ Accumulated Depreciation) – Treatment of Disposal of Fixed assets.	06
V	Valuation of Inventory Meaning of Inventory - Inventory Record Systems: Periodic and Perpetual - Methods of Stock Valuation: FIFO, Weighted Average and LIFO	04

Note: Any revision in Indian Accounting Standard will become applicable immediately.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T - 01	P.C.Tulsian	Financial Accounting	Pearson	Latest
T - 02	Dr. S. N. Maheshwari	Financial Accounting for Management	Vikas Publishing House	Latest
T - 03	Ambrish Gupta	Financial Accounting	Tata McGraw, Hill Publishing Co. Ltd. New Delhi	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R - 01	Jain, S.P. and K.L. Narang.	Financial Accounting.	Kalyani Publishers,	Latest
R - 02	Charles T. Horngren and Donna Philbrick	Introduction to Financial Accounting	Pearson	Latest
R - 03	Deepak Sehgal	Financial Accounting	Vikas Publishing H House	Latest

Elective

PROGRAM	Bachelors Of Business Administration
SEMESTER	I
COURSE TITLE	Computer Essentials
COURSE CODE	04LS1107
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Draft Document / Worksheet and Presentation
- Understand the Computer Hardware and Software Fundamentals
- Detail some of the problems that are encountered when developing documents and worksheets
- Describe briefly some of the technologies that are used to support online applications

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	COMPUTER BASICS Data- Instruction and Information-Characteristics of Computers- Various fields of application of Computers- Input-output Devices (Hardware-Software- Human ware and Firmware)-Advantages and Limitations of Computer- Block Diagram of Computer- Function of Different Units of Computer- Classification of Computers. Data Representation-Different Number System (Decimal- Binary- Octal and hexadecimal) and their Inter Conversion.	10
II	COMPUTER SOFTWARE Types of Software- Application software and system software- Compiler and Interpreter-Generations of languages-Low and High Level Languages-Computer Memory: Primary Memory & Secondary memory. Cache memory-optical memory- Storage Media. Introduction to Operating System-All Directory Manipulation-Creating Directory- Sub Directory-Renaming-Coping and Deleting the Directory File Manipulation-Creating a File-Deleting- Coping- renaming a File Using accessories such as calculator- paint brush- CD player etc.	10
III	INTRODUCTION TO MS- OFFICE (WORD) Introduction to Word Processing- Features - Formatting Documents- Paragraph Formatting- Indents- Page Formatting- Header and Footer- Bullets and Numbering- Tabs- Tables- Formatting the Tables- Finding and	10

	Replacing Text- Mail Merging etc..	
t IV	INTRODUCTION TO MS- OFFICE (EXCEL) Introduction to Electronic Spreadsheets- Feature of MS-Excel- Entering Data- Entering Series- Editing Data- Cell Referencing- ranges- Formulae- Functions- Auto Sum- Copying Formula- Formatting Data- Creating Charts- Creating Database- Sorting Data- Filtering etc.	10
V	INTRODUCTION TO MS- OFFICE (POWERPOINT) PowerPoint- Features of MS PowerPoint Clipping- Slide Animation- Slide Transitions- Slide Shows- formatting etc.- Creating formal presentations- inserting different objects- arts- charts- pictures etc. to slide.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	P.K.Sinha	Fundamental of Computers	B.P.B. Publications	

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Curtin, Foley, Sen, Martin,	Information Technology	Information Technology, Tata MC Graw Hill	2007
R-02	Sanjay Saxena	A First Course in computers	Vikas Publication	

Course: B.B.A.

SEMESTER	I
TITLE OF THE SUBJECT	READING AND WRITING FOR BUSINESS
COURSE CODE	04SL0102
DURATION	24 Hours

Objectives:

The course will enable the students:

- To read and interpret formal business writings such as reports, articles and reviews;
- To know structures of formal business letters and reports;
- To write formal business letters and reports;
- To inculcate a taste for reading and writing habits pertaining to the world of business.

Pre Requisites: None

Course Duration:

- The course duration is of 24 sessions of 60 minutes each.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
Unit I	Introduction to Business world 1. Reading a business case-study – “Tripping Along” by Deep Kalra from <i>Stay Hungry Stay Foolish</i> 2. Reading 3 business articles (general in nature) from the newspapers/magazines i. “Paytm: the wonder wallet” from Forbes India. ii. “Millennials: How They Live and Work” from Gallup. iii. “The Right Culture: Not About Employees Happiness” from Gallup.	12
Unit-II	Reading and writing for business 1. Reading business letters (of sales, inquiry, order, complaint, and adjustment) 2. Writing business letters (Any two types) 3. Reading a few short business reports 4. Writing a short business report	12

Learning Outcomes:

After studying this course, student should be able to:

- Inculcate formal reading and writing skills required to communicate with colleagues in the workplace.
- Writing effective business letters, reports.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

		Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	25% (External Assessment)
D	Viva	25%

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Raman M. and Singh P	Business Communication	Oxford University Press	20 th edition, 2011
T-02	Kumar S. and Lata P.	Communication Skills	Oxford University Press	6 th edition, 2013

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Murphy H., Hildebrandt H. and Thomas J	Effective Business Communication	Tata McGraw-Hill	2008
R-02	Sharma R. and Mohan K	Business Correspondence and Report Writing	Tata McGraw-Hill	4 th edition, 1998
R-03	Lesikar R., Flatley M., Rentz K., Pande N	Business Communication	Tata McGraw-Hill	11 th edition, 2009

1. Arakali, Harichandan. "Paytm: The wonder wallet." Forbes India, 16 Nov. 2016, <http://www.forbesindia.com/printcontent/44825>
2. Clifton, Jim. Millennials: How They Live and Work." Gallup, 11 May 2016, <http://www.gallup.com/opinion/chairman/191426/millennials-live-work.aspx>

3. Harter, Jim. "The Right Culture: Not About Employee Happiness." Gallup, 12 April 2017, http://www.gallup.com/businessjournal/208487/right-culture-not-employeehappiness.aspx?g_source=WORKPLACE&g_medium=topic&g_campaign=tiles
4. Kalra, Deep. "Tripping Along." *Stay Hungry Stay Foolish*, edited by Rashmi Bansal, IIM Ahmedabad, 2008, pp. 130-143.

Course: B.B.A.

SEMESTER	I
TITLE OF THE SUBJECT	SPEAKING AND PRESENTATION SKILLS
COURSE CODE	04SL0103
DURATION	24 Hours

Objectives:

The course will enable students

1. To share information on familiar matters/issues in English.
2. To make effective presentations in English.
3. To gain confidence in speaking in English.

Pre Requisites: None

Course Duration:

- The course duration is of 24 sessions of 60 minutes each.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
Unit I	Speaking/Interacting in an Academic Context Greetings, Introducing self and peers, Asking and sharing information, Expressing points of view, Discussions, Facing viva voce, Group discussions, Facing an interview (interview skills).	12
Unit-II	Effective Presentation Skills Introduction to effective presentation skills, Preparing the presentation (Collection of Data/Information, exploring the topic etc.), Using ICT for the presentation, Getting ready for the presentation, Effective body language, Effective pronunciation, Interacting with the audience (Q & A), Practice (with video recording), Feedback and Suggestions.	12

Learning Outcomes:

After studying this course, student should be able to:

- Inculcate speaking skills required to communicate with colleagues in the workplace.
- Effective presentation skills in business, Pronunciation, Interacting with audience.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

		Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	25% (External Assessment)
D	Viva	25%

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Sprague Jo, and Douglas Stuart	<i>The Speaker's Handbook</i>	Thomson Wadsworth	8 th edition, 2008

Recommended Readings/ Viewings:

- Select TED Talks
 - Select INK Talks
 - Select Toastmasters Videos
 - Select Courtroom Dramas
 - Select Videos of speakers like Steve Jobs, Sundar Pichai etc.
1. "Communication." themuse. 2017. <https://www.themuse.com/tags/communication>. Accessed 4 July 2017.
 2. Presentation Magazine. 2017. <https://www.presentationmagazine.com/>. Accessed 4 July 2017.
 3. "Presentation Skills." *SKILLS YOU NEED*. 2017. <https://www.skillsyouneed.com/presentation-skills.html>. Accessed 4 July 2017.
 4. Siddons Suzy. *The Complete Presentation Skills Handbook*. Kogan Page, 2008.



Marwadi University

Bachelor of Commerce/Business Administration/(Hon.)

Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

PROGRAM	Bachelors Of Business Administration
SEMESTER	II
COURSE TITLE	Statistics in Business
COURSE CODE	04LS0205
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Learn the important statistical concepts
- Understand Application and implementation of statistical methods in field.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	<p>Basic Concepts Basics of Statistics: Introduction, Definition, Application of Statistics in Business, Economics and Industry. Presentation of Data: Data collection methods (Primary Vs. Secondary, Population Vs. Sample), Classification and Tabulation of quantitative data, Frequency distribution and Cumulative frequency distribution, Graphical Presentation of data (Histogram, Polygon and Ogive), Use of MS-Excel to create Frequency Distribution and Graphs Univariate Analysis: Descriptive Measures (Central Tendencies and Variation): Meaning of Central Tendency, Averages – Arithmetic mean, Mode, Median and Percentiles, Variation – Range and Variance and Standard Deviation of ungrouped and grouped data. Coefficient of Variation, Choice of good measures. (Use of MS Excel Statistical function to find descriptive measures)</p>	14
II	<p>Probability Theory Counting ($m \times n$) rule, Permutation and Combination (Use of MS Excel to compute permutation and combination)</p> <p>Theory of Probability: Definition, Basic terminology of Probability, three approaches of assigning probability (Classical, Relative Frequency and Subjective</p>	08



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Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

	approach), Rules of probability, Addition rule, Multiplication rule for independent and dependent events.	
III	Probability Distribution: Random variable, probability distribution and mathematical expectation Discrete Probability Distribution: Binomial, Poisson Continuous probability Distribution: Normal Distribution – Properties and Applications (Use of MS Excel Statistical function to compute Binomial, Poisson and Normal probability)	08
IV	Bivariate Analysis Correlation and Regression Analysis: Meaning of correlation, types of correlation, method of correlation – Karl Pearson’s coefficient of correlation, Meaning of Regression, regression coefficients and two lines of regression, use of regression in prediction. (Use of MS Excel Statistical Function to compute correlation and regression)	10
V	Time based Analysis Time Series and Index Numbers: Basic Concepts, Components of Time series (Trend, Seasonal Variation, Cyclic and Random / Irregular variation), methods to determine trend and Seasonal Indices – simple averages, Use of Time Series in Business and Economics. Overview of Index Numbers as an important statistical tool in economics.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:



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Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	J K Sharma	Fundamentals of Business Statistics	Vikas Publication	Latest Edition
T-02	N D Vohra	Business Statistics	McGraw Hill Education	Latest Edition
T-03	D P Apte	Statistical Tools for Managers Using MS EXCEL	Excel Books	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Lewin and Rubin	Statistics for Management	Prentice-Hall of India	Latest
R-02	Sancheti D.C. and Kapoor V.K	Statistics: Theory, Methods & Application	Sultan Chand & Sons	Latest
R-03	S.C. Gupta	Fundamentals of Statistics	Himalaya Publishing House	Latest
R-04	S P Gupta	Statistical Methods	Sultan Chand	Latest
R-05	R. P. Hooda	Introduction to Statistics	Macmillan	Latest
R-06	S.C. Aggarwal & R.K Rana	Basic Statistics for Economists	V.K. India.	Latest
R-07	Beri, G.C	Business Statistics	TMH	Latest
R-08	Chandan J S	Statistics for Business and Economics	Vikas Publications	Latest

PROGRAM	Bachelors Of Business Administration
SEMESTER	II
COURSE TITLE	Applications Of Spreadsheet



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Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

COURSE CODE	04LS0212
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

COURSE OUTCOMES:

- Able to perform routine organizational tasks using Spreadsheets.
- Can be able to understand about pivot tables and how to use it for routine purpose.
- Able to manage spreadsheet and be able to compare data in to different spreadsheet.
- Create a dynamic spreadsheet.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Manage Worksheet Data, Reorder and Summarize Data Understanding software for spreadsheet, learning basic menu items, Basic operations like create, open and save a file, worksheets and workbooks, Renaming Inserting Data in proper tabular format, Basic formatting like changing fonts, size, merging and splitting cells, Coloring cells, conditional formatting	06
II	Functions & Formulas Basic Arithmetic Functions, Conditional Functions, Lookup Functions, Sorting and Filtering Data, Paste Special, Data Validation, Converting Text to Table, Working with multiple sheets	09
III	Data Analysis and Printing Analyze data dynamically by using PivotTables, Filter, show, and hide PivotTable data, Edit PivotTables, Format PivotTables, Create PivotTables from external data, create dynamic charts by using Pivot Charts, Page Setup and Printing	09

Evaluation:



Marwadi University

Bachelor of Commerce/Business Administration/(Hon.)

Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Cox et al	Step by Step 2007 Microsoft Office System	PHI Learning Private Limited	Second Edition, 2009

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Curtis Frye	Microsoft Excel 2016 Step by Step	Microsoft Press	Latest

PROGRAM	Bachelors Of Business Administration
SEMESTER	II
COURSE TITLE	COST ACCOUNTING
COURSE CODE	04LS1202
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Learn the important cost concepts
- Understand Application and implementation of costing methods



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Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Fundamentals of Cost accounting Objectives and functions of cost accounting, Meaning of Cost, Methods of costing, Techniques of costing, Cost ascertainment and cost estimation, Classifications of cost, Special costs for management decision making, Elements of cost, Steps of installation of a costing system, Advantages of cost accounting, Limitations or objections against cost accounting, Essentials of a good cost accounting system	8
II	Direct Expense Material Cost: Material Control, Techniques of inventory control; ABC, Stock Levels and Economic order Quantity. Proper storage of Materials. Labour Cost: Meaning, Labour Remuneration: Methods of Remuneration: Time rate system, Piece rate system, Incentive plans, Group bonus plans.	9
III	Overheads: (Apportionment) Meaning of overhead cost, Classification of overhead cost, Segregation of semi-variable cost, overheads distribution, Allocation and apportionment of overheads (primary distribution), Re-apportionment of service department cost (secondary distribution). Methods of costing Unit Costing: output costing, Costing procedure, Treatment of Stocks, Items Excluded from Cost, Treatment of Scrap	11
IV	Methods of costing Job and Batch Costing: Job Costing Procedure, Batch costing, Economic Batch Quantity. Process Costing: Introduction, Essential Characteristics of Process Costing, Process Costing and Job Costing— A Comparison, Costing Procedure, Normal Loss and abnormal loss, Normal Gain and abnormal Gain.	11
V	Methods of Costing Operating Costing: Operating costing, Cost unit, Transport costing, Transport costing procedure, Boiler house and power house costing, Canteen costing.	9

Evaluation:



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Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M. N. Arora	A Textbook on Cost and Management	Vikas Publication	Latest Edition
T-02	Paresh Shah	Cost and Management Accounting	Oxford Publication	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Ravi M kishore	Cost and Management Accounting	Taxmann	Latest
R-02	V Rajshekharn&Lalitha	Cost Accounting	Pearson	Latest
R-03	CharlesT, Horngren, S M	Cost Accounting	Pearson	Latest
R-04	P C Tulsiyani	Cost Accounting	S Chand	Latest
R-05	Khan and Jain	Management Accounting	TMH	Latest

PROGRAM	Bachelors Of Business Administration
SEMESTER	II
COURSE TITLE	Macroeconomics



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Bachelor of Commerce/Business Administration/(Hon.)

Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

COURSE CODE	04LS1203
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Comprehend why household, business, government and global behavior determine the aggregate demand for goods and services.
- Understand the basics of national income accounting.
- Apply economic reasoning to understand the operation of an economy.

Course Contents:

Unit No	Unit/Sub-unit	Sessions
I	Introduction to Macroeconomics & National Income: Nature and Scope of Macroeconomics, Circular Flow of Income and National Income Accounting , Concepts of GDP and NDP- Sectoral Composition of National Income - GDP measured at Factor Price and Constant Prices- Concept of GNP and NNP, Factor Cost and National Income-Per Capita income, Disposable Income and Personal Disposable Income- Measurement of National Income – Difficulties in measuring National Income	10
II	Keynesian Economic Theory Say's Law of Market and its criticism by Keynes. Simple Keynes Model of Income Determination. Concepts of Consumption Function, Saving Function and Investment Function. Average Propensity to consume, Marginal Propensity to Consume, Investment Multiplier–Marginal Efficiency of Capital and factors affecting MEC.	10
III	Money Supply and Central Bank Meaning and Evolution of Money- Definition of Money- Functions of Money – Demand for Money - Quantity Theory of Money- Fisher's Equation of Exchange-Cambridge Theory. Supply of Money – Determinants of Money Supply- Components of Money Supply-	10



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Bachelor of Commerce/Business Administration/(Hon.)

Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

	RBI's Approach-M1, M2, M3, M4.	
IV	<p>Business Cycle & Inflation</p> <p>Concepts of Business cycle – Four phases of Business Cycle – Interest rate –Loanable fund Theory and Liquidity preference theory- Motives for liquidity preference--Transaction Motive, Precaution Motive, Speculative Motive. Factors affecting interest Rate, Inflation-Meaning, Types, Causes, Effects-Inflation and Investment.</p>	10
V	<p>Open Economy Macroeconomics</p> <p>Balance of Payments –Meaning and assessment, Balance of payment and disequilibrium causes and remedies. Introduction to Foreign Exchange Rates-Fixed V/s Flexible foreign exchange rates. Exchange rate determination.</p>	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	H.L.Ahuja	Macro Ecoomics	S.Chand	20 th ,2015



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Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	D.M.Mithani and Prof. Nayak	Macroeconomics II	Himalaya Publication	1 st edition
R-02	D. N. Dwivedi	Macroeconomics Theory and policy	Tata Mcgraw Hill	4 th edition
R-03	Mankiw	Macroeconomics-Indian edition	Cengage	1st

PROGRAM	Bachelors Of Business Administration
SEMESTER	II
COURSE TITLE	Organizational Behavior
COURSE CODE	04LS1204
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand individual differences and utilize them effectively in making groups to achieve organizational objectives.
- Apply knowledge of models and theories to promote the effectiveness in workplace

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO ORGANIZATIONAL BEHAVIOUR Introduction to OB- Meaning, Definition, Scope, Contributing disciplines, Determinants of OB, Evolution of OB, challenges and Opportunities for Organization Behavior	07



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II	<p>UNDERSTANDING INDIVIDUAL BEHAVIOR Understanding Personality: Meaning, Types, Determinants, Personality Attribute influences Organizational behavior Perception : Meaning, factors, link between perception and Individual decision making Attitude: Meaning, components, Types of attitude, Formation of attitude, Attitude and workforce diversity. Values : Meaning, Types and Importance of values Motivation : Meaning, Types and Theories- Hierarchy of Needs Theory, Theory X and Theory Y, Two-Factor Theory , carrot and stick Approach to Motivation Learning : Meaning and Various Approaches of Learning</p>	15
III	<p>GROUP BEHAVIORS AND LEADERSHIP Group; Meaning, classification of Group, stages of Group formation Understanding teams; Meaning, Difference Between Group and Team, Types of Team Leadership; Meaning of leadership , leadership styles, traits, Theories; Trait Theory</p>	09
IV	<p>ORGANIZATION STRUCTURE AND ORGANIZATION CULTURE Organization Structure; Work Specialization, Departmentalization , Chain of Command , Span of Control, Centralization and Decentralization, Formalization Organizational Designs :Simple Structure ,Bureaucracy ,Matrix Structure , Virtual Organization , Boundaryless Organization Organization Culture –Meaning, Definition, Features, Importance of Culture.</p>	10
V	<p>ORGANIZATIONAL CHANGE AND CONFLICT MANAGEMENT Organizational Change: Meaning – Factors influencing change - Resistance to change - Overcoming resistance Conflict Management: Meaning – types of conflict –factors affecting conflict in organization.</p>	07

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)



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C	End-Semester Examination	50% (External Assessment)
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SUGGESTED READINGS:

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Robbins	Organizational Behaviour	Prentice Hall	Latest Publication
T-02	K. Aswathappa	Organizational Behaviour	HPH	Latest Publication
T-03	P.G. Aquinas	Organizational Behavior	Excel Books	Latest Publication

Reference Books

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	John W. Newstrom & Kieth Davis	Organizational Behaviour	McGraw Hill	Latest Publication
R-02	Fred Luthans	Organizational Behaviour	McGraw Hill	Latest Publication



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Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

PROGRAM	Bachelors Of Business Administration
SEMESTER	II
COURSE TITLE	E-Commerce
COURSE CODE	04LS1206
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Comprehend why household, business, government and global behavior determine the aggregate demand for goods and services.
- Understand the basics of national income accounting.
- Apply economic reasoning to understand the operation of an economy.

Course Contents:

Unit No	Unit/Sub-unit	Sessions
I	INTRODUCTION TO E COMMERCE Introduction to E-Commerce – History of E-commerce, types of E-Commerce - Comparison of traditional commerce and e-commerce. Business models under E-Commerce – Business to Business (B2B) - Business to Customer model (B2C), Consumer-to-Consumer (C2C) - Consumer-to-Business (C2B) model - Peer to-Peer (P2P) model – emerging trends - Advantages and Disadvantages of e-commerce - web auctions, virtual communities - portals - e-business revenue generation models.	10
II	HOW TO SET UP E COMMERCE BUSINESS Why do I want to set up an E-Commerce enterprise?:- competition, global research, customer service, value edition, operations oriented process, 'pettish' products; What do I want to do on the net? Web	10



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Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

	development and maintenance, static web pages, integration with operational database, dynamic web site, customer transaction, transaction processing/ payment, merchant account, transaction processing, online credit card frauds, full E-Commerce.	
III	PAYMENTS IN E – BUSINESS E-payment systems – An introduction - B to C payments - B to B payments - Types of E- payment system – Credit card - debit cards - accumulating balance - online stored value payment systems - Secure Electronic Transaction (SET) protocol - payment gateways - digital cash - digital wallets - agile wallet - smart cards and digital cheques.	10
IV	SECURITY OPERATIONS FOR E-BUSINESS Possible Security threats – implementation of E-commerce security – encryption – Decryption - protecting client computers - E-Commerce Communication channels and web servers Encryption - SSL protocol – Firewalls - Cryptography methods – VPNs - protecting networks - policies and procedures	10
V	MARKETING OF E-BUSINESS E-Commerce and marketing - B to B and B to C marketing and branding strategies - Web transaction logs – cookies - shopping cart database – DBMS – SQL - data mining - CRM (customer relationship Management) system – permission marketing - affiliate marketing - viral marketing.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	K. Bajaj & D. Nag	E-Commerce: The cutting edge of business	TMGH	Latest



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Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Becker, S. Ann (ed.),	Electronic Commerce: Concepts, Methodologies, Tools and Applications	IGI Global	2007

Course Description

The course will help the students to develop their ability to communicate in English for workplace. The course will introduce the students to various workplace situations

through videos, audios, and simulations and develop students' texts workplace. language for

Course Objectives

The course will enable the students

1. to familiarize with workplace culture;
2. to share information and collect information;
3. to express one's views and agree or disagree with others;
4. to write workplace documents.

Recommended Reading:

1. E
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Unit 1: Working together

1. Making requests, suggestions, agreeing and disagreeing
2. Accepting and declining an invitation
3. Giving feedback and verifying information
4. Communication in a meeting (Induction meetings)
5. Telephonic conversation

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Subject Name: English for Workplace

Expressions:

3. Let's Talk video: Requests and Command
in <https://youtu.be/TrCsLOqOuSg>

at Work:
English:



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Subject Name: English for Workplace

4. Let's Talk video: Making suggestions and recommendations:

<https://youtu.be/Bjglvhc6Hnc>

5. Online article: BBC - Agreeing and disagreeing:

<http://learnenglishteens.britishcouncil.org/exams/speaking-exams/agreeing-and-disagreeing>

6. Youtube video: Making, Accepting & Declining an Invitation in English.

<https://youtu.be/GqwpBEynsyo>

7. BBC video: Giving feedback - 18 - at Work:

https://youtu.be/UKz1Fsw_e8c

8. Online article: Effective Meetings:

http://people.ucalgary.ca/~design/engg251/First%20Year%20Files/effect_mee t.pdf

9. Youtube video: Useful Telephone Phrases: https://youtu.be/6tfFRD_e6V0

Unit 2 Writing for Workplace

1. Letter Writing
2. Email writing
3. Report writing
4. Writing Notices
5. Minutes of meeting

Recommended Readings/Viewings:

1. Online article: Letterbarn: Sample Employment and Workplace Letters: <http://letterbarn.blogspot.in/2008/12/sample-recruitment-letters-training-and.html>
2. Online article: Business letter examples: <https://www.thebalance.com/business-letter-examples-samples-and-writing-tips-2059673>



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Subject Name: English for Workplace

3. BBC Learning English video: Writing an Email- 18 - English at work:

<https://youtu.be/aO3Det4ir8U>



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Subject Name: English for Workplace

4. BBC Article: English Email:
for <https://learnenglish.britishcouncil.org/en/english-emails>
5. Blog: My School: How to write notice and circular:
<http://english-cbse.blogspot.in/2011/09/how-to-write-notice-and-circulars.html>
6. Online article: Drafting of Notices, Circulars, Minutes and Resolutions:
<http://www.yourarticlelibrary.com/business/reports/drafting-of-notices-circulars-minutes-and-resolutions/75904/>

Teaching Scheme:

Teaching Scheme (Hours per week)	Evaluation Scheme					Total Marks	
	Theory	ES E	IA	CS E	Viva		Term Work
2 Hours		00	30	20	25	25	100

1. IA will consist of the following components (30 marks):

a. Assignments (20 Marks): Students will prepare assignments as following.

Writing a letter, a circular, a notice and a minute of meeting on the givensubjects. (05 Marks each)

b. In-Class Participation (10 Marks)

2. CSE (20 marks):

Term End Simulation: Performing a simulated

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Workplace scenesituation and video/audio recording it. (20 Marks) on a given

3. **Viva (25 Marks):** Viva will be conducted at the end of the semester. It will be based on the CSE, Term Work, Assignments and topics covered in the syllabus.

4. **Term Work (25 Marks):**



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Subject Name: English through Movies

Term-End Presentation: Students will make a presentation based on topics provided by the faculty at the end of the semester.

Further Suggested Readings:

1. Cosgrove Anthony, *English at Work (with audio CD and practical language activities in the UK)*, Cambridge University, 2011
2. BBC video series on English at Work (45+ videos): Link:
https://www.youtube.com/playlist?list=PLcetZ6gSk969oGvAl0e4_PgVnlGbm64bp
3. FutureLearn course on English for Workplace:
Link: <https://www.futurelearn.com/courses/workplace-english/2/todo/10069>
4. Video conference on first day of joining:
<https://view.vzaar.com/9734063/video>
5. Maheshwari, *English at the workplace*, Laxmi Publication, 2006
6. MuktiSanyal, VarmaPromodini, *English at the Workplace II*, Oxford University Press, 2007
7. HelgesenMarc, Adams Keith, *Workplace English:Office File*, Longman, 1996
8. Schofield, James, *Collins Workplace English*, Harper Collins Publisher, 2012

Course Description

The course offers select English movies as a medium for teaching English language skills. Given that 'context' is a vital aspect for language learning, film as an audio-visual

'text' re-creates reality whilst presenting its viewers with demonstrations of varied

linguistic contexts. This course thus aims to create a sense of ease in learning English in a contextual manner. Moreover, the objectives of learning language are fluency and accuracy. These aims can be achieved



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best by various language contexts (situations) demonstrated in movies. Also, movies present language in a more accessible fashion for the students to easily acquire language skills.

Course Objectives

The course will enable the learners to

1. further enhance their basic language skills;
2. identify and use different language functions in an audio-visual context;
3. learn to use film and its elements as tools for language learning.

Unit 1: Language Functions, Contexts & Movies

In this unit, students will learn, understand, and explore English through clips from various selected movies. They will primarily study a number of language situations, as shown in the clips, in order to understand how English can be used in varying contexts. This unit aims to improve the students' basic language skills LSRW by dealing with

varying language activities by focusing on strengthening their vocabulary,

interpretation skills, reading non-verbal cues, pronunciations, and also their writing skills. Students would explore the following language activities in this unit:

1. Introducing the course
 - a. Instructors will introduce each film included in the syllabus along with a very brief background of the recommended movies, and



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- b. Students will be asked to list the kinds of movies they prefer and also provide a reason for their preferences
2. Focusing on dialogues and understanding parts of speech
3. Creative Writing: Making a pamphlet (for Continuous Semester Evaluation)
4. Reading nonverbal cues in context
5. Vocabulary building exercises – word meanings, making sentences & finding images and synonyms and antonyms
6. Interpreting dialogues & pronunciation
7. Daily Conversations

Recommended Web-links

1. www.fluentu.com/english/blog/learn-english-movies-film-esl/?lang=en
2. www.academia.edu/.../The_Impact_of_Using_Movies_on_Learning_English_language
3. <https://speechyard.com/us/video/>
4. <https://www.learnenglish.de/improveenglish/films.html>

Unit 2: Detailed Analyses of the Movies

Students would be asked to watch the selected movies and individual scenes in order to transcribe dialogues, respond to and discuss various issues dealt within the movies, answer questionnaires, and write movie reviews. They will also be asked to interpret the trailers of these movies and discuss them in groups. The following activities will be covered in this unit:

- a. Dialogue and monologue transcription
- b. Interpreting the trailers [Group discussion]
- c. Interpreting the scene(s) [Group discussion in context]
- d. Movie comprehension (a short film and a long scene will be played in class)
- e. Reading and Writing Movie reviews
- f. Describing/Discussing the posters of the movies,
- g. Describing characters & themes (Questionnaire)
- h. Giving feedback/expressing opinions.



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Subject Name: English through Movies

Recommended Web-links

1. <http://www.imdb.com>
2. <https://www.rottentomatoes.com/>
3. warmupsfollowups.blogspot.com/
4. www.learnenglishfeelgood.com/eslvideo/
5. <http://www.esl-galaxy.com/video.htm>

Evaluations and Assessment:

The evaluation and assessment would consciously

Teaching Scheme (Hours per week)	Evaluation Pattern					Total Marks
	ESE	IA (In-Class Participation & Assignments)	CSE	Term-End Presentation	Viva	
Theory						
2	00	30	20	25	25	100

1. IA (Internal Assessment): The IA consists of two components. First being the In-

Class participation of 10 marks. The second assignments consisting being three

prepared by students and submitted during the semester. It carries 20 marks. The list of three assignments is as follows:

- a. Transcribing a monologue of a major character (5 marks)
- b. Plot description on the basis of a trailer (5 marks)
- c. Comprehension of a short film/ long scene (10m)

2. CSE (Continuous Semester Evaluation): Students will be assigned a particular

film(s) for this endeavour. It carries 20 marks. Students will be given the topic by the end of the first fortnight of the semester. The details of the task are as follows:



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-
- a. Preparing a four-page pamphlet on the selected film, describing the production details, film synopsis, and other details.



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Subject Name: English through Movies

3. Term-End Presentation: They will be assigned two movies for the term-work. It carries 25 marks. The students will write two movie reviews. The reviews have to be handwritten. After the submission of the review file, they will be making a presentation of their written submission. The reviews carry 15 marks and the presentation will carry 10 marks.

4. Viva: It carries 25 marks. Viva will include questions on their term work on movie reviews. Out of 25 marks, 10 marks will be allotted for their term-work and 15 marks for their linguistic skills along with their understanding of the course materials.

Selected Movies

1. *Harry Potter and the Philosopher's Stone*. Directed by Chris Columbus, WarnerBros. Pictures, 2001.
2. *Paperman*. Directed by John Kahrs, Walt Disney Animation Studios, 2012.



3. *Steve Jobs*. Directed by Danny Boyle, Universal Pictures, 2015.
4. *The Social Network*. Directed by David Fincher, Columbia Pictures, 2010.
5. *WALL-E*. Directed by Andrew Stanton, Walt Disney Pictures & Pixar Studios, 2008.



10.

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PROGRAM	Bachelors Of Business Administration
SEMESTER	III
COURSE TITLE	Marketing Management
COURSE CODE	04BB0301
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Comprehend Fundamental Marketing Concepts and marketing environment.
- Apprehend the concepts of Basic 4Ps of Marketing.
- Understand and apply the concepts of Segmenting and Targeting Customers.
- Comprehend various channels of distribution and various means of promotion.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO MARKETING MANAGEMENT Introduction to marketing management – Need of marketing management, Definition, Scope, Core Marketing concepts, Understanding – Needs, Wants and Demand, Customer Value & Satisfaction, Functions of marketing, Eras in marketing, Marketing environment, Marketing mix , Role of marketing manager.	08
II	CONSUMER BEHAVIOUR & SEGMENTATION Understanding Consumer behaviour, Factors affecting Consumer Buying Decisions, Consumer Buying Process, difference between Consumer buying and Industrial buying. Introduction to Segmenting, Concept, Importance and Bases of segmentation, Targeting & Positioning, Product differentiation.	10
III	PRODUCT AND PRICE Understanding Product and its importance, Product Levels, Product mix, Branding, Product Life Cycle & Strategies at various levels, New Product Development, Overview of Packaging, Introduction to Service marketing, SERVQUAL Pricing: Introduction to Pricing, Factors affecting Pricing and Strategies for Pricing.	10
IV	DISTRIBUTION Introduction to Distribution – Meaning and Importance, Channels of Distribution, Channel members, Wholesaling and Retailing, Introduction to Logistics.	08

V	PROMOTION Introduction to Promotion – Types, Scope, Tools, Advertising – Roles, 5MS; Personal selling, Public relations, Direct Marketing & sales promotion – concept and characteristics. Brief introduction to Latest trends in marketing (Online Marketing - Green marketing and Rural Marketing)	10
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Philip Kotler & Kevin Lane Keller	A Framework for Marketing Management	Pearson Education.	Sixth Edition (2016)

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Philip Kotler; Kevin Lane Keller; Abraham Koshy; MithileshwarJha	Marketing Management: A South Asian Perspective	Pearson Education	Latest Edition
R-02	Tapan Panda	Marketing Management	Excel Books	Latest Edition
R-03	Rajan Saxena	Marketing Management	TMGH	Fourth Edition

PROGRAM	Bachelors Of Business Administration
SEMESTER	III
COURSE TITLE	Human Resource Management
COURSE CODE	04BB0302
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Explain the importance of human resources and their effective management in organizations.
- Analyze the key issues related to administering the human elements such as recruitment, training, compensation, management development and employment relations.
- Understand the process of job analysis and appreciate its importance as a foundation for human resource management practice.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction: An Introduction to Human Resource Management, characteristics and significance of HRM, Skills and Competencies of a Human Resource Manager, changing skill requirement, changing employee expectations, Challenges faced by HR managers.	08
II	Procurement: Human Resource Planning, process and significance, job analysis – job description and job specification, Recruitment - Selection – Placement and Induction, HRM Workshop: Linking Concepts to Practice.	12
III	Development: Identification of training needs, Methods of training, Difference between Training & Development. Introduction to Management Development, DO YOU KNOW?: Where Are the Jobs?(class discussion).	10
IV	Compensation: Introduction - Basic factors in determining pay rates, Basic, Supplementary and Executive Remuneration, types of employee benefits and services, Ethical issues in Compensation Management: <i>Discussion</i> .	10
V	Employment Relations: Employee Relationship Management– Definitions and Main Aspects, Industrial Disputes & Conflicts, Contemporary issues in Human Resource	08

	Management.	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Pravin Durai	Human Resource Management	Pearson: Dorling Kindersley (India)	4th

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	K. Aswathappa	Human Resource and Personnel Management, Text and Cases	Tata MC Graw-Hill	6 th , 2010
R-02	Gary Dessler & BijuVarkkey	Human Resource Management	Pearson	14 th , 2016
R-03	V.S.P. Rao	Human Resource Management - Text and Cases	Excel Books	2006

PROGRAM	Bachelors Of Business Administration
SEMESTER	III
COURSE TITLE	Business Environment
COURSE CODE	04BB0303

COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the meaning and relationship of environment and business
- Know the characteristics of modern business
- Explain the competitive structure of an industry

Course Contents:

Unit No.	Unit / Sub Unit	Sessions
I	INTRODUCTION TO BUSINESS ENVIRONMENT Introduction to Business environment - salient features – importance - internal & external environment –Macro & Micro Factors(SWOT Analysis- Firm Specific) environment scanning: features - process & techniques -Social and Cultural Factors, Business Environment with reference to global integration, ecological environment protection Act	10
II	ECONOMIC ENVIRONMENT & POLITICAL ENVIRONMENT Political structure: Legislature institutions – executive institutions – judiciary institutions - Economic systems: capitalism, socialism; mixed economy, mixed economy of India; LPG - Liberalization, Privatization & Globalization and its impacts –Highlights of New industrial policy & its implication in India –Fundamentals of fiscal policy.	10
III	TECHNOLOGICAL & LEGAL FRAMEWORK Impact of Technology on Business –Overview of Technological Policies- ISO standards- Bureau Of Indian Standards–Important features of Intellectual property rights – Trademarks –The Competition Act 2002: Basics of Foreign Exchange Management Act 1999 (FEMA): Features – objectives - application of the Act - FEMA Vs FERA.	10
IV	SOCIAL ENVIRONMENT Business and Society, Changing Concepts and objectives of Business, Interdependence of business and society, technological development and social change, Consumers' rights & consumerism, Consumer protection Act; corporate governance.	10
V	INTERNATIONAL BUSINESS ENVIRONMENT Importance of International Business, Types of International Business, Protectionism, EXIM policy, EPZs, EOUs, SEZ, WTO, regional blocks.	8

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
1	Francis Cherunilam	Environment For Business	Himalaya Publishing House	2 nd edition 2011

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
1	Mishra, S.K. and Puri V.K	Economic Environment of Business	Himalaya Publishing House	1 st - 2011
2	Paul Justin	Business Environment-Text and Cases	TATA McGraw Hill Publishing	3 rd - 2010
3	Vivek Mittal	Business Environment	Excel Books	2 nd - 2010
4	Raj Agarwal	Business Environment	Excel Books	5 th - 2002
5	Francis Cherunilam	Business Environment, Text & Cases	Himalaya Publishing House	25 th - 2016
6	Aswathappa K	Essentials of Business Environment	Himalaya Publishing House	13 th - 2016
7	Morrison J	The International Business Environment	Palgrave	2 nd - 2006
8	Richard G. Lipsey	An Introduction to Positive Economics	ELBS, Oxford	7 th - 1989

List of Journals /Periodicals/ Magazines/ Newspapers etc.

1. International Journal of Business Environment

2. International Journal of Entrepreneurship & Business Environment Perspectives
3. Journal of World Business
4. Economic & Political Weekly
5. Intellectual Property Rights
6. Corporate Governance
7. Business India / Business World
8. Banking & Finance
9. Industrial Economist
10. Fortune, Global Business Review,
11. Economic Survey- GOI
12. World Development Report
13. India Development Report (Latest Edition)
14. RBI Annual Report, etc

PROGRAM	Bachelors Of Business Administration
SEMESTER	III
COURSE TITLE	Research Methodology
COURSE CODE	04BB0304
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Gain basic knowledge on research methods.
- To make decisions based on actual business conditions using statistical method.
- Demonstrate knowledge in different types of research methods and techniques.
- Perform statistical analysis and compile structured reports that reflect appropriate decision making.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	RESEARCH PROCESS – 1 Objective, Introduction, Scope of Business Research , Managerial value of Business Research, Business Research in a Global context , Ethics and Business Research , Types of Business Research, Stages in Research Process , Importance and criteria of Good research, Need for Research Design, Features of good research design.	12
II	RESEARCH PROCESS – 2 Introduction to Qualitative and Quantitative Research, Sampling Design – Census and Sample survey, Characteristics of good sample design, Sampling Methods – Random sampling and non-random Sampling.	06

	Sampling and non-sampling Errors , sample size determination.	
III	DATA COLLECTION, MEASUREMENT AND SCALING Data collection methods – Primary and Secondary Data , Measurement in Research, Measurement Scale, Meaning of Scaling, Scaling Techniques and it's construction , Questionnaire Design, Developing Measurement Tools using Excel functions.	12
IV	PROCESSING AND ANALYSIS OF DATA Measures of Relationship – Simple Correlation and Simple Regression Analysis, Formulation and statement of hypothesis, confidence interval, Type-I error, Type-II error, one-tailed , two tailed, , Testing of hypothesis(population mean and population proportion for single population)	12
V	PREPARING REPORTS Technical and Academic Report Writing, Significance of Report writing, Layout of Research Report, Precaution for writing Research Report and Conclusion.	06

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
TEXT BOOKS:-

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Deepak Chawla & Neena Sodhi	Research Methodology, Concepts And Cases	Vikas Publication	2/e,2016

REFERENCE BOOKS:-

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Naval Bajpai	Business Research Methodolgy	Pearson Education	1/e,2011

R-02	Cooper And Schindler	Business Research Methods	Mcgraw-Hill Publication	12/e,2014
R-03	D.K. Bhattacharya	Research Methodology	Excel Books	2/e,2006
R-04	J K Sachdeva	Business Research Methodology	Hph	2/e,2011
R-05	Uma Sekaran & Roger Bougie	Research Methods For Business – A Skill Building Approach	Wiley	6/e,2013
R-06	Naresh K Malhotra	Marketing Research	Pearson Education	5/e,2007

PROGRAM	Bachelors Of Business Administration
SEMESTER	III
COURSE TITLE	Financial Management
COURSE CODE	04BB0305
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand how to maximize shareholders value by applying various financial decision.
- Compute cost of capital, capital budgeting, dividend decision and working capital.
- Learn various sources of finance.
- Understand capital structure theories and its importance.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Financial management: Meaning, Nature and Scope. Functions and objectives. Wealth Vs. Profit Maximization; Role of Finance Manager in 21 st Century. Time Value of Money: Concept, Compounding, Discounting and Annuity (Numerical).	8
II	Financing Decision: Sources of Financing – Equity, preferred and debt capital. Cost of Capital: Cost of equity, preferred and debt capital, weighted average cost of Capital (WACC). Capital Structure – determinants, theories – NI, NOI &; MM Hypothesis. Leverage – Operating, financial &; combined.	12
III	Investment Decision: Nature of investment decisions; different types of investment; investment	12

	appraisal methods – Non discounting cash flow methods (Payback period, ARR) and discounting cash flow methods (NPV, IRR & PI).	
IV	Dividend decisions: Types of dividend, dividend distribution practices, Walter's, Gordon's & MM dividend models; principles of dividend policy. Dividend payment practices in corporate India.	6
V	Working Capital: Meaning, significance and classification. Financing & sources of working capital; estimation of working capital requirement, operating cycle period. Basic concepts of cash, receivables, & inventory management. New dimensions in management of working capital in modern era.	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Prasanna Chandra	Financial Management – Theory & Practices	New Delhi, TMH	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	I.M. Pandey	Financial Management	Vikas Publication	Latest Edition

R-02	M.Y. Khan and P.K. Jain	Financial Management – Text, Problems & cases	New Delhi, TMH	Latest Edition
R-03	Rajiv Srivastava and Anil Sharma	Financial Management	Oxford University Press	Latest Edition
R-04	Horne, James C Van.	Financial Management And Policy	Phi Learning Pvt Ltd	Latest Edition

PROGRAM	Bachelors Of Business Administration
SEMESTER	III
COURSE TITLE	Business Laws
COURSE CODE	04BB0306
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Explain the basic elements of forming an enforceable contract and agreement.
- Classify various negotiable instruments and reason of its dishonor.
- Enumerate the types of companies its management and its rules of corporate governance.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INDIAN CONTRACT ACT, 1872 GENERAL PRINCIPLE OF LAW OF CONTRACT Introduction, Object of the Law of Contract, Nature of Contract, Essential elements of a Valid Contract, Classification of Contract and Kinds of Contracts, offer and acceptance, Consideration, Capacity to Contract, Free Consent, Performance of Contract, Distinguish between Agreement and Contract, Discharge of Contract, Remedies for breach of Contract, Quasi Contract.	10
II	SALE OF GOODS ACT, 1930 Introduction, Formation of Contract of Sale and its features, Condition and warranties, Caveat Emptor, performance of contracts, Rights of an unpaid seller, remedies for breach of contract of sale, Finder of loss goods, Auction sale.	10

III	NEGOTIABLE INSTRUMENTS ACT,1881 Definition, Introduction, Characteristics and Types of Negotiable Instruments, Essential elements of negotiable instruments, parties to negotiable instruments, Dishonor and Discharge of Negotiable instrument.	10
IV	COMPANIES ACT, 2013 - I Introduction, Historical development of company law in India, Types of Companies, Registration of Companies, Memorandum of Associations, Article of Associations, prospectus.	10
V	COMPANIES ACT, 2013 - II Type of Meetings, Directors, Appointment and removal of Directors, Board of directors, Rules of corporate governance related to business of company, NCIT (National Company Law Tribunal), NCLAT (National Company Law Appellate Tribunal) , Special Courts with major amendments.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books :

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M. C. Kuchhal	Mercantile Laws	Vikas Publication	Latest Editions
T-02	N. D. Kapoor	Elements of Business Law	Sultanchand and sons.	Latest Editions

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication

R-01	S.S.Gulsan	Business Law	New Age International Publishers	Latest Edition
R-02	Avtar Singh	Business Law	Eastern Book Co.	Latest Edition
R-03	Desai T.R	Indian contract act, sale of goods act, partnership act	Universal Law Publications	Latest Edition
R-04	Munish Bhanderi	Corporate Law Allied	Best world's	Latest Edition

PROGRAM	Bachelors Of Business Administration
SEMESTER	III
COURSE TITLE	Fundamentals of Digital Marketing
COURSE CODE	04BB0307
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

COURSE OUTCOMES:

- Detail what is meant by the term 'digital marketing'
- Understand the role of digital marketing in any product / service / concept
- Detail the steps of marketing online
- Show how some of the technologies detailed in the course are used in concert to realise a typical marketing situation

Course Contents:

Unit	Unit / Sub Unit	Sessions
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No		
I	OVERVIEW OF DIGITAL MARKETING Introduction to Digital Marketing : history – importance - good practice in Digital Marketing –Critical issues & challenges – applications of Digital Marketing in development of brands, driving sales, encouraging product and service development and innovation – digital marketing as an aid for recruitment and training	08
II	WEB MARKETING Bookmarking and News Aggregators, Really Simple Syndication (RSS), Blogging, Live Chat, User Generated Content (Wikipedia etc), Multi-media - Video (Video Streaming, YouTube etc), Multi-media - Audio & Podcasting (iTunes etc), Multi-media - Photos/Images (Flickr etc), Google Alerts and Giga Alert (Brand, product and service monitoring online) Crowd sourcing, Virtual Worlds (Second Life, There, Habboetc)	08
III	SEARCH ENGINE OPTIMISATION (SEO) Basics & working of Search Engines - Popular Search Engines. Crawlers / Spiders, Visibility on Search Engines Meta Tag Optimization, Image optimization, Creating/uploading Robots file, Creating/uploading HTML & XML Sitemap, Bold & Italic Tag - Page Rank - 404 Error Redirects, 301 / 302 redirection, Competitor analysis, Pre/post-website analysis, Alexa report, Some Common SEO tools & plug-ins, Anchor Text, Heading tag,	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Ian Dodson	The Art of Digital Marketing: The Definitive Guide to Creating Strategic, Targeted, and Measurable Online Campaigns	Wiley	2016

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Philip Kotler	Marketing 4.0 : Moving from Traditional to Digital	Wiley	2016
R-02	Ryan Deiss	Digital Marketing for Dummies	John Wiley & Sons	2015

PROGRAM	Bachelors Of Business Administration
SEMESTER	IV
COURSE TITLE	Production & Operations Management
COURSE CODE	04BB0401
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the relevance of production and operations management in industry.
- Apply the techniques of inventory management and quality management.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction: Meaning, Nature and Scope of Production and Operation Management, Types of production processes	08
II	Plant location and Lay out: Factors considered in location, Types of Layout , PPC (Only concept)	10
III	Materials Management: Importance of Materials Management, Concept of purchasing, principles of purchasing and process of purchasing. Types of purchasing: Inventory management, its prime importance, Inventory Control Techniques - ABC, FSN, GOLF, VED, SOS (only concepts).	12
IV	Methods Study & Maintenance Management: Methods Study, Work Study and Time Study: (only Concept), Maintenance Management: Need of maintenance management, Types of maintenance management	10
V	Quality Management: lean manufacturing, JIT, Kaizen, ISO series, TQM	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	K. Aswathappa and K. Shridhara Bhat	Production and Operation Management	Himalaya Publishing House	Second Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	S.A.Chunawalla and D.R. Patel	Production and Operation Management	Himalaya Publishing House	Ninth Edition
R-02	Kanishka Bedi	Production and Operation management	Oxford higher education	Second Edition
R-03	Mahadevan B	Operations Management	Pearson Education	Second Edition

PROGRAM	Bachelors Of Business Administration
SEMESTER	IV
COURSE TITLE	Management Information System
COURSE CODE	04BB0402
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Comprehend types of MIS applications in organizations
- Deliberate the expansion of management information systems in organizations.
- Critically evaluate security challenges associated with the use of Information system.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Management Information Systems: Meaning of information system, difference between information and data, Role	10

	and Importance MIS in modern business. Types of decisions and the use of information system.	
II	Types of Information system Transaction processing system, Office Automation system, Management Information system, Decision support system, Executive support system, Group decision support system, Geographic Information system	10
III	Enterprise Resource Planning and Enterprise Applications Meaning of ERP- Its role in modern organization, merits and demerits. Enterprise Applications- Customer relationship management systems, supply chain management systems, Knowledge Management system and its role in modern business.	10
IV	Networks and its types Types of Network, LAN, WAN, MAN, CAN, PAN. Its advantages and disadvantages, Topologies, communication medium, wired and wireless networks, Meaning of internet and intranet and the difference between the two.	10
V	Security challenges in India Types of computer crimes, sources of information technology vulnerabilities. Remedies for preventing unauthorised use of information technology Challenges faced by working population- working conditions, individual's health and social issues.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Laudon, Kenneth C. and Laudon, Jane P	Management Information Systems: Managing the Digital Firm	Pearson Education	13 th edition 2014

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	Jawadekar, W. S	Management Information Systems	Tata-McGraw Hill	2nd edition ,2002
R-02	O'Brien J.	Management Information Systems – Managing Information Technology in the Business Enterprise	Tata McGraw Hill	11 th edition, 2011
R-03	McLeod, Raymond and Schell, George P	Management Information Systems	Pearson Education	9th edition, 2012

PROGRAM	Bachelors Of Business Administration
SEMESTER	IV
COURSE TITLE	Income Tax Law And Practice
COURSE CODE	04BB0403
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the residential status and tax incidence based on it
- Calculate income under all the five heads of Income
- Gain knowledge regarding the exempt income
- Gain knowledge regarding the deductions from total income
- Calculate tax payable on taxable income
- Understand the concept of tax deduction and tax collected at source

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION, RESIDENTIAL STATUS AND EXEMPT INCOME Levy of income tax - Rates of tax & slab - Important Definitions - Relevance and significance of residential status - Types of residential status and its Determination - Incidence of tax based on residential status - Income which do not form part of total income - Conditions to be satisfied for availing exemptions	05
II	INCOME UNDER THE HEAD SALARY & INCOME FROM HOUSE PROPERTY Definition of Salary – Chargeability - Treatment of various	15

	<p>Allowances - Perquisites and their valuation - Deductions from gross Salary - Retirement benefits - Provisions regarding Provident Fund - Computation of taxable salary (Practical Problems)</p> <p>Chargeability of income from house property - Composite rent - Annual value and its determination - Deductions from annual value - Deemed ownership - Computation of taxable income under this head (Practical Problems)</p>	
III	<p>INCOME UNDER PROFITS AND GAINS OF BUSINESS AND PROFESSION & INCOME FROM CAPITAL GAIN Meaning of Business and Profession – Chargeability of income from profits and gains of business and profession - Allowable expenses – Expressly disallowed expenses - Deemed profits and incomes - Computation of taxable income under this head (Practical Problems)</p> <p>Chargeability of income from capital gain - Capital asset – Transfer - Short term and Long term capital assets - Short term and Long term capital gain - Exemptions from long term capital gain - Computation of capital gains (Practical Problems)</p>	16
IV	<p>INCOME FROM OTHER SOURCES AND DEDUCTIONS FROM GROSS TOTAL INCOME Income taxable under other sources - Deductions allowed - Inadmissible deductions - Computation of taxable income from other sources (Practical Problems)</p> <p>Chapter VI-A deductions from the gross total income [Section 80C to 80U] -</p>	08
V	<p>TAX PAYABLE, TAX DEDUCTION AT SOURCE & ADVANCE TAX Calculation of taxable income and tax payable</p> <p>Deduction of tax at source under various sections [only those applicable to individual] – Concept of tax collected at source – Liability for payment of advance tax and due dates</p>	04

Note: Any change in the provisions of Income Tax Act, 1961 as per budget or otherwise, shall be respectively made applicable to the syllabus. The syllabus of an academic year shall be the provisions of the relevant Assessment Year.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Dr. V. K. Singhania and Dr. Monica Singhania	Students' guide to Income Tax (University Edition)	Taxmann	Latest
T-02	Dr. Girish Ahuja and Dr. Ravi Gupta	Direct Tax Law and Practice	Bharat Publication	Latest
T-03	CA. T. N. Manoharan	Direct Tax Laws	Snow White Publication	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Dr. Girish Ahuja and Dr. Ravi Gupta	Practical Approach to Tax Laws and Practice	Bharat Publication	Latest
R-02	Dr. V. K. Singhania and Dr. Monica Singhania	Students' guide to Income Tax	Taxmann	Latest
R-03	Gaur, V. P. & Narang, B. K.	Income tax Law and practice	Kalyani Publishers, New Delhi	Latest
R-04	Prasad, B.	Income tax Law and practice	New Age Publications	Latest
R-05	B.B. Lal and N. Vashisht	Direct tax	I. K. International Publishing House	Latest

PROGRAM	Bachelors Of Business Administration
SEMESTER	IV
COURSE TITLE	Indian Financial System
COURSE CODE	04BB0404
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- To understand the fundamentals of financial markets.

- To examine impact factors of Money Market, Capital Market & Foreign Exchange Market
- To appreciate the Need and Working of Financial Intermediaries.
- To recognize the importance and various functions of Market Regulation

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Indian Financial System Structure of Financial System, Instruments of Financial System, organised and unorganised Financial System; Components: Financial Assets, Financial Intermediaries, Financial Markets (money and capital markets in India) Relevance of various interest/return rates, Regulatory framework,	10
II	Role of Financial Institutions in Indian Financial System Financial Institutions and its meaning, Functions and Role of Financial Institutions; Money market institutions: Meaning, Role of the Central Bank(RBI) in money markets; Commercial banks: Meaning and Functions; Indigenous Financial Agencies: Bankers, Money lenders, Discount houses, Accepting houses(only meaning and features); Capital Market institutions: (Meaning and functions) Merchant Banks, Investment companies, Management Investment companies, Development banks, Mutual Funds ; Special Financial Institutions: Factors for their growth (need) ; Objectives and functions of: (1) IDBI (2) IFCI (3) SFCs (4) ICICI (5) EXIM Bank of India; Non-Banking Finance Companies: Meaning, Role, Types of NBFC services; Functions SEBI.	10
III	Financial Instruments Financial Instruments Meaning, importance and classification of Financial instruments; Short-term, Medium-term and Long Term Instruments; Primary and Secondary Securities; Innovative Instruments	10
IV	Functions of Financial Markets in India Financial Market in India: Capital Market, Money Market: meaning, function, types.	08
V	Meaning and Importance of Financial services in India Meaning, importance and types of Financial Services; 1. Factoring: Meaning, Types, costs and benefits of factoring 2. Leasing: Meaning, Definition, advantages to lessor and lessee, types of leases (operating, finance, leveraged, sales and lease-back, leveraged and cross-border.) 3. Underwriting: Meaning and benefits 4. Credit Rating Agencies: Meaning and role of such agencies. A brief idea about: CRISIL, CARE ICRA. 5. Others: A brief idea about: NSDL, STCI.	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Khan M. Y	Indian Financial System	Tata McGraw Hill	7 th edition 2014
T-02	Vasant Desai	The Indian financial system and Development	Himalaya Publishing House	5 th edition 2017
T-03	Pathak B. V.	Indian Financial System	Pearson	4 th edition 2014

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	Bhole L. M. & Mahakud J	Financial Institutions and Markets: Structure, Growth & Innovations	Tata-McGraw Hill	8 th edition ,2012
R-02	Khan M. Y	Financial Markets and Institutions	Tata McGraw Hill	5 th edition, 2010
R-03	Khan M. Y	Financial Services,	Tata-McGraw Hill	6 th edition, 2011
R-04	C.Sudarsana Reddy	Financial Management- Principles and Practice,	Himalaya Publishing House	1 st edition, 2010

PROGRAM	Bachelors Of Business Administration
SEMESTER	IV
COURSE TITLE	Entrepreneurship
COURSE CODE	04BB0405
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Comprehend Fundamental Concepts for starting the business
- Apprehend the concepts of industrial environment and preparing a business plan.
- Understand available sources for raising funds for start-ups.
- Comprehend various challenges and possible solutions for starting a business units.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	ENTREPRENEURSHIP - AN INTRODUCTION Meaning & Definition of Entrepreneurship, Common History & Entrepreneurial Characteristics, Required skills of an Entrepreneurs, Entrepreneurial Process, Role of Entrepreneurship in Economic Development of the Nation, Advantages & Drawbacks of Entrepreneurship, Introduction to Intrapreneurship	10
II	UNDERSTANDING INDUSTRIAL ENVIRONMENT: Industry - Large Scale - Small Scale - Tiny - Ancillary - Cottage, Challenges for Small Scale Industries, Registration process of SME, Definition & Symptoms of industrial sickness and suggested remedies for sick units, Domestic & International Entrepreneurship Options	12
III	PREPARING BUSINESS PLAN: Generation of Project Ideas, Sources of Business Ideas, Methods to generate business ideas , Feasibility Analysis: Economic, Managerial competency. Marketing, Financial & Technical, Environmental Scanning and SWOT analysis. Structure of a business plan, Importance of Business Plan, process of Preparation of Business Plan.	10
IV	SOURCES OF FINANCE FOR BUDDING ENTREPRENEURS: Debt V/S Equity, Internal V/s External Funds, Options for Borrowing Funds, Various Financial Institutions Supporting entrepreneurial activities, Introduction to Venture Capital Funding, Managing Growth	08
V	SUCCESS & FAILURE STORIES OF ENTREPRENEURSHIP: Discussions of various business stories & Cases of Successful Businesses, Lessons to be learnt from various organizational	08

	failures Launching the New Venture: Choosing the legal form of new venture, protection of intellectual property, and marketing the new venture	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Kumar Arya	Entrepreneurship	Pearson Education.	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	Desai Vasant	The Dynamics of Entrepreneurial Development & Management	Himalaya Publishing House	Latest Edition
R-02	K Ramchandran	Entrepreneurship – Indian Cases on Change Agents	TMGH	Latest Edition
R-03	Rashmi Bansal	Stay Hungry Stay Foolish	IIM Ahmedabad CIIE publication	-

PROGRAM	Bachelors Of Business Administration
SEMESTER	IV
COURSE TITLE	Management Of Services
COURSE CODE	04BB0406

COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand service marketing and utilize them effectively in managing products and people to achieve organizational objectives.
- Apply knowledge of models and theories to promote the effectiveness in workplace

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO SERVICES: Introduction to Services, Nature & Characteristics of Services, Classification of services, Consumer Versus Industrial Services	06
II	SERVICES MARKETING MIX : Introduction to the 7P's of Service Marketing, Product-Service Continuum, Standalone service Products, Service Products bundled with tangible Products	08
III	CUSTOMER SATISFACTION & SERVICE QUALITY Monitoring and measuring customer satisfaction, Order taking and Fulfillment, Service Guarantee – Handling complaints effectively, Defects, failures & Recovery, Service Quality Models – GAPS Model & SERQUAL	10
IV	TECHNOLOGY & SERVICE STRATEGY : Applying Technology to service sittings, e- services, Global and Indian Scenario in service sector, Importance of Service marketing, Every business is a service business, Service as a key differentiator	08
V	TYPES OF SERVICES : Introduction to Various Service Sectors : Hospitality; Transportation; Tourism; Information Technology; Banking & Insurance; Telecom ; Entertainment	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)

B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Zeithaml, Bitner, Gremler & Pandit	Services Marketing	McGraw-Hill	Latest Publication
T-02	R. Srinivasan	Services Marketing	Prentice-Hall of India	Latest Publication

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	Christopher Lovelock	Services Marketing	Pearson	Latest Publication
R-02	Rampal & Gupta	Services Marketing	Galgotia	Latest Publication

PROGRAM	Bachelors Of Business Administration
SEMESTER	IV
COURSE TITLE	Basics of French Language
COURSE CODE	04BB0407
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the basics of French Language.
- Start basic conversations using French Language

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION Introduction – Greetings – Alphabet- Definite Articles - Indefinite Articles - Gender - Colour - Demonstrative Pronouns - Numbers (0 to	08

	60) - Numbers (61 to 100) - Time Telling – 1 - Time Telling – 2 - Days and Months - Family Members & Possessive Adjectives	
II	GRAMMER - I To have & To be - To go & To call - 1st Group Verbs with 'er' - 2nd Group Verbs with 'ir' - Irregular Verbs- Negative Sentences – 1 - Negative Sentences – 2	08
III	GRAMMER - II Numbers (Singular-Plural) – Prepositions - Future Proche - Future Simple - Passé imparfait - Le conditionnel - Yes/No Questions - WH Questions - Pasa Compose – 1 - Pasa Compose – 2 - Past Simple - Les nationalités et Professions – Les présentations oral - Les présentationsécrit	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	J. Girardet	A1 ECHO Methode de francaise	CLE International	Latest
T - 02	J. Girardet	Cahier Personnel D'apprentissage	CLE International	Latest

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Operations Research
COURSE CODE	04BB0501
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

Understand and Formulate decision problem as mathematical model and solve using appropriate operations research technique.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	<p>Basics of Operations Research (OR) Introduction, Concepts, Definition, Characteristics, Potential Applications, Steps in OR Problems, Basic Operations Research Techniques, Role of Computers in OR</p> <p>Linear Programming Problem (LPP) 1 – Formulation: Introduction to Linear Programming, Applications of LPP, Requirements and Assumptions Underlying LPP, Generalized Linear Programming Problems, LPP Model Formulation – Maximization and Minimization Problems (Max 3-Variables and 4-Constraints)</p> <p>Linear Programming Problem (LPP) 2 – Graphical Method: Concept of Feasible Region, Solution of LP Problems using Graphical Method, Maximization and Minimization Problems (Max 4-Constraints), Special Cases in LPP – Multiple or Alternate Optimum Solutions, Unbounded Solution and Infeasible Solution</p> <p><i>Note: Constraints of all types (Less than type, Greater than type and combination of both the types) should be covered</i></p>	12
II	<p>Linear Programming Problem (LPP) 3 – Simplex Method: Simplex Method – Only Maximization LPP, Two or three Variables and Two Constraints (Max Three Iterations), All Constraints to be Less Than or Equal To type Concept of Slack Variable, Unique or Alternate Optimal Solution, Shadow Prices of Resources, Utilized and Unutilized Capacity of Resources</p> <p>Concept of Duality: Introduction to Duality, Relation between Primal Problem and Dual</p>	10

	LPP, Conversion of Primal Problem to Dual LPP, <i>Note: Mixed-constraints and Unrestricted Variables, Max 3-Variables and 3-constraints</i>	
III	Transportation Problem (TP) Introduction, Structure of TP, Solution of TP – Initial Feasible Solution (IFS) using North West Corner Method (NWCM), Least Cost Method (LCM) and Vogel's Approximation Method (VAM), Finding Optimal Solution using MODI Method, Types of Transportation Problem – Balanced and Unbalanced, Minimization and Maximization, Case of Degeneracy and Prohibited or Restricted Route, Unique Optimum Solution and Multiple Optimum Solutions <i>Note: Max 4X4 Transportation Matrix, MODI Method - Maximum One Iterations after IFS, Degeneracy to be covered at Conceptual Level, Not to be Included in Numerical</i>	10
IV	Assignment Problem (AP) Introduction, Structure of AP, Solution of AP using Hungarian Method, Types of Assignment Problems - Balanced and Unbalanced, Minimization and Maximization, Restricted Assignment, Unique Optimum Solution and Multiple Optimum Solutions, Travelling Salesman Problem <i>Note: Max 5X5 Assignment Matrix, Maximum Two Iterations after Row and Column Minimization</i>	08
V	Probabilistic Operations Research Models Waiting Line Models: Queuing Models – Concepts, General structure of a queuing system. Single-channel queuing model: Poisson-distributed arrivals and exponentially distributed service times with infinite source population. M/M/1 queuing models. Digital Simulation: Introduction, Areas of Applications, Steps involved in Monte Carlo Simulation, Application of Simulation Method, Advantages and Disadvantages of Simulation, Application in Queuing, Inventory, Profitability and Investment problems	08

Note: Guidelines for the Faculty

Instructor is required to demonstrate solution of OR problems using QM for Windows Software. Not to be included for assessment / examination

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition &Year of Publication
T-01	J K Sharma	Operations Research	Laxmi Publication	6 th ed.,2017

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	N D Vohra	Quantitative Techniques in Management	Tata McGrawHill	4 th .ed.,2010
R-02	V K Kapoor	Operations Research	Sultan Chand and Sons	7 th .ed.,2001

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Strategic Management
COURSE CODE	04BB0502
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Differentiate between strategies made at different levels of organization.
- Create & implement strategy formulation at various levels of management

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction:	8

	Strategy – Introduction to Strategy, Levels of Strategy, Difference between Policy, Strategy and Tactics. Vision, Mission & goals (Concept & difference) Strategic Management – Definition, Process of Strategic Management.	
II	Environment Analysis: Concept of Environment – Internal & External. SWOT Analysis, Environmental Sector, Environmental Scanning. Internal Environment – Factors & Methods of analysis – Internal, Comparative & Comprehensive Analysis.	10
III	Strategy Formulation – Business Level Strategy & Functional Level Generic Business Level Strategy – Cost Leadership, Differentiation & Focus – Business Strategy for different industry conditions. Functional Plans & Policies – Financial – Marketing – Operations – Personnel.	10
IV	Strategy Formulation – Corporate Level Strategy Concentration – Integration – Diversification – Internalization Strategies – M&A, Joint Venture, Strategic alliance. Digitalization Strategies - Retrenchment & Restructuring (Only concepts).	10
V	Strategic Implementation evaluation & Control: Strategy Implementation - Nature & Barrier to strategy implementation – Strategic Leadership – Strategic Control – Operational Control – Techniques of Strategic Evaluation & Control	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Azhar Kazmi	Strategic Management and Business Policy	Tata McGraw Hill Publications	3 rd Edition
T -02	Subba Rao	Strategic Management	Himalaya Publication	2 nd Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	John A. Pearce II, Richard B. Robinson Jr. and Amita Mital	Strategic Management	Tata McGraw Hill Publications	8 th Edition
R-02	Adrian Haberberg and Alison Rieple	Strategic Management	Oxford University Press	1 st Edition
R-03	V S Ramaswami, S Namaumari	Strategic Planning & Formulation of Corporate Strategy	Macmillan, India	1 st Edition

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Project Management
COURSE CODE	04BB0503
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Analyze the project idea for better selection.
- Identify the completion of project in a better control way.
- Understand the topics like planning, selection and implementation.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Project: Introduction, Characteristics of a project, element of a project, target and needs of a project, types of projects, functions of project manager, project management body of knowledge, benefits of project management.	9
II	Idea Generation and Initiation: Generation and Screening of Project Ideas, Market and Demand Analysis, Technical Analysis, Financial Estimates and Projections,	10

	Project Life Cycle.	
III	Project Planning and Selection: Project Scope, Scope of a Project and Scope Verification, SWOT Analysis, Organization Structure, Work Breakdown Structure, Project Selection Methods.	10
IV	Project Implementation: Estimation, Scheduling, Network Techniques for Project Management- CPM & PERT (only network diagram and Critical path identification), Project Risk, Project Communication.	10
V	Project Closeout: Project Evaluation, Project Auditing, Project Closeout Reports, Project Review and Administrative Aspects.	9

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Kamaraju Ramakrishna	Essentials of Project Management	PHI Learning Private Limited	2010
T-02	Prasanna Chandra	Projects: Planning, Analysis, Selection, Financing, Implementation and Review	McGraw Hill Education.	8 th Edition 2014

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	SitangshuKhatua	Project Management and Appraisal	Oxford Higher Education	2011
R-02	Clifford F Gray, Erik W Larson	Project Management-The Managerial Process	McGraw Hill Education (India) Pvt. Ltd.	6 th , 2014

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Brand India : From Local to Global
COURSE CODE	04BB0504
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

COURSE OUTCOMES:

- To understand key elements in building and maintaining brands and brand equity.
- To understand the role they have to play in the development of India

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Branding Concept of Brand, Types of Brand, what can be branded, Characteristics, brand evolution, brand level, Understanding branding challenges and opportunities, Local Brands & Global Brands	06
II	Brand India The Concept of Brand India: India as a Product, Transformation of the product into Brand India. The Evolution of Brand India: the History of Brand India, the Development of Brand India. The Justifications for Brand India: True Development cannot be Sector-specific or Need-based, Holistic Approach, All-Round Development. The Benefits of Brand India: Highest Standard of Education, Increased Employability, Social Equality, Law and Order, Corruption Control, Sense of Patriotism, Economic Development, India as the World's Only Hyper Brand.	10
III	Brand India at a Global Level	

	The Implementation of Brand India: Quality Education, Robust Education System, Civic Sense, Ethics, Governance, Removal of Red Tapism, Strong Judiciary, Social Justice, Make in India, Digital India, Start-Up India , Stand-Up India, Skill India, the Role of India Brand Equity Foundation.	08
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Project)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination (Viva)	50% (External Assessment)

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	S. A. Chunawala	Brand Management	Himalaya Publishing House	Fifth edition
T-02	Sharif D. Rangnekar	Realizing Brand India: The Changing Face of Contemporary India	Rupa Publications	February, 2005

Reference Books

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	DR. S. L. Gupta	Brand Management – Text & Cases	Himalaya Publishing House	Second edition
R-02	Keller, K.L.	Strategic Brand Management	Prentice Hall Of India.	Third edition
R-03	Sunanda Mongia	Brand India: Master Images and Narratives in the Backdrop of	B R Publishing Corporation	First Edition -2005

MARWADI UNIVERSITY

Subject Code: 04BB0506

Credits: 4

Guideline
Internship
(BBA/BBA (H) Sem – V)



MARWADI UNIVERSITY



Rajkot-Morbi Road, At & Po. Gauridad,
Rajkot-360003, Gujarat, India.

Phone : 0281-2924155 / 56, www.marwadiuniversity.in

INTERNSHIP (04BB0506)(BBA/BBA (H)) Content

Components

A project report should contain the following parts in the order shown:

- ☛ Fly page (1 Blank Pages)
- ☛ Title page (please see sample, Annexure I), containing: (1 Page)
 - The project title;
 - The full name of the Candidate/s, enrollment no/s. and Guide name/s;
 - The degree for which the project is submitted;
 - The name of the University, i.e. Marwadi University
 - The month and year of submission
- ☛ Student Declaration (1 Page) (Annexure II)
- ☛ College Certificate (1 Page) (Provided by Guide/Supervisor)
- ☛ Company Certificate (1 Page)
- ☛ Preface (1 Page)
- ☛ Acknowledgement (1 Page)
- ☛ Executive Summary (1 Page)
- ☛ Table of Content (1 Page)
- ☛ Introduction and History of Company (15 to 20 Pages)
- ☛ Vision & Mission of Company (2 Pages)
- ☛ Organization Structure (1 to 2 Pages)
- ☛ Departmental Study (15 to 20 Pages)
 - Marketing Department
 - Finance Department
 - Human Resource Department
 - Production Department
 - Accounting Department
 - R & D Department etc...
- ☛ SWOT Analysis (2 to 4 Pages)
- ☛ Overview of Industry & Major Players (4 to 5 Pages)
- ☛ Porter's Five Force Model Analysis of Industry (2 to 4 Pages)
- ☛ Learning form Internship (1 to 2 Pages)
- ☛ Conclusion (1 Page)
- ☛ Bibliography (1 Page)
- ☛ Annexure (if Any) (1 Page)

Language, Style and Format

- ☛ Language
 - Project should be written in English.
- ☛ Final Version
 - The final version of the project must be free from spelling, grammatical and other errors when submitted.

Specification for Project Report

1	Paper Size	International A4, not less than 75 gsm white paper
2	Margins	Left - 1.5" Right - 0.75" Top and Bottom - 1.0"
3	Line Spacing	10 to 12 characters per inch must be used with 1.5 line spacing.
4	Paragraph Spacing	Double Lines/Vertical space of around 12 points should be left between the section title line and the first paragraph of each section and subsections, start without any indentation, In single column format with full justification.
5	Pagination	At bottom–Center Beginning with the first page of chapter 1 (Introduction) to all pages shall be numbered consecutively using Arabic numerals (i.e. 1,2,3) From the title page to the page before the chapter 1 starting page, shall be lower case Roman numerals (e.g. i, ii, iii etc.) No Page Number on Title Page
6	Chapter(s):	New Chapter on New Page font size of 20 should begin with an additional top margin of 30 mm (total 55 mm) Capitalize the first letter all the words. Use boldface letters and numbers only
7	Sections and Subsections (left aligned)	A vertical space of around 36 point should be left between the chapter heading and the title of the first section of every chapter. For all subsequent sections/subsections, leave a vertical space of around 24 points before the section/subsection headings. For example, say the first and second sections in chapter 5 shall be numbered as 5.1 and 5.2, respectively. Likewise, the third subsections of sections 1 and 2 in a chapter 4 shall be numbered as 4.1.3 and 4.2.3, respectively. Same style as in chapter heading but with font size of 14 and 12 for section and subsections,
8	Font Type	Times New Roman
9	Font Size(FS)	For normal–12

10	Bold/Italic/Underline	Should be used for specific purposes only
11	Alignment	Page Justify
12	Tables/Graphs/Diagrams/figures Equations	All tables, figures, and equations must be numbered sequentially and chapter-wise using Arabic numerals. It must reflect the chapter number also, e.g. 2.1, 6.25 etc. e.g., Figure 2.1, Table 3.2. While a caption (figure number) should be placed below the figure, a caption (table number) should be placed above the table Images, Photographs, etc. must be scanned in resolution at least 600 dpi.
13	Figures and Illustrations	Figures, tables, etc., should be positioned according to the scientific publication conventions of the discipline.
14	Borders	NO
15	Header/Footers	Single Line (as per this page) Footer (as per this page): Left side Marwadi University, Rajkot, Right Side Pg. No “NO header/footer on Title page”
16	Word Breaking	No word Breaking
17	Printing	Single side only
18	Report Binding	Hard Bound Cover–BlackColor Writing–Golden color only
19	Copies of the Report	Hard Bound: Total 2 Copy (one for Student, one for Dept. Records) Soft: 01 Copy PDF.

References & Bibliography

All references must be cited in the text by the reference number using superscripts. No links between superscripts in the text and actual references in the Reference Sections may be used. Notes may be used to cite manuscripts in preparation,

Unpublished observations and personal communications. References cited should follow the style given below example:

PAPERS

1. Thiel WJ and Nguyen LT, “Fluidized bed film coating of an ordered powder mixture to produce micro encapsulated ordered units.” *J. Pharm. Pharmacol.* **1984**, *36*, 145-152.
2. Isyumov N, “Criteria for acceptance of wind induced motions of tall



buildings”, International Conference on Tall buildings, Rio DeJanerio, CTBUH, 2003.

WEB SITE

1. Boggs, D, “Acceleration and Drift due to Gust forces”, accessed on 10 July 2009, www.cppwind.com/papers/structural/PEAKvsRMS.pdf

BOOKS

1. Pelzar MJ., Chan ECS., and Krieg NR. In Microbiology; 5th Edn; Tata McGraw Hill Publishing Company Limited, New Delhi, 1993, pp 536.

DISSERTATIONS/PROJECTS

1. Vaishnav D.K, PhD Thesis, “.....” Marwadi University, July 2012.
2. Pathak VK. Ph.D. Thesis, “.....” Gujarat University, 1979.



ANNEXURE - I

[SAMPLE TITLE PAGE]

[Project Title]

(5 blank lines)

By

(single line)

[Your name as found in official MU records - your enrollment number]

(two lines)

[Guide name]

(3 blank lines)

A Project Submitted to

Marwadi University in Partial Fulfillment of the Requirements for the [Degree name] in
[Name of Program/Branch]

(3 blank lines)

Month and Year



MARWADI UNIVERSITY

Rajkot-Morbi Road, At & Po. Gauridad,
Rajkot-360003, Gujarat, India.



ANNEXURE - II

STUDENT DECLARATION

I hereby declare that this project Report titled _____
_____ submitted by me to the Faculty of
Liberal Studies, Marwadi University is a bonafide work undertaken by me and it is not
submitted to any other University or Institution for the award of any degree diploma /
certificate or published any time before.

Date: DD/MM/YYYY

Place: Rajkot

Signature of the Student

[Name of Student]

[Enrollment No.]

Evaluation Scheme

Internship consists of 4 Credit, 100 marks and shall be evaluated on two components i) Internal Assessment & ii) Viva.

Particular	Weightage (%)	Conducted By
Internal Assessment (IA)	50%	Supervisor/ Guide
Viva Voce	50%	Viva Panel

I. **Internal Assessment** shall consist of 50 marks, which will be carried out by supervisor/guide.

II. **Viva Voce** shall carry 50 marks and will be conducted by a Panel of two examiners.

Duration & Time Period

☛ Duration of Internship: Minimum 15 Days and Maximum 30 Days.

☛ Internship must be in between 10th May 2018 to 20th June 2018.

Reporting Schedule

Sr. No.	Review	Particular	Marks
1	First Review (After 10 Days of Commencement of Internship)	<ul style="list-style-type: none"> ☛ Introduction and History of Company (15 to 20 Pages) ☛ Vision & Mission of Company (2 Pages) ☛ Organization Structure (1 to 2 Pages) ☛ Departmental Study (15 to 20 Pages) <ul style="list-style-type: none"> • Marketing Department • Finance Department • Human Resource Department • Production Department • Accounting Department • R & D Department etc... 	15
2	Second Review (within two days after completion of Internship)	<ul style="list-style-type: none"> ☛ SWOT Analysis (2 to 4 Pages) ☛ Overview of Industry & Major Players (4 to 5 Pages) ☛ Porter's Five Force Model Analysis of Industry (2 to 4 Pages) ☛ Learning form Internship (1 to 2 Pages) ☛ Conclusion (1 Page) 	15
3	Third Review (Within 10 Days after Completion of Internship)	Final submission of Internship Report to Supervisor (Soft Copy)	20

Specialization: Finance

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Management of Financial Markets
COURSE CODE	04BB0507
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the fundamentals of financial markets
- Understand ways in which financial markets will be managed
- Understand the role of regulators in management of financial markets
- Understand about instruments to be traded in the financial markets

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Financial Markets: Meaning, Definition, Functions, Classification, Key players in financial market (Stock Exchange, Brokers, Dealers, Traders, Depositories, Clearing corporation), Security Exchange Board of India	8
II	Capital Market: Overview, Function of capital market, Primary market reforms, Issues in capital market, secondary market reforms, Capital market scams Primary Market: Mechanism in India, Initial Public Offer (IPO), Methods of IPO (type of IPO), eligibility norms, Book Building Process, Limitations Reverse book building, Green shoe option Secondary Market: Meaning, Function of Secondary, Post reforms stock market scenario, organizational structure of stock exchanges, listing of securities, trading and settlement, Internet trading, Stock Market Indices(Nifty & Sensex)	15
III	Money Market: Meaning, Development Money market in India , Money market instruments, Money market intermediaries	7
IV	Debt Market: Meaning, history and characteristics of debt market, participants in the debt market, private corporate debt market, measures to boost liquidity in the secondary market Government securities market: Introduction, Trading in Government Securities, Evolution, Role, Significance of Government securities markets, Functions, Salient feature of government securities, Forms of Government Securities, Operation in government security market	8
V	Repo-Market: Definition, REPO and Reverse Repo, Repo	10

	Instrument, Bank Rate and Repo rate, Usage of Repo, Functions, Structure of the Foreign Exchange Market, Asian Clearing Union Foreign exchange Market: Function, Foreign Exchange Dealers Association of India, Instruments of Credit Traded, Asian Clearing Union, FSLRC, Finance Code	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M Y Khan	Financial Services	Mcgraw Hill Education	8th Edition, 2015
T-02	Bharti V. Pathak	The Indian Financial System: Markets, Institutions and Services	Pearson Education India	2011

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Vasant Desai	Financial Markets & Services	Himalaya Publication	2016
R-02	L M Bhole & Jitendra Mahakud	Financial Institutions and Markets: Structure, Growth & Innovations	McGraw-Hill Education	2017
R-03	Gupta N & Agrawal N.	Financial Services	Kalyani Publishers	2015
R-04	K.Sasidharan	Financial Services & System	Tata Mcgraw	8 th Edition

R-05	M Y Khan	Indian Systems	Financial	Tata McGraw- Hill Education	2013
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Specialization: Finance

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Banking
COURSE CODE	04BB0508
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand role of banks in Indian financial system.
- Understand role of central bank as controller of state's currency and interest rates.
- Understand the wider range of functions done by Scheduled commercial banks in India.
- Understand relationship of bank and customer.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction To Indian Banking System: Introduction, Origin, Definition, Characteristics of Banks, Types of Banks, Recent Reforms In Indian Banking, International Security Issues In Banking Systems.	8
II	Role of Central Bank in Indian Banking System: Introduction, Origin, Definition, Objectives, Principle, Functions: Monopoly of Note Issue, Banker's Bank, Bankers to Government, Lender of the Last Resort, Bank of Clearance, Custodian of Foreign Reserves, Maintenance of Reserves, Maintaining Exchange Rate. Monetary Policy: Meaning, Objectives, Instruments of Credit Control, Effects Of Monetary Policy on Price Stability and Development, Limitations of Monetary Policy.	12
III	Function of Commercial Bank in Economic Development- Acceptance of Deposits, Agency Service, Payment and Collection of Cheques, Bill of Exchange and Promissory Notes, Execution of Standing Order, Trustee Business, Safe Custody, Remittance of Funds, Issue of LC, Performance of Government Transactions. Need for Sound Banking System, Role Of Banks in Economic Development: Mobilization Of Saving, Capital Formation, Monetization, Innovation, Priority Sector Bank Lending, Agriculture Lending, Industrial Finance, Export Finance.	10

IV	Loans and Advances Loans: Meaning, Classification, Purpose, Appraisal and Disbursal, Evaluation of Loan Proposal, Mode of Securing Loans Credit and Advances: Cash Credit, Overdraft, Discounting of Bill, Mode of Securing Loans/Advances, Domestic Lending, Global Lending. Asset Classification: Standard Asset, Sub-Standard Asset, Doubtful Asset, Loss Asset, Non-Performing Asset.	10
V	Rights and Duties of Banker and Customer: The Banker – General Responsibility, Specific Duties, Positive Traits of a Banker. Various Rights of Banks. The Customer – Duties of a Customer. Banker-Customer Relationship: Nature, Normal Incidents of the Relationship, Appropriation of Payment.	8

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	D. Muraleedharan	Modern Banking	PHI	2 nd Edition, 2013

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Iyengar, Vijayaragavan	Introduction to Banking	Excel Book	1 st Edition, 2007
R-02	Gordon & Natarajan	Banking Theory, Law and Practice	HPH	3 rd Edition, 2012
R-03	K C Shekhar & Lekshmy Shekhar	Banking Theory and Practice	S.Chand and Company	21 st Edition, 2013

R-04	Macdonald Scott S. Koch, Timothy W.	Management of Banking	Cengage Learning	7 th Edition, 2009
R-05	Nadar E Narayanan	Money and banking	PHI	1stEdition, 2013

Specialization: Marketing

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Consumer Behavior
COURSE CODE	04BB0509
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Identify the dynamics of human behaviour and the basic factors that influence the consumers decision process
- Demonstrate how concepts may be applied to marketing strategy.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction To Consumer Behavior: Introduction, Consumer Behaviour - Definition - Nature and Scope of Consumer Behaviour – STP (Segmenting, Targeting, Positioning) – Customer Based Brand Equity (CBBE) Model.	10
II	Psychographic Factors Affecting Consumer Behavior: Lifestyle, Opinions, Perception, Learning, Attitude. VALS model. Generation Analysis Indian perspective: Gen X , Gen Y & Gen Z	10
III	Consumer Choice Analysis: Consumer Comparisons - Categories of Consumer Choice processes; Affective based choice, Attribute based choice, Attitude based choice Socio-Cultural Influences On Consumer Behavior Family and Social Class, Family life cycle, Influence of Culture on Consumer Behaviour, Cross-cultural Consumer Behaviour, Diffusion of innovation	10

IV	Consumer Decision Making: Consumer buying process - Impact of technology on consumer behavior Online buyer behavior : Characteristics, Difficulties and Challenges - Post purchase Processes, Customer Satisfaction, and Customer Commitment - The impact of branding on consumer decision making	10
V	Consumer Protection (Rights of Consumers): Consumer Protection Bill – 2018 ,Consumerism Consumer Forums, FSSAI, Hallmark, UNCTAD (Concepts)	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Loudon and Della Bitta	Consumer Behaviour	Tata McGraw Hill	2011

Reference Books

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Blackwell and Engel	Consumer Behaviour	Cengage	10 th Edition
R-02	MajumudarRamanuj	Consumer Behaviour: Insights from Indian Market	PHI	2010
R-03	Hoyer, MacInnis and Dasgupta	Consumer Behaviour	Biztantra	2008
R-04	Evans	Consumer Behaviour	Wiley	2 nd Edition

R-05	Lingquist Jay D	Consumer Behaviour	Cengage	2010
R-06	Coakes, Steed and Dzidic	SPSS 13.0 for Windows	Wiley	2003

Specialization: Marketing

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Retail Marketing
COURSE CODE	04BB0510
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand Retail Marketing Concepts.
- Appreciate the operations management for retailing.
- Understand the latest advancement in Retail Management

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Retailing – An Introduction Definition – functions - types of retailing – forms of retailing based on ownership. Retail life cycle - Retailing in India – Influencing factors – current retail scenario in India.	8
II	Operations Of A Retail Business Store location – Choice –Impacting Factors - Market area analysis – Trade area analysis – Rating Plan method - Site evaluation - Store Layout and visual merchandising – Designing of the Store – Space planning - Inventory management – Merchandising – Category Management – Franchising in Retail	12

III	Consumer Behaviour With Retailing Retail buying decision making process– influence of group and individual factors - Customer shopping trends - Customer Service satisfaction.	10
IV	Retail Marketing Mix Introduction - Product: Decisions related to Merchandise (Products) – delivery of service. Pricing: Factors affecting pricing decisions – approaches to pricing – price sensitivity - Value pricing – Markdown pricing. Place: Channel members – Supply Chain Management in Retail – Retail logistics. Promotion: Setting goals – designing communication – checking effects of communication - promotional mix.	10
V	Role Of Information Technology In Retailing Introduction to Non-store retailing (E tailing) - The impact of IT in retailing - Integrated systems and networking – Retailing from the International perspective - Introduction to technological aids in retail operations (EDI, RFID, Data Warehousing & Data Mining, AI)	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition &Year of Publication
T-01	Swapna Pradhan	Retailing Management	TMH	2E, 11 th Reprint, 2008

Reference Books:

Sr.	Author/s	Name of the Book	Publisher	Edition &Year of
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No				Publication
R-01	Barry R. Berman, Joel R. Evans, Patrali M. Chatterjee	Retail Management – A Strategic Approach	Pearson	2017

Specialization: Human Resource Management

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Employee Welfare & Social Security
COURSE CODE	04BB0511
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the features and objectives of employee welfare
- Familiarized with vulnerable groups of workers and legal provisions related to them.
- earn working conditions of workers and legal provisions related to welfare.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Employee Welfare Objectives of Employee Welfare, Concept of Employee Welfare, Welfare Measures, Theories of Employee welfare, Agencies of Employee welfare, Workers' Education scheme, Statutory and Non statutory schemes of employee welfare, Role of management in employee welfare.	10
II	Welfare of Special Categories of Labour Child Labour, Female Labour, Contract Labour, Construction Labour, Agricultural Labour, Differently abled Labour, BPO & KPO Labour, Social Assistance – Implications.	10
III	Social Security Evolution, definition and objectives of Social security, Essential requirement of Social security, Growth and overview of social security in India.	10
IV	Social Security Legislation in India Overview of Employee's Compensation Act 1923, Employees State Insurance Act, 1948, Maternity Benefit Act, 1961, Factories Act, 1948, Employee's Provident Fund Act of 1952, Payment of Gratuity Act, 1972.	10
V	International Labor organization & Social Security	08

	International norms on social security for labour: the ILO Conventions and Recommendations on Social Security, Comparison of minimum standards of ILO and standards envisaged in Indian Legislation, Law and Practices in Comparative Perspectives In India, UK and USA.	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	P.K. Padhi	Labour and Industrial Laws	PHI Publications private Limited	3rd Edition
T-02	P.R.N.Sinha, S. P.Shekhar / InduBala	Human Resource Management	Cengage	3rd Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	C.S. VenkataRatnam	Industrial Relations	Oxford University Press	2 nd Edition

Specialization: Human Resource Management

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Compensation Management
COURSE CODE	04BB0512
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand a pay system that is consistent for employees within the organization
 - Identify and describe a variety of reward systems used to determine individual pay levels.
- Implement and administer a compensation system according to the firm's policies and the legal requirements.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Concept of Compensation Exploring and defining the compensation context, System of compensating, compensation dimensions, concept of reward, Role of compensation in Organization, Non-financial compensation system, Concept of total reward system-New trends in compensation management, The 3-P compensation concept.	10
II	Compensation and Employee Behavior Bases For Traditional Pay System and Modern Pay System, Establishing Pay Plans, Aligning Compensation Strategy with HR Strategy and Business Strategy, Person focus to Pay, Team Based Pay	10
III	Legislations related to Compensation-I Payment of Wages Act, 1936, Minimum Wages Act, 1948, Payment of Gratuity Act, 1972, Payment of Bonus Act,1965	10
IV	Legislations related to Compensation-II Employees' State Insurance Act, 1948, Employees' P F & Misc Provisions Act, 1952. , Workmen's Compensation Act, 1923.	10
V	Contemporary Strategic Compensation Challenges International Compensation and Competitive Strategies, Executive Compensation Packages, Contingent Employees and Flexible Work Schedules, Compensation for Expatriates and Repatriates.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Micheal Armstrong	Armstrong's Handbook of Reward Management Practice	Kogan Publication	5 th Edition
T-02	B.D.Singh	Compensation & Reward Management	Excel	2 nd Edition
T-03	Dipak Kumar Bhattacharyya	Compensation Management	Oxford	2 nd Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition
R-01	Terence Jackson	International Human Resource Management a Cross-Cultural approach	SAGE	2 nd Edition
R-02	MonirTayeb	International Human Resource Management	Oxford	2 nd Edition

Subject Code: 04CR0501

Subject Name: Career Readiness Program

BBA-BBA(Hon) Year – III (Semester V)

Objective: This course shall enrich students' preparedness for the upcoming competitive exams, MBA entrance test, and/or placements. It will enhance the verbal and numerical skills of the students through the group interactions, practice sessions, and videos.

Credits Earned: 2 Credits

Course Outcomes: After successful completion of this course, student will be able to

- Understand importance of verbal and numerical skills in the competitive exams

- Inculcate smart approach in verbal and numerical problem solving
- Apply the concepts in both competitive exams and placement drives

Pre-requisite of course: NA.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
2	0	0	2	50	00	20	00	30	100

Contents:

Unit	Topics (VA)	Contact Hours
1	Vocabulary: Concepts and Application <ul style="list-style-type: none"> ● Memory Technique ● Contextual Vocabulary ● Root Words ● Sentence Equivalence ● Idioms and Phrases 	2
2	Reading Comprehension and Para-Completion: Concept, Strategies and Application	1
3	<b style="background-color: #ADD8E6;">Grammar Application <ul style="list-style-type: none"> ● Spot the Error ● Sentence Correction 	1
4	Logical Reasoning <ul style="list-style-type: none"> ● Statement and Assumptions ● Statement and Conclusion ● Statement and Arguments ● Statement and Course of Action 	2
5	Vocabulary based Reasoning <ul style="list-style-type: none"> ● Odd one Out ● Analogy and reverse analogy 	1
6	Para Jumble <ul style="list-style-type: none"> ● Para-jumbles/Sentence Rearrangement ● Misfit sentence/identify the odd sentence in the given set ● Identify summary sentence 	1

7	Deductive reasoning <ul style="list-style-type: none"> ● Logical Consistency ● Syllogism ● Facts-Inference-Judgement 	3
8	Creative Writing	1
9	Class Test	2
Total Hours		14

Note: Lab MB513 would be used for practice sessions.

References:

1. How To Prepare For The Verbal Ability & Reading Comprehension For The Cat– By Arun Sharma and Meenakshi Upadhyay
2. Word Power Made Easy– By Norman Lewis
3. A Modern Approach to Verbal & Non-Verbal Reasoning By R.S. Aggarwal
4. The Pearson Guide To Verbal Ability And Logical Reasoning For The CAT by Nishit K. Sinha

Unit	Topics (QA)	Contact Hours
1	Introduction of Course Details & Type of questions in various exams	1
2	Blood Relation & Direction Sense	1
3	Series (Number and Letter series) & Coding and Decoding	1
4	Arrangement (Seating and Data)	1
5	Highest Common Factor and Least Common Multiple	1
6	Average and Problems based on Ages	1
7	Percentage, Profit-Loss & Discount and Simple & Compound Interest	2

8	Ratio, Proportion and Partnership	1
9	Time and Work	1
10	Time, Speed and Distance	1
11	Permutation and Combination	1
12	Probability	1
13	Data Interpretation and Data Sufficiency	1
Total Hours		14

Note: Lab MB513 would be used for practice sessions.

References:

1. **Analytic Reasoning** – By M K Pandey, BSC Publishing Co. Pvt. Ltd.
2. **Quantitative Aptitude** – By Dr. R. S. Agarwal, S. Chand
3. **Quantitative Aptitude** – By Abhijit Guha, MC Graw Hills
4. **Magical Book On Quicker Maths** – By M. Tyra, BSC Publishing Co. Pvt. Ltd.

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
20%	20%	30%	15%	10%	5%

Instructional Method:

a. The course delivery method will depend upon the requirement of content and need of students. The trainer shall train students through interactions, demonstration, brainstorming, group tasks etc.

Students will use supplementary resources

PROGRAM	Bachelors Of Business Administration
SEMESTER	VI
COURSE TITLE	Business Ethics & Corporate Governance
COURSE CODE	04BB0601
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the dynamics of business ethics.
- Identify ethical dilemmas in business & suggest solutions to overcome the problems.
- Learn the concept of corporate governance and its relevance to ethical business activity.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Ethics Meaning and classification of Ethics, Importance of Business Ethics, Nature of ethics as moral value; types of value; Teaching from Scriptures like Gita, Quran, Bible w.r.t. Indian Value Systems in Business.	10
II	Ethical Dilemma and Essence of Decision Making Meaning and structure of Ethical Dilemma in business, Sources of Ethical Problems, Managing Ethical Dilemmas; Understanding Decision making, Model of Cognitive Moral Development, The Process of Making Good Ethical Decision; Dynamics of Ethical Leadership.	10
III	Ethical Issues in Financial Management Introduction to Ethics in Finance, Ethical issues in Financial Markets, Financial service industry and by Financial people in organizations. Case study on Strategic failure of Satyam Computer Service.	10
IV	Ethical Issues in Marketing & HRM Role of Marketing, Areas in Marketing Ethics, Truth and Advertising; Functional Areas of HRM, Need for Workplace ethics, HR related ethical issues, Rights and duties of Employees.	10
V	Introduction to Corporate Governance Definition and attributes of good corporate governance, Corporate governance theories – Agency, Stewardship, Shareholder, stake holder theory, Role of Board of Governors, Factors influencing quality of	08

	Corporate Governance.	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	A. C. Fernando	Business Ethics and Corporate Governance	Pearson	2 nd edition, 2012
T-02	Daniel Albuquerque	Business Ethics: Principles and practice	Oxford Uni. Press	2010

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Murthy C.S.V.	Business Ethics and Corporate Governance	Himalaya Publishing	1 st edition, 2017
R-02	S K Mandal	Ethics in Business and Corporate Governance	Tata McGraw Hill	2 nd edition, 2012
R-03	Ferrell, Fraedrich, Ferrell	Business Ethics	Cengage Learning	11 th edition, 2017
R-04	Rupani Riya	Business Ethics and Corporate Governance	Himalaya Publishing	4 th edition, 2015

PROGRAM	Bachelors Of Business Administration
SEMESTER	VI
COURSE TITLE	Management Accounting
COURSE CODE	04BB0602
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the scope of management accounting.
- Understand the importance of marginal costing in decision making.
- Understand the control mechanism on all the element of cost that affect production.
- Understand the changes in operational and financial position of company.
- Understand the role of Budgetary control in framing financial plan.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Management Accounting Meaning, Definition, Nature, Scope, Functions and Limitations of Management Accounting. Relationship and difference between Management Accounting to Cost Accounting and Financial Accounting. Description of Tools and Techniques in Management Accounting.	7
II	Analysis of Fund Flow and Cash Flow Statement Fund Flow Statement: Meaning and usage of Fund Flow Statement; preparation of fund flow statement (Basic level). Cash Flow Statement (AS-3); Distinction between Fund Flow Statement and Cash Flow Statement, Classification of Cash Flows, Objective and Usage of Cash Flow Statement, Preparation of Cash Flow statement.	12
III	Marginal and Absorption Costing Marginal Costing- Meaning, Characteristics, Advantages and Limitations. Difference between Marginal Costing and Absorption Costing; Income determination under Marginal Costing and Absorption Costing; CVP/BEP Analysis; Safety Margin and Key factors that involves decision making.	11

IV	Budgeting and Budgetary Control Meaning, Objectives, Advantages and Limitations. Essentials of effective budgeting in management process; Installation of Budget System Budgetary Control: Types of budgets preparation, Zero Base Budgeting; Performance Budgeting	08
V	Standard Costing Meaning, Difference between Standard Costing and Budgetary Control, Merits and Demerits of Standard costing, Prerequisite for establishment of standard costing, Efficiency and Activity Ratios, Material, Labor and Overhead Variance.	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
T-01	M. N. Arora	Cost and Management Accounting	Vikas Publishing House	10 th Edition
T-02	P.C. Tulsian	Cost and Management Accounting	S Chand	3 rd Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Jawahar Lal	Cost Accounting	Tata McGraw Hill Publication	5 th Edition
R-02	Paresh Shah	Management Accounting	Oxford Publication	2 nd Edition

R-03	Ravi Kishor	Cost Management Accounting	Taxman	6 th Edition
R-04	Bhattacharya	Management Accounting	Pearson Publication	3 rd Edition
R-05	Hilton, Maher and Selto	Cost Management: Strategies for Business Decision	TMH	4 th Edition

PROGRAM	Bachelors Of Business Administration
SEMESTER	VI
COURSE TITLE	International Business
COURSE CODE	04BB0603
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Study the environmental variables that affect world trade.
- Describe the policies and strategies that can lead to successful global trade.
- Evaluate present and future opportunities and risks for international business activities.
- Develop analytical skills which will help them enhance greater understanding towards world trade.
- Make student understand how the global risks are interconnected.
- Identify and evaluate the complexities of world trade and globalization from home versus host-country, regional, and cultural perspectives.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Overview of Globalization: Drivers, Changing Demographics of the Global Economy, Managing the Global Marketplace, Country Differences Political, Legal, Economic, Social, Technological & Demographics, Micro and Marco business Environment Difference in Cultural Aspects, Values & Norms, Social Structure Language, Education ways to enter Foreign Market, Ethics in	12

	international business Dilemmas, Roots of Unethical Behavior, Ethical decision making.	
II	Global Trade and Investment Environments Trade Theories: -Mercantilism, Absolute & Comparative advantage, Heckscher-Ohlin theory, Porter's Diamond model, Foreign Direct Investments, Benefits of FDI Regional Economic Integrations like European Union, NAFTA, MERCOSUR, CARICOM, Association of Southeast Asian Nation.	10
III	Global Monetary Systems. Foreign Market nature & functions , Exchange Rate Determination, Forecasting & Currency Convertibles, Bretton wood systems, GATT, IMF & WTO, Ways to Enter Market Strategy and Structure, Global Expansion, Profitability & Profit Growth, Organizational Structure & Cultures, Control systems, Incentives & Changes. Basic entry Decisions, & Modes.	12
IV	Business Operations Managing Global Supply Chains, International Logistics Practices, global marketing and R & D, Global Human Resources Management International Labor Relations, Accounting and Financial Issues.	10
V	Global Risk Analysis: - Context base discussion of each issue:- Natural and Man-made disasters, Energy price shocks, Large scale involuntary migrations, Weapons of mass destruction, Terrorists attacks, Failure of national governance, Cyber-attacks.	04

Note: - Unit V should be taught by concern faculty, taking into consideration current happening at global level.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books: -

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
T-01	Charles W L hill Arun K Jain	International Business	Mc-Graw-Hill Companies	10 th Edition
T-02	Daniels John, D. Lee H. Radebaugh and David P. Sullivan.	International Business	Pearson Education	15 th Edition

Reference books: -

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Cherunilam, Francis	International Business:	Prentice Hall of India Ltd.	5 TH Edition
R-02	Mike Peng and Deepak Srivastava	Global Business	CengagePublication s	1 st Edition
R-03	Apte, P.G	International Financial Management	Tata McGraw Hill.	6 th Edition
R-04	Subhash C. J	InternationalMarketing,	CengagePublication s	3 rd Edition

Suggested Readings:-

1. UNCTAD Reports.
2. WTO, Annual Report, various issues.
3. RBI. Report on Currency & Finance, various issues.
4. Economic Survey, Govt. of India.
5. Export-import Policy and Other Documents, Govt. of India.
6. <https://www.mckinsey.com/>
7. https://www.youtube.com/watch?v=UNmsz6_EMJM.
8. <http://www.csis.org/gsi> for globalization think tank.



MARWADI UNIVERSITY

Project (04BB0604)

Credits: 8

**Guidelines for the Preparation of
Project Report
(BBA/BBA(Hons) Semester – VI)**



MARWADI UNIVERSITY



Rajkot-Morbi Road, At & Po. Gauridad,

Rajkot-360003, Gujarat, India.

Phone : 0281-2924155 / 56, www.marwadiuniversity.in

Course: BBA/BBA(H)

SEMESTER	VI
TITLE OF THE SUBJECT	Project
COURSE CODE	04BB0604
COURSE CREDIT	8

Project

Project is a composition of practical research work, involving the analysis of a specific problem in the area of the specialization and evaluation of the results of the analysis that serves as a basis for developing specific proposals and implementing the appropriate solution to the problem.

Objective of the Project

The objectives of the Project for BBA/BBA (H) students are:

- a. To demonstrate the student's knowledge of the literature relating to the problem of study.
- b. To reveal the student's ability to collect, analyze, interpret and synthesize information/data for analyzing various business situations.
- c. To present the results obtained, in a sequential and logical manner.
- d. To display the student's ability to discuss coherently the meaning of the results.

Content of Report

A project report should contain the following parts in the order shown:

- ☛ Fly page (1 Blank Pages)
- ☛ Title page (please see sample, Annexure I)
 - The project title;
 - The full name of the Candidate/s, enrollment no/s. and Guide name/s;
 - The degree for which the project is submitted;
 - The name of the University, i.e. Marwadi University
 - The month and year of submission
- ☛ Student Declaration (Annexure II)
- ☛ College Certificate (Provided by Guide/Supervisor)
- ☛ Company Certificate
- ☛ Preface

- ☛ Acknowledgement
- ☛ Executive Summary
- ☛ Table of Content
- ☛ Introduction to Topic
- ☛ Review of Literature (8 to 10 literature review)
- ☛ Research methodology
 - Introduction
 - Statement of problem
 - Research Objectives
 - Scope of the study
 - Research hypothesis (If any)
 - Research design (Research Type)
 - Data Collection sources (Primary and secondary sources)
 - Data Collection Instrument (for e.g. Questionnaire)
 - Sampling Design
 - ☞ Population of the study
 - ☞ Sample Size
 - ☞ Sampling Method
 - Data Analysis Design (a brief outline of tools and techniques to be used for analysis, statistical tools and tests to be used)
 - Limitations of the Project
- ☛ Data Analysis and Interpretation
 - Tabular representation of data
 - Charts
 - Statistical tests
 - Analysis and Interpretation
- ☛ Findings & Suggestions
- ☛ Conclusion
- ☛ Annexure
- ☛ Annexure - Questionnaire
- ☛ Annexure – Any other document
- ☛ Bibliography

Language, Style and Format

- ☛ Language
 - Project should be written in English.
- ☛ Final Version
 - The final version of the project must be free from spelling, grammatical and other errors when submitted.

Specification for Project Report

1	Paper Size	International A4, not less than 75 gsm white paper
2	Margins	Left - 1.5" Right - 0.75" Top and Bottom - 1.0"
3	Line Spacing	10 to 12 characters per inch must be used with 1.5 line spacing.
4	Paragraph Spacing	Double Lines/Vertical space of around 12 points should be left between the section title line and the first paragraph of each section and subsections, start without any indentation, In single column format with full justification.
5	Pagination	At bottom–Center Beginning with the first page of chapter 1 (Introduction) to all pages shall be numbered consecutively using Arabic numerals (i.e. 1,2,3) From the title page to the page before the chapter 1 starting page, shall be lower case Roman numerals (e.g. i, ii, iii etc.) No Page Number on Title Page
6	Chapter(s):	New Chapter on New Page font size of 20 should begin with an additional top margin of 30 mm (total 55 mm) Capitalize the first letter all the words. Use boldface letters and numbers only
7	Sections and Subsections (left aligned)	A vertical space of around 36 point should be left between the chapter heading and the title of the first section of every chapter. For all subsequent sections/subsections, leave a vertical space of around 24 points before the section/subsection headings. For example, say the first and second sections in chapter 5 shall be numbered as 5.1 and 5.2, respectively. Likewise, the third subsections of sections 1 and 2 in a chapter 4 shall be numbered as 4.1.3 and 4.2.3, respectively. Same style as in chapter heading but with font size of 14 and 12 for section and subsections,
8	Font Type	Times New Roman
9	Font Size(FS)	For normal–12

10	Bold/Italic/Underline	Should be used for specific purposes only
11	Alignment	Page Justify
12	Tables/Graphs/Diagrams/figures Equations	All tables, figures, and equations must be numbered sequentially and chapter-wise using Arabic numerals. It must reflect the chapter number also, e.g. 2.1, 6.25 etc. e.g., Figure 2.1, Table 3.2. While a caption (figure number) should be placed below the figure, a caption (table number) should be placed above the table Images, Photographs, etc. must be scanned in resolution at least 600 dpi.
13	Figures and Illustrations	Figures, tables, etc., should be positioned according to the scientific publication conventions of the discipline.
14	Borders	NO
15	Header/Footers	Single Line (as per this page) Footer (as per this page): Left side Marwadi University, Rajkot, Right Side Pg. No “NO header/footer on Title page”
16	Word Breaking	No word Breaking
17	Printing	Single side only
18	Report Binding	Hard Bound Cover–BlackColor Writing–Golden color only
19	Copies of the Report	Hard Bound: Total 2 Copy (one for Student, one for Dept. Records) Soft: 01Copy PDF.

References & Bibliography

All references must be cited in the text by the reference number using superscripts. No links between superscripts in the text and actual references in the Reference Sections may be used. Notes may be used to cite manuscripts in preparation,

Unpublished observations and personal communications. References cited should follow the style given below example:

PAPERS

1. Thiel WJ and Nguyen LT, “Fluidized bed film coating of an ordered powder



mixture to produce micro encapsulated ordered units.” *J. Pharm. Pharmacol.* **1984**, *36*, 145-152.

2. Isyumov N, “Criteria for acceptance of wind induced motions of tall buildings”, International Conference on Tall buildings, Rio De Janeiro, CTBUH, 2003.

WEB SITE

1. Boggs, D, “Acceleration and Drift due to Gust forces”, accessed on 10 July 2009, www.cppwind.com/papers/structural/PEAKvsRMS.pdf

BOOKS

1. Pelzar MJ., Chan ECS., and Krieg NR. In *Microbiology*; 5th Edn; Tata McGraw Hill Publishing Company Limited, New Delhi, 1993, pp 536.

DISSERTATIONS/PROJECTS

1. Vaishnav D.K, PhD Thesis, “.....” Marwadi University, July 2012.
2. Pathak VK. Ph.D. Thesis, “.....” Gujarat University, 1979.



ANNEXURE - I

[SAMPLE TITLE PAGE]

[Project Title]

(5 blank lines)

By

(single line)

[Your name as found in official MU records - your enrollment number]

(two lines)

[Guide name]

(3 blank lines)

A Project Submitted to

Marwadi University in Partial Fulfillment of the Requirements for the [Degree name] in [Name of Program/Branch]

(3 blank lines)

Month and Year





MARWADI UNIVERSITY
Rajkot-Morbi Road, At & Po. Gauridad,
Rajkot-360003, Gujarat, India.



ANNEXURE - II

STUDENT DECLARATION

I hereby declare that this Project Report titled _____
_____ submitted by me to the Faculty of Liberal
Studies, Marwadi University is a bonafide work undertaken by me and it is not submitted to any
other University or Institution for the award of any degree diploma / certificate or published any
time before.

Date: DD/MM/YYYY

Place: Rajkot

Signature of the Student

[Name of Student]

[Enrollment No.]

Evaluation Scheme

Internship consists of 4 Credit, 100 marks and shall be evaluated on two components i) Internal Assessment & ii) Viva.

Particular	Weightage (%)	Conducted By
Internal Assessment (IA)	50%	Supervisor/ Guide
Viva Voce	50%	Viva Panel

- I. **Internal Assessment** shall consist of 100 marks, which will be carried out by supervisor/guide.
- II. **Viva Voce** shall carry 100 marks and will be conducted by a Panel of two examiners.

Specialization: Finance

PROGRAM	Bachelors Of Business Administration
SEMESTER	VI
COURSE TITLE	Advance Financial Management
COURSE CODE	04BB0605
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Students will be able to understand basic framework of designing capital structure of a firm.
- Students will be able to evaluate the risk aspect for analyzing investment decisions.
- Students will have knowledge about dividend policy and its relevance in value of a firm.
- Ability to determine cash position of a firm.
- Acquire knowledge on receivables management of the firm.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
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I	Capital Structure Decision Introduction, PBIT-EPS Analysis, ROI-ROE Analysis, Leverage Analysis, Ratio Analysis, Factors determining capital structure. (Theory & ratio problems)	10
II	Risk Analysis in Capital Budgeting Sources and Perspectives on Risk, Sensitivity Analysis, Scenario Analysis, Break-even Analysis, Hillier Model, Simulation Analysis, Decision tree Analysis, Corporate risk Analysis, Managing Risk. (Theory & Problems)	10
III	Dividend Policies Introduction, Factors affecting Dividend Decision, Bonus Share & Stock Splits, Different forms of dividend, Bonus share and its impact on stock price, Legal and Tax aspects relating to dividend (Theory & Problems)	10
IV	Cash & Liquidity Management Introduction, Cash budgeting, Long term cash forecasting, Reports for control, Cash collection and Disbursement, Optimal Cash balance, Investment of Surplus Funds, Cash Management Models. (Theory) & Problems	10
V	Credit Management Introduction, Terms of payment, Credit policy Variables, Credit Evaluation, Credit Granting Decision, Control of Accounts Receivables, Credit Management in India (Theory & Problems)	8

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Prasanna Chandra	Financial Management	The McGraw-Hill Publishing Company Ltd.	8 th Edition 2011
T-02	Financial Management	M.Y. Khan & P. K. Jain	The McGraw-Hill Publishing Company Ltd.	5 th Edition 2007

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	I M Pandey	Financial Management	Vikas Publishing House Pvt. Ltd.	9 th Edition, 2009
R-02	Vishwanath S. R.	Corporate Finance	Sage Publication	2 nd Edition, 2007
R-03	J.B.Gupta	Strategic Financial Management	Taxmann Publication Pvt. Ltd.	4 th Edition.
T-04	Ravi M. Kishore	Strategic Financial Management	Taxmann Publications Pvt. Ltd.	2 nd Edition

Specialization: Marketing

PROGRAM	Bachelors Of Business Administration
SEMESTER	VI
COURSE TITLE	Advertising Management
COURSE CODE	04BB0606
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Gain an understanding of effectiveness of advertising as an integral marketing tool.

- Learn the majors of advertising programs of organizations with emphasis on the application of marketing concepts for effective decision making.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to advertising Introduction to Advertising –Meaning, Definition of advertising, objectives, its role and functions. Types of Advertising: Commercial, Non-commercial, Primary demand and Selective Demand, Classified and Display advertising, Comparative advertising, Co-operative advertising.	10
II	Advertising Planning Advertising planning framework – factors involved in advertising planning and decision making, the communication & persuasion process segmentation strategy.	10
III	Creative Strategy Creative Strategy: meaning of creativity, Creative strategy and tactics, various advertising Appeals, the mode of message and theme.	10
IV	Advertising budget Advertising Budget – Objectives, preparation and methods of advertising budget; Top down and Build up approach, methods of advertising – Affordable method, Arbitrary allocation method, percentage of sales method, competitive parity method, Objective and Task method; and DAGMAR Approaches	10
V	Advertising Media Decision Concept, Role of Media, Advertising media- Types of Media Print Media (Newspaper & Magazines, Pamphlets, Posters & Brochures), Electronic Media (Radio, Television, Audio Visual Cassettes), Other Media (Direct Mail, Outdoor Media), New Media –Internet and Mobile phones (Characteristics, merits & Demerits of above media, media scenario in Indian Context.)	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M.V.Kulkarni	Advertising Management	EPH	Fourth Edition
T-02	Chunawalla and Sethia S.A,	Foundations of Advertising theory and practice	Himalaya Publishing House	Sixth Edition

Reference Books

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-1	Belch & Belch	Advertising & Sales Promotion	TMH	Eleventh Edition
R-2	Aaker, David A. and Myers John G	Advertising Management	Prentice Hall of India	Second Edition

Specialization: Human Resource Management

PROGRAM	Bachelors Of Business Administration
SEMESTER	VI
COURSE TITLE	Change Management
COURSE CODE	04BB0607
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the objective of managing change in the organization
- Recognize reactions to change and address the resistance
- Learn the competencies required for effective change management

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Organizational Culture and Change Business as a domain for change, Environmental Factors leading to Change, Organizational Culture and Change: Sources and types of Culture, Significance of Culture during change, Strengths and weaknesses of Indian Culture.	10
II	Resistance to Change Meaning and Nature of Organizational Change, Types of Change, Organizational Barriers to Change, Individual and Group Resistance, Overcoming Resistance to Change, Techniques to manage resistance	10
III	Organizational Change and Change Agents Meaning and Types of Change Agents, Key Roles in Organizational Change, Characteristics of good Change Agent, Strategic Management of Change, Factors in selecting Change Strategy, Formulation and Implementation of Change Strategy.	10
IV	Organizational Diagnosis & Development Meaning of Diagnosis, Introduction to Organizational Diagnosis, Collection of Data, Introduction to OD, OD Intervention and Classification, OD Interventions Techniques, Prerequisites for effective use of OD.	10
V	Learning Organization and Models of Change Meaning and nature of Learning Organization, TQM and Learning Organization, Basic Models of OD: Individualistic Model, Group Oriented Model, Organization-oriented model, Lewin's three-step Model, Case study on Change Management in any Industry.	8

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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Harsh Pathak	Organisational Change	Pearson	1 st edition
T-02	Donald R. Brown, Donald Harvey	An Experiential Approach to Organizational Development	Pearson	8 th edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	Thomas Cummings, Christopher Worli	Theory of Organization Development and Change	Cengage Learning	9 th edition
R-02	Wendell L. French, Cecil Bell, Robert A. Zawacki	Organization Development and Transformation: Managing effective change	McGraw-Hill/Irwin	6 th edition
R-03	S.K. Bhatia	Managing Change and Organization Development	Deep and Deep Publications	1 st edition

2019-2020

Elective

PROGRAM	Bachelors Of Business Administration
SEMESTER	I
COURSE TITLE	Mathematics For Business
COURSE CODE	04BB0106
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Calculate simple and compound interest on investments
- Understand repayments of loan using EMIs
- Structure and solve problems using matrices
- Understand and establish relationship between variables using functions to determine equilibrium
- Determine minimum and maximum (optimum) value of cost and profit

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	MATHEMATICS OF FINANCE Introduction, Simple Interest and Compound Interest – Concept and problem solution Future Value (FV) - Annuity: Amount of ordinary annuity, Amount of annuity due Present Value (PV) -ordinary annuity and annuity due Loan Amortization and Equated Monthly Installments (EMIs) - Reducing balance and flat rate of interest Use of MS Excel	10
II	FUNCTIONS Introduction, Constants, Variables, Types of functions– Linear function and Polynomial functions Functions in Business: Cost function, Revenue function and Profit function, construction of cost functions, Profit function and Break Even Point (BEP)	10
III	DIFFERENTIATION AND APPLICATIONS OF DERIVATIVES Limit of a function, important results, differentiation of algebraic functions – formulae (no derivation) Derivative of function of one variable, derivative of sum, difference, product and quotient of two functions (no derivation), chain rule, differentiation of implicit function, price elasticity of demand, second order derivative	12

	Application of derivatives – Marginal cost, Marginal revenue, Marginal Profit, Maxima and Minima	
IV	DETERMINANTS Determinant of second order and of third order, Minor of an element Expansion of determinant, Properties of determinant, Use of determinants in solving simultaneous linear equations – Cramer's Rule for two and three linear equations Use of MS Excel to calculate determinant	06
V	MATRICES AND APPLICATIONS Introduction, Definition, Types of matrices, Algebra of matrices (Addition and Subtraction), Additive Inverse of a matrix, Structure problems in matrix form, Multiplication of matrices (Max 3X3) Minor, cofactor, adjoint and Inverse of Matrix, Solution of system of linear equations using inverse of coefficient matrix (Max 3) Use of MS Excel to calculate inverse of matrix	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	A. Dikshit and J. Jain	Business mathematics	Himalaya Publishing House	Latest
T-02	P. Hazarika	Business Mathematics	S. Chand and Sons	Latest
T-03	P. Mariappan	Business Mathematics	Pearson Education	Latest

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	D C Sancheti and V K Kapoor	Business Mathematics	Sultan Chand and Sons	Latest
R-02	Zamarudeen and Qazi	Business Mathematics	Vikas Publishing	Latest

PROGRAM	Bachelors Of Business Administration
SEMESTER	I
COURSE TITLE	Career Readiness Program
COURSE CODE	04CR0101

COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

Objectives:

- The “*Linguistics for Interpersonal Interaction*” course is designed to make the Learners feel comfortable understanding, thinking and speaking in English.
- Having undergone the training, the Learners will feel confident about his or her own English-speaking skills.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
Unit I	Phonology: Varieties of Language and Standard English, Phonetics and Phonology - Speech Mechanism and Articulatory Phonetics, English Phonemes. Characterization and Classification of Vowels - Diphthongs and Monophthongs.	6
Unit-II	Syntax and Morphology: Nouns, Pronouns and Determiners - Misconceptions related to usages of noun forms, Using Possessives, Types of Pronouns, General Determiners and Specific Determiners. Verbs and related forms - Types of verbs and their forms, Stative and Dynamic, Lexical and Delexical Adjectives and Adverbs - Word formation, Order of Adjectives, Types of Adverbs Preposition and Phrasal verbs - Preposition of time, Preposition of Movements, Preposition of Place, Phrasal Verbs Conjunctions - Coordinating and Subordinating, Using Conjunctions in formal settings. Present Continuous – Form, Usages, Misconception Present Simple & Simple Past – Form, Usages, Misconception	8
Unit - III	Reading Comprehension: Processing Strategy - Comprehension Strategy, Meta-cognitive Strategy, Prediction and Pre-prediction.	4
Unit - IV	Spoken Discourse: Coherence and Cohesion - Situational Sociolinguual interaction, Conversation Practice. Feature of Spoken Discourse - Semantic and Pragmatic Meanings, Conversation Practice (Role Play)	6

Learning Outcomes:

After studying this course, student should be able to:

- Articulate phonetics and phonology, Noun, Pronoun, Verb
- Reading and processing comprehension.

Evaluation:

The students will be evaluated on following evaluation scheme:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment (Term Work)	30% (I.A.)
C	End-Semester Examination (Viva)	50% (External Assessment)

PROGRAM	Bachelors Of Business Administration
SEMESTER	I
COURSE TITLE	Principles Of Management
COURSE CODE	04LS1102
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Demonstrate their knowledge of business and management principles.
- Get acquainted with management process and functions.
- Comprehend the modern management techniques and its relevance in business

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Management Meaning, Nature and Characteristics of Management – Scope of Management - Functional areas - Management as a Science and an Art - Management & Administration – Levels of management & Managerial Skills - Evolution of Management Thoughts - Principles of management - Ethics in Management.	10

II	Planning in Management Need and importance of planning - basic purpose of planning - Planning process, Types of plans - Objectives - Management By Objectives Decision-making Decision making – Nature and importance- types of decisions – process	10
III	Organizing Need for organization - purpose of organization, fundamental principles of organization - Types of organization - Departmentalization, Committees - Centralization Vs decentralization of authority and responsibility Staffing Staffing – Introduction - Need for Staffing - Importance of staffing -Process of staffing	10
IV	Directing Directing – Meaning, nature and importance – Theories of Motivation – Maslow's, Herzberg's & McGregor's Leadership – Introduction - Formal and Informal Leadership – Characteristics – Styles of Leadership - Importance of Communication as a leader Coordinating Coordination – Introduction - Importance of coordination - Principles of coordination	10
V	Controlling Meaning and steps in controlling – Pre-requisites of a strong control system -Methods of establishing control Modern Management Techniques Introduction to various latest management techniques: Business process re-engineering, business outsourcing, benchmarking, kaizen, six sigma, knowledge management, just in time management, total quality management.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	L. M. Prasad	Principles of Management	Sultan Chand and Sons	Ninth Edition - 2015

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	V.S.P. Rao	Management: Text and Cases	Excel Books India	Second edition
R-02	Koontz & O'Donnell	Principles of Management	McGraw Hill	Forth edition

PROGRAM	Bachelors Of Business Administration
SEMESTER	I
COURSE TITLE	Microeconomics
COURSE CODE	04LS1103
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Apply economic reasoning to the analysis of selected contemporary economic problems.
- Understand how households (demand) and businesses (supply) interact in various market structures to determine price and quantity of goods and services produced and consumed.
- Use economic problem solving skills to discuss the opportunities and challenges of the increasing globalization of the world economy.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO MICROECONOMICS	10

	Meaning and definition of Microeconomics, Nature and scope of Microeconomics, Difference between microeconomics and macroeconomics. Central economic problems of society.	
II	CONSUMER BEHAVIOUR Utility analysis: Meaning of Cardinal and Ordinal utility. Cardinal Utility: Law of diminishing Marginal utility, Law of Equi-marginal Utility, Ordinal Utility: Indifference curve analysis, properties of indifference curve analysis, Marginal rate of substitution, Budget line and consumer's Equilibrium.	10
III	DEMAND AND SUPPLY ANALYSIS Determinants of demand , law of demand, exceptions to law of demand. Elasticity of demand and its applications: Price elasticity, Income elasticity and cross elasticity. Concept and Law of Supply , Factors Affecting Supply	10
IV	PRODUCTION AND COST ANALYSIS Production Function: Short run and long run production functions, laws of returns, and law of returns to scale. Cost Function : classification of costs, short run and long run cost curves and their interrelationship, Planning curve and envelope curve, internal and external economics of scale, revenue curves, optimum size of the firm, factors affecting the optimum size	10
V	EQUILIBRIUM OF FIRM AND INDUSTRY Perfect competition, monopoly, monopolistic competition, discriminating monopoly, aspects of non-price competition; group equilibrium, excess capacity, selling costs, oligopolistic behavior.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	H. L. Ahuja	Principles of Economics	S. Chand Publishing house	11 th ed. 2015

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	N.GregoryMankiw	Principles of Micro Economics	Cengage	6 th ed.
R-02	Pindyck, R.S., D. L. Rubinfeld and P. L. Mehta	Microeconomics	Pearson	7 th ed.
R-03	D. Salvatore	Microeconomic Theory	Tata McGraw Hill	5 th ed
R-04	D N Dwivedi	Managerial Economics,	Vikas Publishing House	4 th ed.

PROGRAM	Bachelors Of Business Administration
SEMESTER	I
COURSE TITLE	Business Organizations & Structures
COURSE CODE	04LS1104
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Describe the business structure and their organization.
- Discuss the changes that have taken place in there structure and organization pattern over the time

Course Contents:

Unit	Unit / Sub Unit	Sessions
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No		
I	INTRODUCTION Defining Business, Industry and Commerce. Classification of Activities of Business – Different types of Industry – Commerce – Trade – Trade supporting activities – Advantages and Disadvantages of Business. Their interrelationship in today's environment. Business and Society.	8
II	FORMS OF BUSINESS ORGANIZATION-I Sole Proprietorship, Partnership, Co-operative Society, Hindu Undivided Business, Franchise, Outsourcing.	12
III	FORMS OF BUSINESS ORGANIZATION- II Company – Types including Transnational company, Multinational Company, Joint Ventures & Business Alliances etc. and their structures. Limited Liability Partnership and MSMEs.	8
IV	BUSINESS COMBINATION: Concept, Causes and Forms- Associations, Federations, Consolidations, conglomerate etc.	10
V	GOVERNMENT, PUBLIC SECTOR & NOT FOR PROFIT ORGANIZATIONS : Non Government Organization, Trusts, Societies, Public Sector Enterprises , Stock And Commodities Exchange.	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	S.A Sherlekar & V.S Sherlekar	Modern Business Organisation and Management	Himalaya Publishing House Pvt. Ltd.	Fourth- 2017

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Y.K. Bhushan	Fundamentals of Business Organisation and Management	Sultan Chand & Sons	2013
R-02	Dr. Alice Mani	Business Organization & Environment	SBH	2 nd Edition
R-03	Muniraju S.K. Podder	Business Organisation & Environment	VBH	(2012)
R-04	Kaul, V.K	Business Organisation and Management	Pearson Education	11 th Edition
R-05	Chhabra, T.N.,	Business Organisation and Management	SunIndia Publications, New Delhi	10 th Edition.

PROGRAM	Bachelors Of Business Administration
SEMESTER	I
COURSE TITLE	Fundamentals Of Accounting
COURSE CODE	04LS1105
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Analyze business transactions and will be able to prepare the Financial Statements.
- Understand the need of uniformity in Accounting.
- Analyze the effects of different Financial Accounting methods on the Financial Statements.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Basics of Book – keeping and Accounting Introduction to Book Keeping and Accounting – Branches of Accounting – Systems of Accounting – Basis of Accounting – Characteristics of Accounting Information – Users of Accounting Information – Basic Accounting Terms – Classification of Accounts and its Rules – Accounting Equation Accounting Concepts and Conventions Accounting Principles: Accounting Concepts and Conventions – Fundamental Accounting Assumptions – Introduction to Ind AS – Applicability of Ind AS.	08
II	Process of Accounting Books of Original Entry – Journalizing (including GST) – Difference between Cash Discount and Trade Discount, Ledger – Preparation, Posting and Overview of Electronic Ledgers under GST: Electronic Cash, Credit and Liability Ledger – Practical problems on Journal and Ledger – Preparation of Trial Balance – Redrafting of Trial Balance – Errors and their Rectification	16
III	Final Accounts Types of Expenditure and Income – Meaning of Deferred Revenue Expenditure – Classification of Assets and Liabilities under different head – Contingent Asset and Contingent Liability – Distinguish between Provisions and Reserves – Types of Reserves – Preparation of Financial Statements of sole proprietorship – Impact of GST on Financial Statements – Format of Companies Financial Statements as per Companies Act, 2013.	14
IV	Depreciation Meaning and difference between Depreciation, Depletion and Amortization – Need of Depreciation – Depreciation methods (Straight Line Method and Written Down Value Method) – Method of recording Depreciation (Charging to Asset Account and Creating provision for Depreciation/ Accumulated Depreciation) – Treatment of Disposal of Fixed assets.	06
V	Valuation of Inventory Meaning of Inventory - Inventory Record Systems: Periodic and Perpetual - Methods of Stock Valuation: FIFO, Weighted Average and LIFO	04

Note: Any revision in Indian Accounting Standard will become applicable immediately.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T - 01	P.C.Tulsian	Financial Accounting	Pearson	Latest
T - 02	Dr. S. N. Maheshwari	Financial Accounting for Management	Vikas Publishing House	Latest
T - 03	Ambrish Gupta	Financial Accounting	Tata McGraw, Hill Publishing Co. Ltd. New Delhi	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R - 01	Jain, S.P. and K.L. Narang.	Financial Accounting.	Kalyani Publishers,	Latest
R - 02	Charles T. Horngren and Donna Philbrick	Introduction to Financial Accounting	Pearson	Latest
R - 03	Deepak Sehgal	Financial Accounting	Vikas Publishing H House	Latest

Elective

PROGRAM	Bachelors Of Business Administration
SEMESTER	I
COURSE TITLE	Computer Essentials
COURSE CODE	04LS1107
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Draft Document / Worksheet and Presentation
- Understand the Computer Hardware and Software Fundamentals
- Detail some of the problems that are encountered when developing documents and worksheets
- Describe briefly some of the technologies that are used to support online applications

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	COMPUTER BASICS Data- Instruction and Information-Characteristics of Computers- Various fields of application of Computers- Input-output Devices (Hardware-Software- Human ware and Firmware)-Advantages and Limitations of Computer- Block Diagram of Computer- Function of Different Units of Computer- Classification of Computers. Data Representation-Different Number System (Decimal- Binary- Octal and hexadecimal) and their Inter Conversion.	10
II	COMPUTER SOFTWARE Types of Software- Application software and system software- Compiler and Interpreter-Generations of languages-Low and High Level Languages-Computer Memory: Primary Memory & Secondary memory. Cache memory-optical memory- Storage Media. Introduction to Operating System-All Directory Manipulation-Creating Directory- Sub Directory-Renaming-Coping and Deleting the Directory File Manipulation-Creating a File-Deleting- Coping- renaming a File Using accessories such as calculator- paint brush- CD player etc.	10
III	INTRODUCTION TO MS- OFFICE (WORD) Introduction to Word Processing- Features - Formatting Documents- Paragraph Formatting- Indents- Page Formatting- Header and Footer- Bullets and Numbering- Tabs- Tables- Formatting the Tables- Finding and	10

	Replacing Text- Mail Merging etc..	
t IV	INTRODUCTION TO MS- OFFICE (EXCEL) Introduction to Electronic Spreadsheets- Feature of MS-Excel- Entering Data- Entering Series- Editing Data- Cell Referencing- ranges- Formulae- Functions- Auto Sum- Copying Formula- Formatting Data- Creating Charts- Creating Database- Sorting Data- Filtering etc.	10
V	INTRODUCTION TO MS- OFFICE (POWERPOINT) PowerPoint- Features of MS PowerPoint Clipping- Slide Animation- Slide Transitions- Slide Shows- formatting etc.- Creating formal presentations- inserting different objects- arts- charts- pictures etc. to slide.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	P.K.Sinha	Fundamental of Computers	B.P.B. Publications	

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Curtin, Foley, Sen, Martin,	Information Technology	Information Technology, Tata MC Graw Hill	2007
R-02	Sanjay Saxena	A First Course in computers	Vikas Publication	

Course: B.B.A.

SEMESTER	I
TITLE OF THE SUBJECT	READING AND WRITING FOR BUSINESS
COURSE CODE	04SL0102
DURATION	24 Hours

Objectives:

The course will enable the students:

- To read and interpret formal business writings such as reports, articles and reviews;
- To know structures of formal business letters and reports;
- To write formal business letters and reports;
- To inculcate a taste for reading and writing habits pertaining to the world of business.

Pre Requisites: None

Course Duration:

- The course duration is of 24 sessions of 60 minutes each.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
Unit I	Introduction to Business world 1. Reading a business case-study – “Tripping Along” by Deep Kalra from <i>Stay Hungry Stay Foolish</i> 2. Reading 3 business articles (general in nature) from the newspapers/magazines i. “Paytm: the wonder wallet” from Forbes India. ii. “Millennials: How They Live and Work” from Gallup. iii. “The Right Culture: Not About Employees Happiness” from Gallup.	12
Unit-II	Reading and writing for business 1. Reading business letters (of sales, inquiry, order, complaint, and adjustment) 2. Writing business letters (Any two types) 3. Reading a few short business reports 4. Writing a short business report	12

Learning Outcomes:

After studying this course, student should be able to:

- Inculcate formal reading and writing skills required to communicate with colleagues in the workplace.
- Writing effective business letters, reports.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

		Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	25% (External Assessment)
D	Viva	25%

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Raman M. and Singh P	Business Communication	Oxford University Press	20 th edition, 2011
T-02	Kumar S. and Lata P.	Communication Skills	Oxford University Press	6 th edition, 2013

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Murphy H., Hildebrandt H. and Thomas J	Effective Business Communication	Tata McGraw-Hill	2008
R-02	Sharma R. and Mohan K	Business Correspondence and Report Writing	Tata McGraw-Hill	4 th edition, 1998
R-03	Lesikar R., Flatley M., Rentz K., Pande N	Business Communication	Tata McGraw-Hill	11 th edition, 2009

1. Arakali, Harichandan. "Paytm: The wonder wallet." Forbes India, 16 Nov. 2016, <http://www.forbesindia.com/printcontent/44825>
2. Clifton, Jim. Millennials: How They Live and Work." Gallup, 11 May 2016, <http://www.gallup.com/opinion/chairman/191426/millennials-live-work.aspx>

3. Harter, Jim. "The Right Culture: Not About Employee Happiness." Gallup, 12 April 2017, http://www.gallup.com/businessjournal/208487/right-culture-not-employeehappiness.aspx?g_source=WORKPLACE&g_medium=topic&g_campaign=tiles
4. Kalra, Deep. "Tripping Along." *Stay Hungry Stay Foolish*, edited by Rashmi Bansal, IIM Ahmedabad, 2008, pp. 130-143.

Course: B.B.A.

SEMESTER	I
TITLE OF THE SUBJECT	SPEAKING AND PRESENTATION SKILLS
COURSE CODE	04SL0103
DURATION	24 Hours

Objectives:

The course will enable students

1. To share information on familiar matters/issues in English.
2. To make effective presentations in English.
3. To gain confidence in speaking in English.

Pre Requisites: None

Course Duration:

- The course duration is of 24 sessions of 60 minutes each.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
Unit I	Speaking/Interacting in an Academic Context Greetings, Introducing self and peers, Asking and sharing information, Expressing points of view, Discussions, Facing viva voce, Group discussions, Facing an interview (interview skills).	12
Unit-II	Effective Presentation Skills Introduction to effective presentation skills, Preparing the presentation (Collection of Data/Information, exploring the topic etc.), Using ICT for the presentation, Getting ready for the presentation, Effective body language, Effective pronunciation, Interacting with the audience (Q & A), Practice (with video recording), Feedback and Suggestions.	12

Learning Outcomes:

After studying this course, student should be able to:

- Inculcate speaking skills required to communicate with colleagues in the workplace.
- Effective presentation skills in business, Pronunciation, Interacting with audience.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

		Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	25% (External Assessment)
D	Viva	25%

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Sprague Jo, and Douglas Stuart	<i>The Speaker's Handbook</i>	Thomson Wadsworth	8 th edition, 2008

Recommended Readings/ Viewings:

- Select TED Talks
 - Select INK Talks
 - Select Toastmasters Videos
 - Select Courtroom Dramas
 - Select Videos of speakers like Steve Jobs, Sundar Pichai etc.
1. "Communication." themuse. 2017. <https://www.themuse.com/tags/communication>. Accessed 4 July 2017.
 2. Presentation Magazine. 2017. <https://www.presentationmagazine.com/>. Accessed 4 July 2017.
 3. "Presentation Skills." *SKILLS YOU NEED*. 2017. <https://www.skillsyouneed.com/presentation-skills.html>. Accessed 4 July 2017.
 4. Siddons Suzy. *The Complete Presentation Skills Handbook*. Kogan Page, 2008.



Marwadi University

Bachelor of Commerce/Business Administration/(Hon.)

Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

PROGRAM	Bachelors Of Business Administration
SEMESTER	II
COURSE TITLE	Statistics in Business
COURSE CODE	04LS0205
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Learn the important statistical concepts
- Understand Application and implementation of statistical methods in field.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	<p>Basic Concepts Basics of Statistics: Introduction, Definition, Application of Statistics in Business, Economics and Industry. Presentation of Data: Data collection methods (Primary Vs. Secondary, Population Vs. Sample), Classification and Tabulation of quantitative data, Frequency distribution and Cumulative frequency distribution, Graphical Presentation of data (Histogram, Polygon and Ogive), Use of MS-Excel to create Frequency Distribution and Graphs Univariate Analysis: Descriptive Measures (Central Tendencies and Variation): Meaning of Central Tendency, Averages – Arithmetic mean, Mode, Median and Percentiles, Variation – Range and Variance and Standard Deviation of ungrouped and grouped data. Coefficient of Variation, Choice of good measures. (Use of MS Excel Statistical function to find descriptive measures)</p>	14
II	<p>Probability Theory Counting ($m \times n$) rule, Permutation and Combination (Use of MS Excel to compute permutation and combination)</p> <p>Theory of Probability: Definition, Basic terminology of Probability, three approaches of assigning probability (Classical, Relative Frequency and Subjective</p>	08



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Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

	approach), Rules of probability, Addition rule, Multiplication rule for independent and dependent events.	
III	Probability Distribution: Random variable, probability distribution and mathematical expectation Discrete Probability Distribution: Binomial, Poisson Continuous probability Distribution: Normal Distribution – Properties and Applications (Use of MS Excel Statistical function to compute Binomial, Poisson and Normal probability)	08
IV	Bivariate Analysis Correlation and Regression Analysis: Meaning of correlation, types of correlation, method of correlation – Karl Pearson’s coefficient of correlation, Meaning of Regression, regression coefficients and two lines of regression, use of regression in prediction. (Use of MS Excel Statistical Function to compute correlation and regression)	10
V	Time based Analysis Time Series and Index Numbers: Basic Concepts, Components of Time series (Trend, Seasonal Variation, Cyclic and Random / Irregular variation), methods to determine trend and Seasonal Indices – simple averages, Use of Time Series in Business and Economics. Overview of Index Numbers as an important statistical tool in economics.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:



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Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	J K Sharma	Fundamentals of Business Statistics	Vikas Publication	Latest Edition
T-02	N D Vohra	Business Statistics	McGraw Hill Education	Latest Edition
T-03	D P Apte	Statistical Tools for Managers Using MS EXCEL	Excel Books	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Lewin and Rubin	Statistics for Management	Prentice-Hall of India	Latest
R-02	Sancheti D.C. and Kapoor V.K	Statistics: Theory, Methods & Application	Sultan Chand & Sons	Latest
R-03	S.C. Gupta	Fundamentals of Statistics	Himalaya Publishing House	Latest
R-04	S P Gupta	Statistical Methods	Sultan Chand	Latest
R-05	R. P. Hooda	Introduction to Statistics	Macmillan	Latest
R-06	S.C. Aggarwal & R.K Rana	Basic Statistics for Economists	V.K. India.	Latest
R-07	Beri, G.C	Business Statistics	TMH	Latest
R-08	Chandan J S	Statistics for Business and Economics	Vikas Publications	Latest

PROGRAM	Bachelors Of Business Administration
SEMESTER	II
COURSE TITLE	Applications Of Spreadsheet



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Bachelor of Commerce/Business Administration/(Hon.)

Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

COURSE CODE	04LS0212
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

COURSE OUTCOMES:

- Able to perform routine organizational tasks using Spreadsheets.
- Can be able to understand about pivot tables and how to use it for routine purpose.
- Able to manage spreadsheet and be able to compare data in to different spreadsheet.
- Create a dynamic spreadsheet.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Manage Worksheet Data, Reorder and Summarize Data Understanding software for spreadsheet, learning basic menu items, Basic operations like create, open and save a file, worksheets and workbooks, Renaming Inserting Data in proper tabular format, Basic formatting like changing fonts, size, merging and splitting cells, Coloring cells, conditional formatting	06
II	Functions & Formulas Basic Arithmetic Functions, Conditional Functions, Lookup Functions, Sorting and Filtering Data, Paste Special, Data Validation, Converting Text to Table, Working with multiple sheets	09
III	Data Analysis and Printing Analyze data dynamically by using PivotTables, Filter, show, and hide PivotTable data, Edit PivotTables, Format PivotTables, Create PivotTables from external data, create dynamic charts by using Pivot Charts, Page Setup and Printing	09

Evaluation:



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Bachelor of Commerce/Business Administration/(Hon.)

Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Cox et al	Step by Step 2007 Microsoft Office System	PHI Learning Private Limited	Second Edition, 2009

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Curtis Frye	Microsoft Excel 2016 Step by Step	Microsoft Press	Latest

PROGRAM	Bachelors Of Business Administration
SEMESTER	II
COURSE TITLE	COST ACCOUNTING
COURSE CODE	04LS1202
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Learn the important cost concepts
- Understand Application and implementation of costing methods



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Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Fundamentals of Cost accounting Objectives and functions of cost accounting, Meaning of Cost, Methods of costing, Techniques of costing, Cost ascertainment and cost estimation, Classifications of cost, Special costs for management decision making, Elements of cost, Steps of installation of a costing system, Advantages of cost accounting, Limitations or objections against cost accounting, Essentials of a good cost accounting system	8
II	Direct Expense Material Cost: Material Control, Techniques of inventory control; ABC, Stock Levels and Economic order Quantity. Proper storage of Materials. Labour Cost: Meaning, Labour Remuneration: Methods of Remuneration: Time rate system, Piece rate system, Incentive plans, Group bonus plans.	9
III	Overheads: (Apportionment) Meaning of overhead cost, Classification of overhead cost, Segregation of semi-variable cost, overheads distribution, Allocation and apportionment of overheads (primary distribution), Re-apportionment of service department cost (secondary distribution). Methods of costing Unit Costing: output costing, Costing procedure, Treatment of Stocks, Items Excluded from Cost, Treatment of Scrap	11
IV	Methods of costing Job and Batch Costing: Job Costing Procedure, Batch costing, Economic Batch Quantity. Process Costing: Introduction, Essential Characteristics of Process Costing, Process Costing and Job Costing— A Comparison, Costing Procedure, Normal Loss and abnormal loss, Normal Gain and abnormal Gain.	11
V	Methods of Costing Operating Costing: Operating costing, Cost unit, Transport costing, Transport costing procedure, Boiler house and power house costing, Canteen costing.	9

Evaluation:



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Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M. N. Arora	A Textbook on Cost and Management	Vikas Publication	Latest Edition
T-02	Paresh Shah	Cost and Management Accounting	Oxford Publication	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Ravi M kishore	Cost and Management Accounting	Taxmann	Latest
R-02	V Rajshekharn&Lalitha	Cost Accounting	Pearson	Latest
R-03	CharlesT, Horngren, S M	Cost Accounting	Pearson	Latest
R-04	P C Tulsiyani	Cost Accounting	S Chand	Latest
R-05	Khan and Jain	Management Accounting	TMH	Latest

PROGRAM	Bachelors Of Business Administration
SEMESTER	II
COURSE TITLE	Macroeconomics



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Bachelor of Commerce/Business Administration/(Hon.)

Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

COURSE CODE	04LS1203
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Comprehend why household, business, government and global behavior determine the aggregate demand for goods and services.
- Understand the basics of national income accounting.
- Apply economic reasoning to understand the operation of an economy.

Course Contents:

Unit No	Unit/Sub-unit	Sessions
I	Introduction to Macroeconomics & National Income: Nature and Scope of Macroeconomics, Circular Flow of Income and National Income Accounting , Concepts of GDP and NDP- Sectoral Composition of National Income - GDP measured at Factor Price and Constant Prices- Concept of GNP and NNP, Factor Cost and National Income-Per Capita income, Disposable Income and Personal Disposable Income- Measurement of National Income – Difficulties in measuring National Income	10
II	Keynesian Economic Theory Say's Law of Market and its criticism by Keynes. Simple Keynes Model of Income Determination. Concepts of Consumption Function, Saving Function and Investment Function. Average Propensity to consume, Marginal Propensity to Consume, Investment Multiplier–Marginal Efficiency of Capital and factors affecting MEC.	10
III	Money Supply and Central Bank Meaning and Evolution of Money- Definition of Money- Functions of Money – Demand for Money - Quantity Theory of Money- Fisher's Equation of Exchange-Cambridge Theory. Supply of Money – Determinants of Money Supply- Components of Money Supply-	10



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Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

	RBI's Approach-M1, M2, M3, M4.	
IV	<p>Business Cycle & Inflation</p> <p>Concepts of Business cycle – Four phases of Business Cycle – Interest rate –Loanable fund Theory and Liquidity preference theory- Motives for liquidity preference--Transaction Motive, Precaution Motive, Speculative Motive. Factors affecting interest Rate, Inflation-Meaning, Types, Causes, Effects-Inflation and Investment.</p>	10
V	<p>Open Economy Macroeconomics</p> <p>Balance of Payments –Meaning and assessment, Balance of payment and disequilibrium causes and remedies. Introduction to Foreign Exchange Rates-Fixed V/s Flexible foreign exchange rates. Exchange rate determination.</p>	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	H.L.Ahuja	Macro Ecoomics	S.Chand	20 th ,2015



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Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	D.M.Mithani and Prof. Nayak	Macroeconomics II	Himalaya Publication	1 st edition
R-02	D. N. Dwivedi	Macroeconomics Theory and policy	Tata Mcgraw Hill	4 th edition
R-03	Mankiw	Macroeconomics-Indian edition	Cengage	1st

PROGRAM	Bachelors Of Business Administration
SEMESTER	II
COURSE TITLE	Organizational Behavior
COURSE CODE	04LS1204
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand individual differences and utilize them effectively in making groups to achieve organizational objectives.
- Apply knowledge of models and theories to promote the effectiveness in workplace

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO ORGANIZATIONAL BEHAVIOUR Introduction to OB- Meaning, Definition, Scope, Contributing disciplines, Determinants of OB, Evolution of OB, challenges and Opportunities for Organization Behavior	07



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Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

II	<p>UNDERSTANDING INDIVIDUAL BEHAVIOR Understanding Personality: Meaning, Types, Determinants, Personality Attribute influences Organizational behavior Perception : Meaning, factors, link between perception and Individual decision making Attitude: Meaning, components, Types of attitude, Formation of attitude, Attitude and workforce diversity. Values : Meaning, Types and Importance of values Motivation : Meaning, Types and Theories- Hierarchy of Needs Theory, Theory X and Theory Y, Two-Factor Theory , carrot and stick Approach to Motivation Learning : Meaning and Various Approaches of Learning</p>	15
III	<p>GROUP BEHAVIORS AND LEADERSHIP Group; Meaning, classification of Group, stages of Group formation Understanding teams; Meaning, Difference Between Group and Team, Types of Team Leadership; Meaning of leadership , leadership styles, traits, Theories; Trait Theory</p>	09
IV	<p>ORGANIZATION STRUCTURE AND ORGANIZATION CULTURE Organization Structure; Work Specialization, Departmentalization , Chain of Command , Span of Control, Centralization and Decentralization, Formalization Organizational Designs :Simple Structure ,Bureaucracy ,Matrix Structure , Virtual Organization , Boundaryless Organization Organization Culture –Meaning, Definition, Features, Importance of Culture.</p>	10
V	<p>ORGANIZATIONAL CHANGE AND CONFLICT MANAGEMENT Organizational Change: Meaning – Factors influencing change - Resistance to change - Overcoming resistance Conflict Management: Meaning – types of conflict –factors affecting conflict in organization.</p>	07

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)



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Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

C	End-Semester Examination	50% (External Assessment)
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SUGGESTED READINGS:

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Robbins	Organizational Behaviour	Prentice Hall	Latest Publication
T-02	K. Aswathappa	Organizational Behaviour	HPH	Latest Publication
T-03	P.G. Aquinas	Organizational Behavior	Excel Books	Latest Publication

Reference Books

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	John W. Newstrom & Kieth Davis	Organizational Behaviour	McGraw Hill	Latest Publication
R-02	Fred Luthans	Organizational Behaviour	McGraw Hill	Latest Publication



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Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

PROGRAM	Bachelors Of Business Administration
SEMESTER	II
COURSE TITLE	E-Commerce
COURSE CODE	04LS1206
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Comprehend why household, business, government and global behavior determine the aggregate demand for goods and services.
- Understand the basics of national income accounting.
- Apply economic reasoning to understand the operation of an economy.

Course Contents:

Unit No	Unit/Sub-unit	Sessions
I	INTRODUCTION TO E COMMERCE Introduction to E-Commerce – History of E-commerce, types of E-Commerce - Comparison of traditional commerce and e-commerce. Business models under E-Commerce – Business to Business (B2B) - Business to Customer model (B2C), Consumer-to-Consumer (C2C) - Consumer-to-Business (C2B) model - Peer to-Peer (P2P) model – emerging trends - Advantages and Disadvantages of e-commerce - web auctions, virtual communities - portals - e-business revenue generation models.	10
II	HOW TO SET UP E COMMERCE BUSINESS Why do I want to set up an E-Commerce enterprise?:- competition, global research, customer service, value edition, operations oriented process, 'pettish' products; What do I want to do on the net? Web	10



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Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

	development and maintenance, static web pages, integration with operational database, dynamic web site, customer transaction, transaction processing/ payment, merchant account, transaction processing, online credit card frauds, full E-Commerce.	
III	PAYMENTS IN E – BUSINESS E-payment systems – An introduction - B to C payments - B to B payments - Types of E- payment system – Credit card - debit cards - accumulating balance - online stored value payment systems - Secure Electronic Transaction (SET) protocol - payment gateways - digital cash - digital wallets - agile wallet - smart cards and digital cheques.	10
IV	SECURITY OPERATIONS FOR E-BUSINESS Possible Security threats – implementation of E-commerce security – encryption – Decryption - protecting client computers - E-Commerce Communication channels and web servers Encryption - SSL protocol – Firewalls - Cryptography methods – VPNs - protecting networks - policies and procedures	10
V	MARKETING OF E-BUSINESS E-Commerce and marketing - B to B and B to C marketing and branding strategies - Web transaction logs – cookies - shopping cart database – DBMS – SQL - data mining - CRM (customer relationship Management) system – permission marketing - affiliate marketing - viral marketing.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	K. Bajaj & D. Nag	E-Commerce: The cutting edge of business	TMGH	Latest



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Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Becker, S. Ann (ed.),	Electronic Commerce: Concepts, Methodologies, Tools and Applications	IGI Global	2007

Course Description

The course will help the students to develop their ability to communicate in English for workplace. The course will introduce the students to various workplace situations

through videos, audios, and simulations and develop students' texts workplace. language for

Course Objectives

The course will enable the students

1. to familiarize with workplace culture;
2. to share information and collect information;
3. to express one's views and agree or disagree with others;
4. to write workplace documents.

Recommended Reading:

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Unit 1: Working together

1. Making requests, suggestions, agreeing and disagreeing
2. Accepting and declining an invitation
3. Giving feedback and verifying information
4. Communication in a meeting (Induction meetings)
5. Telephonic conversation

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Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

Expressions:

3. Let's Talk video: Requests and Command
in <https://youtu.be/TrCsLOqOuSg>

at Work:
English:



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Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

4. Let's Talk video: Making suggestions and recommendations:

<https://youtu.be/Bjglvhc6Hnc>

5. Online article: BBC - Agreeing and disagreeing:

<http://learnenglishteens.britishcouncil.org/exams/speaking-exams/agreeing-and-disagreeing>

6. Youtube video: Making, Accepting & Declining an Invitation in English.

<https://youtu.be/GqwpBEynsyo>

7. BBC video: Giving feedback - 18 - at Work:

https://youtu.be/UKz1Fsw_e8c

8. Online article: Effective Meetings:

http://people.ucalgary.ca/~design/engg251/First%20Year%20Files/effect_mee t.pdf

9. Youtube video: Useful Telephone Phrases: https://youtu.be/6tfFRD_e1V0

Unit 2 Writing for Workplace

1. Letter Writing
2. Email writing
3. Report writing
4. Writing Notices
5. Minutes of meeting

Recommended Readings/Viewings:

1. Online article: Letterbarn: Sample Employment and Workplace Letters: <http://letterbarn.blogspot.in/2008/12/sample-recruitment-letters-training-and.html>
2. Online article: Business letter examples: <https://www.thebalance.com/business-letter-examples-samples-and-writing-tips-2059673>



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Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

3. BBC Learning English video: Writing an Email- 18 - English at work:

<https://youtu.be/aO3Det4ir8U>



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Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

4. BBC Article: English Email:
for <https://learnenglish.britishcouncil.org/en/english-emails>
5. Blog: My School: How to write notice and circular:
<http://english-cbse.blogspot.in/2011/09/how-to-write-notice-and-circulars.html>
6. Online article: Drafting of Notices, Circulars, Minutes and Resolutions:
<http://www.yourarticlelibrary.com/business/reports/drafting-of-notices-circulars-minutes-and-resolutions/75904/>

Teaching Scheme:

Teaching Scheme (Hours per week)	Evaluation Scheme					Total Marks	
	Theory	ES E	IA	CS E	Viv a		Term Work
2 Hours		00	30	20	25	25	100

1. IA will consist of the following components (30 marks):

a. Assignments (20 Marks): Students will prepare assignments as following.

Writing a letter, a circular, a notice and a minute of meeting on the givensubjects. (05 Marks each)

b. In-Class Participation (10 Marks)

2. CSE (20 marks):

Term End Simulation: Performing a simulated

wor



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Workplace scenesituation and video/audio recording it. (20 Marks) on a given

3. **Viva (25 Marks):** Viva will be conducted at the end of the semester. It will be based on the CSE, Term Work, Assignments and topics covered in the syllabus.

4. **Term Work (25 Marks):**



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Term-End Presentation: Students will make a presentation based on topics provided by the faculty at the end of the semester.

Further Suggested Readings:

1. Cosgrove Anthony, *English at Work (with audio CD and practical language activities in the UK)*, Cambridge University, 2011
2. BBC video series on English at Work (45+ videos): Link:
https://www.youtube.com/playlist?list=PLcetZ6gSk969oGvAl0e4_PgVnlGbm64bp
3. FutureLearn course on English for Workplace:
Link: <https://www.futurelearn.com/courses/workplace-english/2/todo/10069>
4. Video conference on first day of joining:
<https://view.vzaar.com/9734063/video>
5. Maheshwari, *English at the workplace*, Laxmi Publication, 2006
6. MuktiSanyal, VarmaPromodini, *English at the Workplace II*, Oxford University Press, 2007
7. HelgesenMarc, Adams Keith, *Workplace English:Office File*, Longman, 1996
8. Schofield, James, *Collins Workplace English*, Harper Collins Publisher, 2012

Course Description

The course offers select English movies as a medium for teaching English language skills. Given that 'context' is a vital aspect for language learning, film as an audio-visual

'text' re-creates reality whilst presenting its viewers with demonstrations of varied

linguistic contexts. This course thus aims to create a sense of ease in learning English in a contextual manner. Moreover, the objectives of learning language are fluency and accuracy. These aims can be achieved



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best by various language contexts (situations) demonstrated in movies. Also, movies present language in a more accessible fashion for the students to easily acquire language skills.

Course Objectives

The course will enable the learners to

1. further enhance their basic language skills;
2. identify and use different language functions in an audio-visual context;
3. learn to use film and its elements as tools for language learning.

Unit 1: Language Functions, Contexts & Movies

In this unit, students will learn, understand, and explore English through clips from various selected movies. They will primarily study a number of language situations, as shown in the clips, in order to understand how English can be used in varying contexts. This unit aims to improve the students' basic language skills LSRW by dealing with

varying language activities by focusing on strengthening their vocabulary,

interpretation skills, reading non-verbal cues, pronunciations, and also their writing skills. Students would explore the following language activities in this unit:

1. Introducing the course
 - a. Instructors will introduce each film included in the syllabus along with a very brief background of the recommended movies, and



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- b. Students will be asked to list the kinds of movies they prefer and also provide a reason for their preferences
2. Focusing on dialogues and understanding parts of speech
3. Creative Writing: Making a pamphlet (for Continuous Semester Evaluation)
4. Reading nonverbal cues in context
5. Vocabulary building exercises – word meanings, making sentences & finding images and synonyms and antonyms
6. Interpreting dialogues & pronunciation
7. Daily Conversations

Recommended Web-links

1. www.fluentu.com/english/blog/learn-english-movies-film-esl/?lang=en
2. www.academia.edu/.../The_Impact_of_Using_Movies_on_Learning_English_language
3. <https://speechyard.com/us/video/>
4. <https://www.learnenglish.de/improveenglish/films.html>

Unit 2: Detailed Analyses of the Movies

Students would be asked to watch the selected movies and individual scenes in order to transcribe dialogues, respond to and discuss various issues dealt within the movies, answer questionnaires, and write movie reviews. They will also be asked to interpret the trailers of these movies and discuss them in groups. The following activities will be covered in this unit:

- a. Dialogue and monologue transcription
- b. Interpreting the trailers [Group discussion]
- c. Interpreting the scene(s) [Group discussion in context]
- d. Movie comprehension (a short film and a long scene will be played in class)
- e. Reading and Writing Movie reviews
- f. Describing/Discussing the posters of the movies,
- g. Describing characters & themes (Questionnaire)
- h. Giving feedback/expressing opinions.



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Subject Name: English through Movies

Recommended Web-links

1. <http://www.imdb.com>
2. <https://www.rottentomatoes.com/>
3. warmupsfollowups.blogspot.com/
4. www.learnenglishfeelgood.com/eslvideo/
5. <http://www.esl-galaxy.com/video.htm>

Evaluations and Assessment:

The evaluation and assessment would consciously

Teaching Scheme (Hours per week)	Evaluation Pattern					Total Marks
	ESE	IA (In-Class Participation & Assignments)	CSE	Term-End Presentation	Viva	
Theory						
2	00	30	20	25	25	100

1. IA (Internal Assessment): The IA consists of two components. First being the In-

Class participation of 10 marks. The second assignments consisting being three

prepared by students and submitted during the semester. It carries 20 marks. The list of three assignments is as follows:

- a. Transcribing a monologue of a major character (5 marks)
- b. Plot description on the basis of a trailer (5 marks)
- c. Comprehension of a short film/ long scene (10m)

2. CSE (Continuous Semester Evaluation): Students will be assigned a particular

film(s) for this endeavour. It carries 20 marks. Students will be given the topic by the end of the first fortnight of the semester. The details of the task are as follows:



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-
- a. Preparing a four-page pamphlet on the selected film, describing the production details, film synopsis, and other details.



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3. Term-End Presentation: They will be assigned two movies for the term-work. It carries 25 marks. The students will write two movie reviews. The reviews have to be handwritten. After the submission of the review file, they will be making a presentation of their written submission. The reviews carry 15 marks and the presentation will carry 10 marks.

4. Viva: It carries 25 marks. Viva will include questions on their term work on movie reviews. Out of 25 marks, 10 marks will be allotted for their term-work and 15 marks for their linguistic skills along with their understanding of the course materials.

Selected Movies

1. *Harry Potter and the Philosopher's Stone*. Directed by Chris Columbus, WarnerBros. Pictures, 2001.
2. *Paperman*. Directed by John Kahrs, Walt Disney Animation Studios, 2012.



3. *Steve Jobs*. Directed by Danny Boyle, Universal Pictures, 2015.
4. *The Social Network*. Directed by David Fincher, Columbia Pictures, 2010.
5. *WALL-E*. Directed by Andrew Stanton, Walt Disney Pictures & Pixar Studios, 2008.



10.

r Animation

PROGRAM	Bachelors Of Business Administration
SEMESTER	III
COURSE TITLE	Marketing Management
COURSE CODE	04BB0301
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Comprehend Fundamental Marketing Concepts and marketing environment.
- Apprehend the concepts of Basic 4Ps of Marketing.
- Understand and apply the concepts of Segmenting and Targeting Customers.
- Comprehend various channels of distribution and various means of promotion.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO MARKETING MANAGEMENT Introduction to marketing management – Need of marketing management, Definition, Scope, Core Marketing concepts, Understanding – Needs, Wants and Demand, Customer Value & Satisfaction, Functions of marketing, Eras in marketing, Marketing environment, Marketing mix , Role of marketing manager.	08
II	CONSUMER BEHAVIOUR & SEGMENTATION Understanding Consumer behaviour, Factors affecting Consumer Buying Decisions, Consumer Buying Process, difference between Consumer buying and Industrial buying. Introduction to Segmenting, Concept, Importance and Bases of segmentation, Targeting & Positioning, Product differentiation.	10
III	PRODUCT AND PRICE Understanding Product and its importance, Product Levels, Product mix, Branding, Product Life Cycle & Strategies at various levels, New Product Development, Overview of Packaging, Introduction to Service marketing, SERVQUAL Pricing: Introduction to Pricing, Factors affecting Pricing and Strategies for Pricing.	10
IV	DISTRIBUTION Introduction to Distribution – Meaning and Importance, Channels of Distribution, Channel members, Wholesaling and Retailing, Introduction to Logistics.	08

V	PROMOTION Introduction to Promotion – Types, Scope, Tools, Advertising – Roles, 5MS; Personal selling, Public relations, Direct Marketing & sales promotion – concept and characteristics. Brief introduction to Latest trends in marketing (Online Marketing - Green marketing and Rural Marketing)	10
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Philip Kotler & Kevin Lane Keller	A Framework for Marketing Management	Pearson Education.	Sixth Edition (2016)

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Philip Kotler; Kevin Lane Keller; Abraham Koshy; MithileshwarJha	Marketing Management: A South Asian Perspective	Pearson Education	Latest Edition
R-02	Tapan Panda	Marketing Management	Excel Books	Latest Edition
R-03	Rajan Saxena	Marketing Management	TMGH	Fourth Edition

PROGRAM	Bachelors Of Business Administration
SEMESTER	III
COURSE TITLE	Human Resource Management
COURSE CODE	04BB0302
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Explain the importance of human resources and their effective management in organizations.
- Analyze the key issues related to administering the human elements such as recruitment, training, compensation, management development and employment relations.
- Understand the process of job analysis and appreciate its importance as a foundation for human resource management practice.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction: An Introduction to Human Resource Management, characteristics and significance of HRM, Skills and Competencies of a Human Resource Manager, changing skill requirement, changing employee expectations, Challenges faced by HR managers.	08
II	Procurement: Human Resource Planning, process and significance, job analysis – job description and job specification, Recruitment - Selection – Placement and Induction, HRM Workshop: Linking Concepts to Practice.	12
III	Development: Identification of training needs, Methods of training, Difference between Training & Development. Introduction to Management Development, DO YOU KNOW?: Where Are the Jobs?(class discussion).	10
IV	Compensation: Introduction - Basic factors in determining pay rates, Basic, Supplementary and Executive Remuneration, types of employee benefits and services, Ethical issues in Compensation Management: Discussion.	10
V	Employment Relations: Employee Relationship Management– Definitions and Main Aspects, Industrial Disputes & Conflicts, Contemporary issues in Human Resource	08

	Management.	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Pravin Durai	Human Resource Management	Pearson: Dorling Kindersley (India)	4th

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	K. Aswathappa	Human Resource and Personnel Management, Text and Cases	Tata MC Graw-Hill	6 th , 2010
R-02	Gary Dessler & BijuVarkkey	Human Resource Management	Pearson	14 th , 2016
R-03	V.S.P. Rao	Human Resource Management - Text and Cases	Excel Books	2006

PROGRAM	Bachelors Of Business Administration
SEMESTER	III
COURSE TITLE	Business Environment
COURSE CODE	04BB0303

COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the meaning and relationship of environment and business
- Know the characteristics of modern business
- Explain the competitive structure of an industry

Course Contents:

Unit No.	Unit / Sub Unit	Sessions
I	INTRODUCTION TO BUSINESS ENVIRONMENT Introduction to Business environment - salient features – importance - internal & external environment –Macro & Micro Factors(SWOT Analysis- Firm Specific) environment scanning: features - process & techniques -Social and Cultural Factors, Business Environment with reference to global integration, ecological environment protection Act	10
II	ECONOMIC ENVIRONMENT & POLITICAL ENVIRONMENT Political structure: Legislature institutions – executive institutions – judiciary institutions - Economic systems: capitalism, socialism; mixed economy, mixed economy of India; LPG - Liberalization, Privatization & Globalization and its impacts –Highlights of New industrial policy & its implication in India –Fundamentals of fiscal policy.	10
III	TECHNOLOGICAL & LEGAL FRAMEWORK Impact of Technology on Business –Overview of Technological Policies- ISO standards- Bureau Of Indian Standards–Important features of Intellectual property rights – Trademarks –The Competition Act 2002: Basics of Foreign Exchange Management Act 1999 (FEMA): Features – objectives - application of the Act - FEMA Vs FERA.	10
IV	SOCIAL ENVIRONMENT Business and Society, Changing Concepts and objectives of Business, Interdependence of business and society, technological development and social change, Consumers' rights & consumerism, Consumer protection Act; corporate governance.	10
V	INTERNATIONAL BUSINESS ENVIRONMENT Importance of International Business, Types of International Business, Protectionism, EXIM policy, EPZs, EOUs, SEZ, WTO, regional blocks.	8

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
1	Francis Cherunilam	Environment For Business	Himalaya Publishing House	2 nd edition 2011

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
1	Mishra, S.K. and Puri V.K	Economic Environment of Business	Himalaya Publishing House	1 st - 2011
2	Paul Justin	Business Environment-Text and Cases	TATA McGraw Hill Publishing	3 rd - 2010
3	Vivek Mittal	Business Environment	Excel Books	2 nd - 2010
4	Raj Agarwal	Business Environment	Excel Books	5 th - 2002
5	Francis Cherunilam	Business Environment, Text & Cases	Himalaya Publishing House	25 th - 2016
6	Aswathappa K	Essentials of Business Environment	Himalaya Publishing House	13 th - 2016
7	Morrison J	The International Business Environment	Palgrave	2 nd - 2006
8	Richard G. Lipsey	An Introduction to Positive Economics	ELBS, Oxford	7 th - 1989

List of Journals /Periodicals/ Magazines/ Newspapers etc.

1. International Journal of Business Environment

2. International Journal of Entrepreneurship & Business Environment Perspectives
3. Journal of World Business
4. Economic & Political Weekly
5. Intellectual Property Rights
6. Corporate Governance
7. Business India / Business World
8. Banking & Finance
9. Industrial Economist
10. Fortune, Global Business Review,
11. Economic Survey- GOI
12. World Development Report
13. India Development Report (Latest Edition)
14. RBI Annual Report, etc

PROGRAM	Bachelors Of Business Administration
SEMESTER	III
COURSE TITLE	Research Methodology
COURSE CODE	04BB0304
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Gain basic knowledge on research methods.
- To make decisions based on actual business conditions using statistical method.
- Demonstrate knowledge in different types of research methods and techniques.
- Perform statistical analysis and compile structured reports that reflect appropriate decision making.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	RESEARCH PROCESS – 1 Objective, Introduction, Scope of Business Research , Managerial value of Business Research, Business Research in a Global context , Ethics and Business Research , Types of Business Research, Stages in Research Process , Importance and criteria of Good research, Need for Research Design, Features of good research design.	12
II	RESEARCH PROCESS – 2 Introduction to Qualitative and Quantitative Research, Sampling Design – Census and Sample survey, Characteristics of good sample design, Sampling Methods – Random sampling and non-random Sampling.	06

	Sampling and non-sampling Errors , sample size determination.	
III	DATA COLLECTION, MEASUREMENT AND SCALING Data collection methods – Primary and Secondary Data , Measurement in Research, Measurement Scale, Meaning of Scaling, Scaling Techniques and it's construction , Questionnaire Design, Developing Measurement Tools using Excel functions.	12
IV	PROCESSING AND ANALYSIS OF DATA Measures of Relationship – Simple Correlation and Simple Regression Analysis, Formulation and statement of hypothesis, confidence interval, Type-I error, Type-II error, one-tailed , two tailed, , Testing of hypothesis(population mean and population proportion for single population)	12
V	PREPARING REPORTS Technical and Academic Report Writing, Significance of Report writing, Layout of Research Report, Precaution for writing Research Report and Conclusion.	06

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
TEXT BOOKS:-

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Deepak Chawla & Neena Sodhi	Research Methodology, Concepts And Cases	Vikas Publication	2/e,2016

REFERENCE BOOKS:-

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Naval Bajpai	Business Research Methodolgy	Pearson Education	1/e,2011

R-02	Cooper And Schindler	Business Research Methods	Mcgraw-Hill Publication	12/e,2014
R-03	D.K. Bhattacharya	Research Methodology	Excel Books	2/e,2006
R-04	J K Sachdeva	Business Research Methodology	Hph	2/e,2011
R-05	Uma Sekaran & Roger Bougie	Research Methods For Business – A Skill Building Approach	Wiley	6/e,2013
R-06	Naresh K Malhotra	Marketing Research	Pearson Education	5/e,2007

PROGRAM	Bachelors Of Business Administration
SEMESTER	III
COURSE TITLE	Financial Management
COURSE CODE	04BB0305
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand how to maximize shareholders value by applying various financial decision.
- Compute cost of capital, capital budgeting, dividend decision and working capital.
- Learn various sources of finance.
- Understand capital structure theories and its importance.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Financial management: Meaning, Nature and Scope. Functions and objectives. Wealth Vs. Profit Maximization; Role of Finance Manager in 21 st Century. Time Value of Money: Concept, Compounding, Discounting and Annuity (Numerical).	8
II	Financing Decision: Sources of Financing – Equity, preferred and debt capital. Cost of Capital: Cost of equity, preferred and debt capital, weighted average cost of Capital (WACC). Capital Structure – determinants, theories – NI, NOI &; MM Hypothesis. Leverage – Operating, financial &; combined.	12
III	Investment Decision: Nature of investment decisions; different types of investment; investment	12

	appraisal methods – Non discounting cash flow methods (Payback period, ARR) and discounting cash flow methods (NPV, IRR & PI).	
IV	Dividend decisions: Types of dividend, dividend distribution practices, Walter's, Gordon's & MM dividend models; principles of dividend policy. Dividend payment practices in corporate India.	6
V	Working Capital: Meaning, significance and classification. Financing & sources of working capital; estimation of working capital requirement, operating cycle period. Basic concepts of cash, receivables, & inventory management. New dimensions in management of working capital in modern era.	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Prasanna Chandra	Financial Management – Theory & Practices	New Delhi, TMH	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	I.M. Pandey	Financial Management	Vikas Publication	Latest Edition

R-02	M.Y. Khan and P.K. Jain	Financial Management – Text, Problems & cases	New Delhi, TMH	Latest Edition
R-03	Rajiv Srivastava and Anil Sharma	Financial Management	Oxford University Press	Latest Edition
R-04	Horne, James C Van.	Financial Management And Policy	Phi Learning Pvt Ltd	Latest Edition

PROGRAM	Bachelors Of Business Administration
SEMESTER	III
COURSE TITLE	Business Laws
COURSE CODE	04BB0306
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Explain the basic elements of forming an enforceable contract and agreement.
- Classify various negotiable instruments and reason of its dishonor.
- Enumerate the types of companies its management and its rules of corporate governance.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INDIAN CONTRACT ACT, 1872 GENERAL PRINCIPLE OF LAW OF CONTRACT Introduction, Object of the Law of Contract, Nature of Contract, Essential elements of a Valid Contract, Classification of Contract and Kinds of Contracts, offer and acceptance, Consideration, Capacity to Contract, Free Consent, Performance of Contract, Distinguish between Agreement and Contract, Discharge of Contract, Remedies for breach of Contract, Quasi Contract.	10
II	SALE OF GOODS ACT, 1930 Introduction, Formation of Contract of Sale and its features, Condition and warranties, Caveat Emptor, performance of contracts, Rights of an unpaid seller, remedies for breach of contract of sale, Finder of loss goods, Auction sale.	10

III	NEGOTIABLE INSTRUMENTS ACT,1881 Definition, Introduction, Characteristics and Types of Negotiable Instruments, Essential elements of negotiable instruments, parties to negotiable instruments, Dishonor and Discharge of Negotiable instrument.	10
IV	COMPANIES ACT, 2013 - I Introduction, Historical development of company law in India, Types of Companies, Registration of Companies, Memorandum of Associations, Article of Associations, prospectus.	10
V	COMPANIES ACT, 2013 - II Type of Meetings, Directors, Appointment and removal of Directors, Board of directors, Rules of corporate governance related to business of company, NCIT (National Company Law Tribunal), NCLAT (National Company Law Appellate Tribunal) , Special Courts with major amendments.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books :

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M. C. Kuchhal	Mercantile Laws	Vikas Publication	Latest Editions
T-02	N. D. Kapoor	Elements of Business Law	Sultan Chand and sons.	Latest Editions

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication

R-01	S.S.Gulsan	Business Law	New Age International Publishers	Latest Edition
R-02	Avtar Singh	Business Law	Eastern Book Co.	Latest Edition
R-03	Desai T.R	Indian contract act, sale of goods act, partnership act	Universal Law Publications	Latest Edition
R-04	Munish Bhanderi	Corporate Law Allied	Best world's	Latest Edition

PROGRAM	Bachelors Of Business Administration
SEMESTER	III
COURSE TITLE	Fundamentals of Digital Marketing
COURSE CODE	04BB0307
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

COURSE OUTCOMES:

- Detail what is meant by the term 'digital marketing'
- Understand the role of digital marketing in any product / service / concept
- Detail the steps of marketing online
- Show how some of the technologies detailed in the course are used in concert to realise a typical marketing situation

Course Contents:

Unit	Unit / Sub Unit	Sessions
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No		
I	OVERVIEW OF DIGITAL MARKETING Introduction to Digital Marketing : history – importance - good practice in Digital Marketing –Critical issues & challenges – applications of Digital Marketing in development of brands, driving sales, encouraging product and service development and innovation – digital marketing as an aid for recruitment and training	08
II	WEB MARKETING Bookmarking and News Aggregators, Really Simple Syndication (RSS), Blogging, Live Chat, User Generated Content (Wikipedia etc), Multi-media - Video (Video Streaming, YouTube etc), Multi-media - Audio & Podcasting (iTunes etc), Multi-media - Photos/Images (Flickr etc), Google Alerts and Giga Alert (Brand, product and service monitoring online) Crowd sourcing, Virtual Worlds (Second Life, There, Habboetc)	08
III	SEARCH ENGINE OPTIMISATION (SEO) Basics & working of Search Engines - Popular Search Engines. Crawlers / Spiders, Visibility on Search Engines Meta Tag Optimization, Image optimization, Creating/uploading Robots file, Creating/uploading HTML & XML Sitemap, Bold & Italic Tag - Page Rank - 404 Error Redirects, 301 / 302 redirection, Competitor analysis, Pre/post-website analysis, Alexa report, Some Common SEO tools & plug-ins, Anchor Text, Heading tag,	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Ian Dodson	The Art of Digital Marketing: The Definitive Guide to Creating Strategic, Targeted, and Measurable Online Campaigns	Wiley	2016

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Philip Kotler	Marketing 4.0 : Moving from Traditional to Digital	Wiley	2016
R-02	Ryan Deiss	Digital Marketing for Dummies	John Wiley & Sons	2015

PROGRAM	Bachelors Of Business Administration
SEMESTER	IV
COURSE TITLE	Production & Operations Management
COURSE CODE	04BB0401
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the relevance of production and operations management in industry.
- Apply the techniques of inventory management and quality management.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction: Meaning, Nature and Scope of Production and Operation Management, Types of production processes	08
II	Plant location and Lay out: Factors considered in location, Types of Layout , PPC (Only concept)	10
III	Materials Management: Importance of Materials Management, Concept of purchasing, principles of purchasing and process of purchasing. Types of purchasing: Inventory management, its prime importance, Inventory Control Techniques - ABC, FSN, GOLF, VED, SOS (only concepts).	12
IV	Methods Study & Maintenance Management: Methods Study, Work Study and Time Study: (only Concept), Maintenance Management: Need of maintenance management, Types of maintenance management	10
V	Quality Management: lean manufacturing, JIT, Kaizen, ISO series, TQM	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	K. Aswathappa and K. Shridhara Bhat	Production and Operation Management	Himalaya Publishing House	Second Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	S.A.Chunawalla and D.R. Patel	Production and Operation Management	Himalaya Publishing House	Ninth Edition
R-02	Kanishka Bedi	Production and Operation management	Oxford higher education	Second Edition
R-03	Mahadevan B	Operations Management	Pearson Education	Second Edition

PROGRAM	Bachelors Of Business Administration
SEMESTER	IV
COURSE TITLE	Management Information System
COURSE CODE	04BB0402
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Comprehend types of MIS applications in organizations
- Deliberate the expansion of management information systems in organizations.
- Critically evaluate security challenges associated with the use of Information system.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Management Information Systems: Meaning of information system, difference between information and data, Role	10

	and Importance MIS in modern business. Types of decisions and the use of information system.	
II	Types of Information system Transaction processing system, Office Automation system, Management Information system, Decision support system, Executive support system, Group decision support system, Geographic Information system	10
III	Enterprise Resource Planning and Enterprise Applications Meaning of ERP- Its role in modern organization, merits and demerits. Enterprise Applications- Customer relationship management systems, supply chain management systems, Knowledge Management system and its role in modern business.	10
IV	Networks and its types Types of Network, LAN, WAN, MAN, CAN, PAN. Its advantages and disadvantages, Topologies, communication medium, wired and wireless networks, Meaning of internet and intranet and the difference between the two.	10
V	Security challenges in India Types of computer crimes, sources of information technology vulnerabilities. Remedies for preventing unauthorised use of information technology Challenges faced by working population- working conditions, individual's health and social issues.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Laudon, Kenneth C. and Laudon, Jane P	Management Information Systems: Managing the Digital Firm	Pearson Education	13 th edition 2014

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	Jawadekar, W. S	Management Information Systems	Tata-McGraw Hill	2nd edition ,2002
R-02	O'Brien J.	Management Information Systems – Managing Information Technology in the Business Enterprise	Tata McGraw Hill	11 th edition, 2011
R-03	McLeod, Raymond and Schell, George P	Management Information Systems	Pearson Education	9th edition, 2012

PROGRAM	Bachelors Of Business Administration
SEMESTER	IV
COURSE TITLE	Income Tax Law And Practice
COURSE CODE	04BB0403
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the residential status and tax incidence based on it
- Calculate income under all the five heads of Income
- Gain knowledge regarding the exempt income
- Gain knowledge regarding the deductions from total income
- Calculate tax payable on taxable income
- Understand the concept of tax deduction and tax collected at source

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION, RESIDENTIAL STATUS AND EXEMPT INCOME Levy of income tax - Rates of tax & slab - Important Definitions - Relevance and significance of residential status - Types of residential status and its Determination - Incidence of tax based on residential status - Income which do not form part of total income - Conditions to be satisfied for availing exemptions	05
II	INCOME UNDER THE HEAD SALARY & INCOME FROM HOUSE PROPERTY Definition of Salary – Chargeability - Treatment of various	15

	<p>Allowances - Perquisites and their valuation - Deductions from gross Salary - Retirement benefits - Provisions regarding Provident Fund - Computation of taxable salary (Practical Problems)</p> <p>Chargeability of income from house property - Composite rent - Annual value and its determination - Deductions from annual value - Deemed ownership - Computation of taxable income under this head (Practical Problems)</p>	
III	<p>INCOME UNDER PROFITS AND GAINS OF BUSINESS AND PROFESSION & INCOME FROM CAPITAL GAIN Meaning of Business and Profession – Chargeability of income from profits and gains of business and profession - Allowable expenses – Expressly disallowed expenses - Deemed profits and incomes - Computation of taxable income under this head (Practical Problems)</p> <p>Chargeability of income from capital gain - Capital asset – Transfer - Short term and Long term capital assets - Short term and Long term capital gain - Exemptions from long term capital gain - Computation of capital gains (Practical Problems)</p>	16
IV	<p>INCOME FROM OTHER SOURCES AND DEDUCTIONS FROM GROSS TOTAL INCOME Income taxable under other sources - Deductions allowed - Inadmissible deductions - Computation of taxable income from other sources (Practical Problems)</p> <p>Chapter VI-A deductions from the gross total income [Section 80C to 80U] -</p>	08
V	<p>TAX PAYABLE, TAX DEDUCTION AT SOURCE & ADVANCE TAX Calculation of taxable income and tax payable</p> <p>Deduction of tax at source under various sections [only those applicable to individual] – Concept of tax collected at source – Liability for payment of advance tax and due dates</p>	04

Note: Any change in the provisions of Income Tax Act, 1961 as per budget or otherwise, shall be respectively made applicable to the syllabus. The syllabus of an academic year shall be the provisions of the relevant Assessment Year.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Dr. V. K. Singhania and Dr. Monica Singhania	Students' guide to Income Tax (University Edition)	Taxmann	Latest
T-02	Dr. Girish Ahuja and Dr. Ravi Gupta	Direct Tax Law and Practice	Bharat Publication	Latest
T-03	CA. T. N. Manoharan	Direct Tax Laws	Snow White Publication	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Dr. Girish Ahuja and Dr. Ravi Gupta	Practical Approach to Tax Laws and Practice	Bharat Publication	Latest
R-02	Dr. V. K. Singhania and Dr. Monica Singhania	Students' guide to Income Tax	Taxmann	Latest
R-03	Gaur, V. P. & Narang, B. K.	Income tax Law and practice	Kalyani Publishers, New Delhi	Latest
R-04	Prasad, B.	Income tax Law and practice	New Age Publications	Latest
R-05	B.B. Lal and N. Vashisht	Direct tax	I. K. International Publishing House	Latest

PROGRAM	Bachelors Of Business Administration
SEMESTER	IV
COURSE TITLE	Indian Financial System
COURSE CODE	04BB0404
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- To understand the fundamentals of financial markets.

- To examine impact factors of Money Market, Capital Market & Foreign Exchange Market
- To appreciate the Need and Working of Financial Intermediaries.
- To recognize the importance and various functions of Market Regulation

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Indian Financial System Structure of Financial System, Instruments of Financial System, organised and unorganised Financial System; Components: Financial Assets, Financial Intermediaries, Financial Markets (money and capital markets in India) Relevance of various interest/return rates, Regulatory framework,	10
II	Role of Financial Institutions in Indian Financial System Financial Institutions and its meaning, Functions and Role of Financial Institutions; Money market institutions: Meaning, Role of the Central Bank(RBI) in money markets; Commercial banks: Meaning and Functions; Indigenous Financial Agencies: Bankers, Money lenders, Discount houses, Accepting houses(only meaning and features); Capital Market institutions: (Meaning and functions) Merchant Banks, Investment companies, Management Investment companies, Development banks, Mutual Funds ; Special Financial Institutions: Factors for their growth (need) ; Objectives and functions of: (1) IDBI (2) IFCI (3) SFCs (4) ICICI (5) EXIM Bank of India; Non-Banking Finance Companies: Meaning, Role, Types of NBFC services; Functions SEBI.	10
III	Financial Instruments Financial Instruments Meaning, importance and classification of Financial instruments; Short-term, Medium-term and Long Term Instruments; Primary and Secondary Securities; Innovative Instruments	10
IV	Functions of Financial Markets in India Financial Market in India: Capital Market, Money Market: meaning, function, types.	08
V	Meaning and Importance of Financial services in India Meaning, importance and types of Financial Services; 1. Factoring: Meaning, Types, costs and benefits of factoring 2. Leasing: Meaning, Definition, advantages to lessor and lessee, types of leases (operating, finance, leveraged, sales and lease-back, leveraged and cross-border.) 3. Underwriting: Meaning and benefits 4. Credit Rating Agencies: Meaning and role of such agencies. A brief idea about: CRISIL, CARE ICRA. 5. Others: A brief idea about: NSDL, STCI.	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Khan M. Y	Indian Financial System	Tata McGraw Hill	7 th edition 2014
T-02	Vasant Desai	The Indian financial system and Development	Himalaya Publishing House	5 th edition 2017
T-03	Pathak B. V.	Indian Financial System	Pearson	4 th edition 2014

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	Bhole L. M. & Mahakud J	Financial Institutions and Markets: Structure, Growth & Innovations	Tata-McGraw Hill	8 th edition ,2012
R-02	Khan M. Y	Financial Markets and Institutions	Tata McGraw Hill	5 th edition, 2010
R-03	Khan M. Y	Financial Services,	Tata-McGraw Hill	6 th edition, 2011
R-04	C.Sudarsana Reddy	Financial Management- Principles and Practice,	Himalaya Publishing House	1 st edition, 2010

PROGRAM	Bachelors Of Business Administration
SEMESTER	IV
COURSE TITLE	Entrepreneurship
COURSE CODE	04BB0405
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Comprehend Fundamental Concepts for starting the business
- Apprehend the concepts of industrial environment and preparing a business plan.
- Understand available sources for raising funds for start-ups.
- Comprehend various challenges and possible solutions for starting a business units.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	ENTREPRENEURSHIP - AN INTRODUCTION Meaning & Definition of Entrepreneurship, Common History & Entrepreneurial Characteristics, Required skills of an Entrepreneurs, Entrepreneurial Process, Role of Entrepreneurship in Economic Development of the Nation, Advantages & Drawbacks of Entrepreneurship, Introduction to Intrapreneurship	10
II	UNDERSTANDING INDUSTRIAL ENVIRONMENT: Industry - Large Scale - Small Scale - Tiny - Ancillary - Cottage, Challenges for Small Scale Industries, Registration process of SME, Definition & Symptoms of industrial sickness and suggested remedies for sick units, Domestic & International Entrepreneurship Options	12
III	PREPARING BUSINESS PLAN: Generation of Project Ideas, Sources of Business Ideas, Methods to generate business ideas , Feasibility Analysis: Economic, Managerial competency. Marketing, Financial & Technical, Environmental Scanning and SWOT analysis. Structure of a business plan, Importance of Business Plan, process of Preparation of Business Plan.	10
IV	SOURCES OF FINANCE FOR BUDDING ENTREPRENEURS: Debt V/S Equity, Internal V/s External Funds, Options for Borrowing Funds, Various Financial Institutions Supporting entrepreneurial activities, Introduction to Venture Capital Funding, Managing Growth	08
V	SUCCESS & FAILURE STORIES OF ENTREPRENEURSHIP: Discussions of various business stories & Cases of Successful Businesses, Lessons to be learnt from various organizational	08

	failures Launching the New Venture: Choosing the legal form of new venture, protection of intellectual property, and marketing the new venture	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Kumar Arya	Entrepreneurship	Pearson Education.	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	Desai Vasant	The Dynamics of Entrepreneurial Development & Management	Himalaya Publishing House	Latest Edition
R-02	K Ramchandran	Entrepreneurship – Indian Cases on Change Agents	TMGH	Latest Edition
R-03	Rashmi Bansal	Stay Hungry Stay Foolish	IIM Ahmedabad CIIE publication	-

PROGRAM	Bachelors Of Business Administration
SEMESTER	IV
COURSE TITLE	Management Of Services
COURSE CODE	04BB0406

COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand service marketing and utilize them effectively in managing products and people to achieve organizational objectives.
- Apply knowledge of models and theories to promote the effectiveness in workplace

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO SERVICES: Introduction to Services, Nature & Characteristics of Services, Classification of services, Consumer Versus Industrial Services	06
II	SERVICES MARKETING MIX : Introduction to the 7P's of Service Marketing, Product-Service Continuum, Standalone service Products, Service Products bundled with tangible Products	08
III	CUSTOMER SATISFACTION & SERVICE QUALITY Monitoring and measuring customer satisfaction, Order taking and Fulfillment, Service Guarantee – Handling complaints effectively, Defects, failures & Recovery, Service Quality Models – GAPS Model & SERQUAL	10
IV	TECHNOLOGY & SERVICE STRATEGY : Applying Technology to service sittings, e- services, Global and Indian Scenario in service sector, Importance of Service marketing, Every business is a service business, Service as a key differentiator	08
V	TYPES OF SERVICES : Introduction to Various Service Sectors : Hospitality; Transportation; Tourism; Information Technology; Banking & Insurance; Telecom ; Entertainment	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)

B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Zeithaml, Bitner, Gremler & Pandit	Services Marketing	McGraw-Hill	Latest Publication
T-02	R. Srinivasan	Services Marketing	Prentice-Hall of India	Latest Publication

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	Christopher Lovelock	Services Marketing	Pearson	Latest Publication
R-02	Rampal & Gupta	Services Marketing	Galgotia	Latest Publication

PROGRAM	Bachelors Of Business Administration
SEMESTER	IV
COURSE TITLE	Basics of French Language
COURSE CODE	04BB0407
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the basics of French Language.
- Start basic conversations using French Language

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION Introduction – Greetings – Alphabet- Definite Articles - Indefinite Articles - Gender - Colour - Demonstrative Pronouns - Numbers (0 to	08

	60) - Numbers (61 to 100) - Time Telling – 1 - Time Telling – 2 - Days and Months - Family Members & Possessive Adjectives	
II	GRAMMER - I To have & To be - To go & To call - 1st Group Verbs with 'er' - 2nd Group Verbs with 'ir' - Irregular Verbs- Negative Sentences – 1 - Negative Sentences – 2	08
III	GRAMMER - II Numbers (Singular-Plural) – Prepositions - Future Proche - Future Simple - Passé imparfait - Le conditionnel - Yes/No Questions - WH Questions - Pase Compose – 1 - Pase Compose – 2 - Past Simple - Les nationalités et Professions – Les présentations oral - Les présentationsécrit	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	J. Girardet	A1 ECHO Methode de francaise	CLE International	Latest
T - 02	J. Girardet	Cahier Personnel D'apprentissage	CLE International	Latest

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Operations Research
COURSE CODE	04BB0501
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

Understand and Formulate decision problem as mathematical model and solve using appropriate operations research technique.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	<p>Basics of Operations Research (OR) Introduction, Concepts, Definition, Characteristics, Potential Applications, Steps in OR Problems, Basic Operations Research Techniques, Role of Computers in OR</p> <p>Linear Programming Problem (LPP) 1 – Formulation: Introduction to Linear Programming, Applications of LPP, Requirements and Assumptions Underlying LPP, Generalized Linear Programming Problems, LPP Model Formulation – Maximization and Minimization Problems (Max 3-Variables and 4-Constraints)</p> <p>Linear Programming Problem (LPP) 2 – Graphical Method: Concept of Feasible Region, Solution of LP Problems using Graphical Method, Maximization and Minimization Problems (Max 4-Constraints), Special Cases in LPP – Multiple or Alternate Optimum Solutions, Unbounded Solution and Infeasible Solution</p> <p><i>Note: Constraints of all types (Less than type, Greater than type and combination of both the types) should be covered</i></p>	12
II	<p>Linear Programming Problem (LPP) 3 – Simplex Method: Simplex Method – Only Maximization LPP, Two or three Variables and Two Constraints (Max Three Iterations), All Constraints to be Less Than or Equal To type Concept of Slack Variable, Unique or Alternate Optimal Solution, Shadow Prices of Resources, Utilized and Unutilized Capacity of Resources</p> <p>Concept of Duality: Introduction to Duality, Relation between Primal Problem and Dual</p>	10

	LPP, Conversion of Primal Problem to Dual LPP, <i>Note: Mixed-constraints and Unrestricted Variables, Max 3-Variables and 3-constraints</i>	
III	Transportation Problem (TP) Introduction, Structure of TP, Solution of TP – Initial Feasible Solution (IFS) using North West Corner Method (NWCM), Least Cost Method (LCM) and Vogel's Approximation Method (VAM), Finding Optimal Solution using MODI Method, Types of Transportation Problem – Balanced and Unbalanced, Minimization and Maximization, Case of Degeneracy and Prohibited or Restricted Route, Unique Optimum Solution and Multiple Optimum Solutions <i>Note: Max 4X4 Transportation Matrix, MODI Method - Maximum One Iterations after IFS, Degeneracy to be covered at Conceptual Level, Not to be Included in Numerical</i>	10
IV	Assignment Problem (AP) Introduction, Structure of AP, Solution of AP using Hungarian Method, Types of Assignment Problems - Balanced and Unbalanced, Minimization and Maximization, Restricted Assignment, Unique Optimum Solution and Multiple Optimum Solutions, Travelling Salesman Problem <i>Note: Max 5X5 Assignment Matrix, Maximum Two Iterations after Row and Column Minimization</i>	08
V	Probabilistic Operations Research Models Waiting Line Models: Queuing Models – Concepts, General structure of a queuing system. Single-channel queuing model: Poisson-distributed arrivals and exponentially distributed service times with infinite source population. M/M/1 queuing models. Digital Simulation: Introduction, Areas of Applications, Steps involved in Monte Carlo Simulation, Application of Simulation Method, Advantages and Disadvantages of Simulation, Application in Queuing, Inventory, Profitability and Investment problems	08

Note: Guidelines for the Faculty

Instructor is required to demonstrate solution of OR problems using QM for Windows Software. Not to be included for assessment / examination

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition &Year of Publication
T-01	J K Sharma	Operations Research	Laxmi Publication	6 th ed.,2017

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	N D Vohra	Quantitative Techniques in Management	Tata McGrawHill	4 th .ed.,2010
R-02	V K Kapoor	Operations Research	Sultan Chand and Sons	7 th .ed.,2001

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Strategic Management
COURSE CODE	04BB0502
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Differentiate between strategies made at different levels of organization.
- Create & implement strategy formulation at various levels of management

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction:	8

	Strategy – Introduction to Strategy, Levels of Strategy, Difference between Policy, Strategy and Tactics. Vision, Mission & goals (Concept & difference) Strategic Management – Definition, Process of Strategic Management.	
II	Environment Analysis: Concept of Environment – Internal & External. SWOT Analysis, Environmental Sector, Environmental Scanning. Internal Environment – Factors & Methods of analysis – Internal, Comparative & Comprehensive Analysis.	10
III	Strategy Formulation – Business Level Strategy & Functional Level Generic Business Level Strategy – Cost Leadership, Differentiation & Focus – Business Strategy for different industry conditions. Functional Plans & Policies – Financial – Marketing – Operations – Personnel.	10
IV	Strategy Formulation – Corporate Level Strategy Concentration – Integration – Diversification – Internalization Strategies – M&A, Joint Venture, Strategic alliance. Digitalization Strategies - Retrenchment & Restructuring (Only concepts).	10
V	Strategic Implementation evaluation & Control: Strategy Implementation - Nature & Barrier to strategy implementation – Strategic Leadership – Strategic Control – Operational Control – Techniques of Strategic Evaluation & Control	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Azhar Kazmi	Strategic Management and Business Policy	Tata McGraw Hill Publications	3 rd Edition
T -02	Subba Rao	Strategic Management	Himalaya Publication	2 nd Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	John A. Pearce II, Richard B. Robinson Jr. and Amita Mital	Strategic Management	Tata McGraw Hill Publications	8 th Edition
R-02	Adrian Haberberg and Alison Rieple	Strategic Management	Oxford University Press	1 st Edition
R-03	V S Ramaswami, S Namaumari	Strategic Planning & Formulation of Corporate Strategy	Macmillan, India	1 st Edition

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Project Management
COURSE CODE	04BB0503
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Analyze the project idea for better selection.
- Identify the completion of project in a better control way.
- Understand the topics like planning, selection and implementation.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Project: Introduction, Characteristics of a project, element of a project, target and needs of a project, types of projects, functions of project manager, project management body of knowledge, benefits of project management.	9
II	Idea Generation and Initiation: Generation and Screening of Project Ideas, Market and Demand Analysis, Technical Analysis, Financial Estimates and Projections,	10

	Project Life Cycle.	
III	Project Planning and Selection: Project Scope, Scope of a Project and Scope Verification, SWOT Analysis, Organization Structure, Work Breakdown Structure, Project Selection Methods.	10
IV	Project Implementation: Estimation, Scheduling, Network Techniques for Project Management- CPM & PERT (only network diagram and Critical path identification), Project Risk, Project Communication.	10
V	Project Closeout: Project Evaluation, Project Auditing, Project Closeout Reports, Project Review and Administrative Aspects.	9

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Kamaraju Ramakrishna	Essentials of Project Management	PHI Learning Private Limited	2010
T-02	Prasanna Chandra	Projects: Planning, Analysis, Selection, Financing, Implementation and Review	McGraw Hill Education.	8 th Edition 2014

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	SitangshuKhatua	Project Management and Appraisal	Oxford Higher Education	2011
R-02	Clifford F Gray, Erik W Larson	Project Management-The Managerial Process	McGraw Hill Education (India) Pvt. Ltd.	6 th , 2014

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Brand India : From Local to Global
COURSE CODE	04BB0504
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

COURSE OUTCOMES:

- To understand key elements in building and maintaining brands and brand equity.
- To understand the role they have to play in the development of India

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Branding Concept of Brand, Types of Brand, what can be branded, Characteristics, brand evolution, brand level, Understanding branding challenges and opportunities, Local Brands & Global Brands	06
II	Brand India The Concept of Brand India: India as a Product, Transformation of the product into Brand India. The Evolution of Brand India: the History of Brand India, the Development of Brand India. The Justifications for Brand India: True Development cannot be Sector-specific or Need-based, Holistic Approach, All-Round Development. The Benefits of Brand India: Highest Standard of Education, Increased Employability, Social Equality, Law and Order, Corruption Control, Sense of Patriotism, Economic Development, India as the World's Only Hyper Brand.	10
III	Brand India at a Global Level	

	The Implementation of Brand India: Quality Education, Robust Education System, Civic Sense, Ethics, Governance, Removal of Red Tapism, Strong Judiciary, Social Justice, Make in India, Digital India, Start-Up India , Stand-Up India, Skill India, the Role of India Brand Equity Foundation.	08
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Project)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination (Viva)	50% (External Assessment)

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	S. A. Chunawala	Brand Management	Himalaya Publishing House	Fifth edition
T-02	Sharif D. Rangnekar	Realizing Brand India: The Changing Face of Contemporary India	Rupa Publications	February, 2005

Reference Books

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	DR. S. L. Gupta	Brand Management – Text & Cases	Himalaya Publishing House	Second edition
R-02	Keller, K.L.	Strategic Brand Management	Prentice Hall Of India.	Third edition
R-03	Sunanda Mongia	Brand India: Master Images and Narratives in the Backdrop of	B R Publishing Corporation	First Edition -2005

		Globalism		
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MARWADI UNIVERSITY

Subject Code: 04BB0506

Credits: 4

Guideline
Internship
(BBA/BBA (H) Sem – V)



MARWADI UNIVERSITY



Rajkot-Morbi Road, At & Po. Gauridad,
Rajkot-360003, Gujarat, India.

Phone : 0281-2924155 / 56, www.marwadiuniversity.in

INTERNSHIP (04BB0506)(BBA/BBA (H)) Content

Components

A project report should contain the following parts in the order shown:

- ☛ Fly page (1 Blank Pages)
- ☛ Title page (please see sample, Annexure I), containing: (1 Page)
 - The project title;
 - The full name of the Candidate/s, enrollment no/s. and Guide name/s;
 - The degree for which the project is submitted;
 - The name of the University, i.e. Marwadi University
 - The month and year of submission
- ☛ Student Declaration (1 Page) (Annexure II)
- ☛ College Certificate (1 Page) (Provided by Guide/Supervisor)
- ☛ Company Certificate (1 Page)
- ☛ Preface (1 Page)
- ☛ Acknowledgement (1 Page)
- ☛ Executive Summary (1 Page)
- ☛ Table of Content (1 Page)
- ☛ Introduction and History of Company (15 to 20 Pages)
- ☛ Vision & Mission of Company (2 Pages)
- ☛ Organization Structure (1 to 2 Pages)
- ☛ Departmental Study (15 to 20 Pages)
 - Marketing Department
 - Finance Department
 - Human Resource Department
 - Production Department
 - Accounting Department
 - R & D Department etc...
- ☛ SWOT Analysis (2 to 4 Pages)
- ☛ Overview of Industry & Major Players (4 to 5 Pages)
- ☛ Porter's Five Force Model Analysis of Industry (2 to 4 Pages)
- ☛ Learning form Internship (1 to 2 Pages)
- ☛ Conclusion (1 Page)
- ☛ Bibliography (1 Page)
- ☛ Annexure (if Any) (1 Page)

Language, Style and Format

- ☛ Language
 - Project should be written in English.
- ☛ Final Version
 - The final version of the project must be free from spelling, grammatical and other errors when submitted.

Specification for Project Report

1	Paper Size	International A4, not less than 75 gsm white paper
2	Margins	Left - 1.5" Right - 0.75" Top and Bottom - 1.0"
3	Line Spacing	10 to 12 characters per inch must be used with 1.5 line spacing.
4	Paragraph Spacing	Double Lines/Vertical space of around 12 points should be left between the section title line and the first paragraph of each section and subsections, start without any indentation, In single column format with full justification.
5	Pagination	At bottom–Center Beginning with the first page of chapter 1 (Introduction) to all pages shall be numbered consecutively using Arabic numerals (i.e. 1,2,3) From the title page to the page before the chapter 1 starting page, shall be lower case Roman numerals (e.g. i, ii, iii etc.) No Page Number on Title Page
6	Chapter(s):	New Chapter on New Page font size of 20 should begin with an additional top margin of 30 mm (total 55 mm) Capitalize the first letter all the words. Use boldface letters and numbers only
7	Sections and Subsections (left aligned)	A vertical space of around 36 point should be left between the chapter heading and the title of the first section of every chapter. For all subsequent sections/subsections, leave a vertical space of around 24 points before the section/subsection headings. For example, say the first and second sections in chapter 5 shall be numbered as 5.1 and 5.2, respectively. Likewise, the third subsections of sections 1 and 2 in a chapter 4 shall be numbered as 4.1.3 and 4.2.3, respectively. Same style as in chapter heading but with font size of 14 and 12 for section and subsections,
8	Font Type	Times New Roman
9	Font Size(FS)	For normal–12

10	Bold/Italic/Underline	Should be used for specific purposes only
11	Alignment	Page Justify
12	Tables/Graphs/Diagrams/figures Equations	All tables, figures, and equations must be numbered sequentially and chapter-wise using Arabic numerals. It must reflect the chapter number also, e.g. 2.1, 6.25 etc. e.g., Figure 2.1, Table 3.2. While a caption (figure number) should be placed below the figure, a caption (table number) should be placed above the table Images, Photographs, etc. must be scanned in resolution at least 600 dpi.
13	Figures and Illustrations	Figures, tables, etc., should be positioned according to the scientific publication conventions of the discipline.
14	Borders	NO
15	Header/Footers	Single Line (as per this page) Footer (as per this page): Left side Marwadi University, Rajkot, Right Side Pg. No “NO header/footer on Title page”
16	Word Breaking	No word Breaking
17	Printing	Single side only
18	Report Binding	Hard Bound Cover–BlackColor Writing–Golden color only
19	Copies of the Report	Hard Bound: Total 2 Copy (one for Student, one for Dept. Records) Soft: 01 Copy PDF.

References & Bibliography

All references must be cited in the text by the reference number using superscripts. No links between superscripts in the text and actual references in the Reference Sections may be used. Notes may be used to cite manuscripts in preparation,

Unpublished observations and personal communications. References cited should follow the style given below example:

PAPERS

1. Thiel WJ and Nguyen LT, “Fluidized bed film coating of an ordered powder mixture to produce micro encapsulated ordered units.” *J. Pharm. Pharmacol.* **1984**, *36*, 145-152.
2. Isyumov N, “Criteria for acceptance of wind induced motions of tall



buildings”, International Conference on Tall buildings, Rio DeJanerio, CTBUH, 2003.

WEB SITE

1. Boggs, D, “Acceleration and Drift due to Gust forces”, accessed on 10 July 2009, www.cppwind.com/papers/structural/PEAKvsRMS.pdf

BOOKS

1. Pelzar MJ., Chan ECS., and Krieg NR. In Microbiology; 5th Edn; Tata McGraw Hill Publishing Company Limited, New Delhi, 1993, pp 536.

DISSERTATIONS/PROJECTS

1. Vaishnav D.K, PhD Thesis, “.....” Marwadi University, July 2012.
2. Pathak VK. Ph.D. Thesis, “.....” Gujarat University, 1979.



ANNEXURE - I

[SAMPLE TITLE PAGE]

[Project Title]

(5 blank lines)

By

(single line)

[Your name as found in official MU records - your enrollment number]

(two lines)

[Guide name]

(3 blank lines)

A Project Submitted to

Marwadi University in Partial Fulfillment of the Requirements for the [Degree name] in
[Name of Program/Branch]

(3 blank lines)

Month and Year



MARWADI UNIVERSITY

Rajkot-Morbi Road, At & Po. Gauridad,
Rajkot-360003, Gujarat, India.



ANNEXURE - II

STUDENT DECLARATION

I hereby declare that this project Report titled _____
_____ submitted by me to the Faculty of
Liberal Studies, Marwadi University is a bonafide work undertaken by me and it is not
submitted to any other University or Institution for the award of any degree diploma /
certificate or published any time before.

Date: DD/MM/YYYY

Place: Rajkot

Signature of the Student

[Name of Student]

[Enrollment No.]

Evaluation Scheme

Internship consists of 4 Credit, 100 marks and shall be evaluated on two components i) Internal Assessment & ii) Viva.

Particular	Weightage (%)	Conducted By
Internal Assessment (IA)	50%	Supervisor/ Guide
Viva Voce	50%	Viva Panel

I. **Internal Assessment** shall consist of 50 marks, which will be carried out by supervisor/guide.

II. **Viva Voce** shall carry 50 marks and will be conducted by a Panel of two examiners.

Duration & Time Period

☛ Duration of Internship: Minimum 15 Days and Maximum 30 Days.

☛ Internship must be in between 10th May 2018 to 20th June 2018.

Reporting Schedule

Sr. No.	Review	Particular	Marks
1	First Review (After 10 Days of Commencement of Internship)	<ul style="list-style-type: none"> ☛ Introduction and History of Company (15 to 20 Pages) ☛ Vision & Mission of Company (2 Pages) ☛ Organization Structure (1 to 2 Pages) ☛ Departmental Study (15 to 20 Pages) <ul style="list-style-type: none"> • Marketing Department • Finance Department • Human Resource Department • Production Department • Accounting Department • R & D Department etc... 	15
2	Second Review (within two days after completion of Internship)	<ul style="list-style-type: none"> ☛ SWOT Analysis (2 to 4 Pages) ☛ Overview of Industry & Major Players (4 to 5 Pages) ☛ Porter's Five Force Model Analysis of Industry (2 to 4 Pages) ☛ Learning form Internship (1 to 2 Pages) ☛ Conclusion (1 Page) 	15
3	Third Review (Within 10 Days after Completion of Internship)	Final submission of Internship Report to Supervisor (Soft Copy)	20

Specialization: Finance

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Management of Financial Markets
COURSE CODE	04BB0507
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the fundamentals of financial markets
- Understand ways in which financial markets will be managed
- Understand the role of regulators in management of financial markets
- Understand about instruments to be traded in the financial markets

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Financial Markets: Meaning, Definition, Functions, Classification, Key players in financial market (Stock Exchange, Brokers, Dealers, Traders, Depositories, Clearing corporation), Security Exchange Board of India	8
II	Capital Market: Overview, Function of capital market, Primary market reforms, Issues in capital market, secondary market reforms, Capital market scams Primary Market: Mechanism in India, Initial Public Offer (IPO), Methods of IPO (type of IPO), eligibility norms, Book Building Process, Limitations Reverse book building, Green shoe option Secondary Market: Meaning, Function of Secondary, Post reforms stock market scenario, organizational structure of stock exchanges, listing of securities, trading and settlement, Internet trading, Stock Market Indices(Nifty & Sensex)	15
III	Money Market: Meaning, Development Money market in India , Money market instruments, Money market intermediaries	7
IV	Debt Market: Meaning, history and characteristics of debt market, participants in the debt market, private corporate debt market, measures to boost liquidity in the secondary market Government securities market: Introduction, Trading in Government Securities, Evolution, Role, Significance of Government securities markets, Functions, Salient feature of government securities, Forms of Government Securities, Operation in government security market	8
V	Repo-Market: Definition, REPO and Reverse Repo, Repo	10

	Instrument, Bank Rate and Repo rate, Usage of Repo, Functions, Structure of the Foreign Exchange Market, Asian Clearing Union Foreign exchange Market: Function, Foreign Exchange Dealers Association of India, Instruments of Credit Traded, Asian Clearing Union, FSLRC, Finance Code	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M Y Khan	Financial Services	Mcgraw Hill Education	8th Edition, 2015
T-02	Bharti V. Pathak	The Indian Financial System: Markets, Institutions and Services	Pearson Education India	2011

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Vasant Desai	Financial Markets & Services	Himalaya Publication	2016
R-02	L M Bhole & Jitendra Mahakud	Financial Institutions and Markets: Structure, Growth & Innovations	McGraw-Hill Education	2017
R-03	Gupta N & Agrawal N.	Financial Services	Kalyani Publishers	2015
R-04	K.Sasidharan	Financial Services & System	Tata Mcgraw	8 th Edition

R-05	M Y Khan	Indian Systems	Financial	Tata McGraw- Hill Education	2013
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Specialization: Finance

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Banking
COURSE CODE	04BB0508
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand role of banks in Indian financial system.
- Understand role of central bank as controller of state's currency and interest rates.
- Understand the wider range of functions done by Scheduled commercial banks in India.
- Understand relationship of bank and customer.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction To Indian Banking System: Introduction, Origin, Definition, Characteristics of Banks, Types of Banks, Recent Reforms In Indian Banking, International Security Issues In Banking Systems.	8
II	Role of Central Bank in Indian Banking System: Introduction, Origin, Definition, Objectives, Principle, Functions: Monopoly of Note Issue, Banker's Bank, Bankers to Government, Lender of the Last Resort, Bank of Clearance, Custodian of Foreign Reserves, Maintenance of Reserves, Maintaining Exchange Rate. Monetary Policy: Meaning, Objectives, Instruments of Credit Control, Effects Of Monetary Policy on Price Stability and Development, Limitations of Monetary Policy.	12
III	Function of Commercial Bank in Economic Development- Acceptance of Deposits, Agency Service, Payment and Collection of Cheques, Bill of Exchange and Promissory Notes, Execution of Standing Order, Trustee Business, Safe Custody, Remittance of Funds, Issue of LC, Performance of Government Transactions. Need for Sound Banking System, Role Of Banks in Economic Development: Mobilization Of Saving, Capital Formation, Monetization, Innovation, Priority Sector Bank Lending, Agriculture Lending, Industrial Finance, Export Finance.	10

IV	Loans and Advances Loans: Meaning, Classification, Purpose, Appraisal and Disbursal, Evaluation of Loan Proposal, Mode of Securing Loans Credit and Advances: Cash Credit, Overdraft, Discounting of Bill, Mode of Securing Loans/Advances, Domestic Lending, Global Lending. Asset Classification: Standard Asset, Sub-Standard Asset, Doubtful Asset, Loss Asset, Non-Performing Asset.	10
V	Rights and Duties of Banker and Customer: The Banker – General Responsibility, Specific Duties, Positive Traits of a Banker. Various Rights of Banks. The Customer – Duties of a Customer. Banker-Customer Relationship: Nature, Normal Incidents of the Relationship, Appropriation of Payment.	8

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	D. Muraleedharan	Modern Banking	PHI	2 nd Edition, 2013

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Iyengar, Vijayaragavan	Introduction to Banking	Excel Book	1 st Edition, 2007
R-02	Gordon & Natarajan	Banking Theory, Law and Practice	HPH	3 rd Edition, 2012
R-03	K C Shekhar & Lekshmy Shekhar	Banking Theory and Practice	S.Chand and Company	21 st Edition, 2013

R-04	Macdonald Scott S. Koch, Timothy W.	Management of Banking	Cengage Learning	7 th Edition, 2009
R-05	Nadar E Narayanan	Money and banking	PHI	1stEdition, 2013

Specialization: Marketing

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Consumer Behavior
COURSE CODE	04BB0509
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Identify the dynamics of human behaviour and the basic factors that influence the consumers decision process
- Demonstrate how concepts may be applied to marketing strategy.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction To Consumer Behavior: Introduction, Consumer Behaviour - Definition - Nature and Scope of Consumer Behaviour – STP (Segmenting, Targeting, Positioning) – Customer Based Brand Equity (CBBE) Model.	10
II	Psychographic Factors Affecting Consumer Behavior: Lifestyle, Opinions, Perception, Learning, Attitude. VALS model. Generation Analysis Indian perspective: Gen X , Gen Y & Gen Z	10
III	Consumer Choice Analysis: Consumer Comparisons - Categories of Consumer Choice processes; Affective based choice, Attribute based choice, Attitude based choice Socio-Cultural Influences On Consumer Behavior Family and Social Class, Family life cycle, Influence of Culture on Consumer Behaviour, Cross-cultural Consumer Behaviour, Diffusion of innovation	10

IV	Consumer Decision Making: Consumer buying process - Impact of technology on consumer behavior Online buyer behavior : Characteristics, Difficulties and Challenges - Post purchase Processes, Customer Satisfaction, and Customer Commitment - The impact of branding on consumer decision making	10
V	Consumer Protection (Rights of Consumers): Consumer Protection Bill – 2018 ,Consumerism Consumer Forums, FSSAI, Hallmark, UNCTAD (Concepts)	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Loudon and Della Bitta	Consumer Behaviour	Tata McGraw Hill	2011

Reference Books

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Blackwell and Engel	Consumer Behaviour	Cengage	10 th Edition
R-02	MajumudarRamanuj	Consumer Behaviour: Insights from Indian Market	PHI	2010
R-03	Hoyer, MacInnis and Dasgupta	Consumer Behaviour	Biztantra	2008
R-04	Evans	Consumer Behaviour	Wiley	2 nd Edition

R-05	Lingquist Jay D	Consumer Behaviour	Cengage	2010
R-06	Coakes, Steed and Dzidic	SPSS 13.0 for Windows	Wiley	2003

Specialization: Marketing

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Retail Marketing
COURSE CODE	04BB0510
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand Retail Marketing Concepts.
- Appreciate the operations management for retailing.
- Understand the latest advancement in Retail Management

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Retailing – An Introduction Definition – functions - types of retailing – forms of retailing based on ownership. Retail life cycle - Retailing in India – Influencing factors – current retail scenario in India.	8
II	Operations Of A Retail Business Store location – Choice –Impacting Factors - Market area analysis – Trade area analysis – Rating Plan method - Site evaluation - Store Layout and visual merchandising – Designing of the Store – Space planning - Inventory management – Merchandising – Category Management – Franchising in Retail	12

III	Consumer Behaviour With Retailing Retail buying decision making process– influence of group and individual factors - Customer shopping trends - Customer Service satisfaction.	10
IV	Retail Marketing Mix Introduction - Product: Decisions related to Merchandise (Products) – delivery of service. Pricing: Factors affecting pricing decisions – approaches to pricing – price sensitivity - Value pricing – Markdown pricing. Place: Channel members – Supply Chain Management in Retail – Retail logistics. Promotion: Setting goals – designing communication – checking effects of communication - promotional mix.	10
V	Role Of Information Technology In Retailing Introduction to Non-store retailing (E tailing) - The impact of IT in retailing - Integrated systems and networking – Retailing from the International perspective - Introduction to technological aids in retail operations (EDI, RFID, Data Warehousing & Data Mining, AI)	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition &Year of Publication
T-01	Swapna Pradhan	Retailing Management	TMH	2E, 11 th Reprint, 2008

Reference Books:

Sr.	Author/s	Name of the Book	Publisher	Edition &Year of
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No				Publication
R-01	Barry R. Berman, Joel R. Evans, Patrali M. Chatterjee	Retail Management – A Strategic Approach	Pearson	2017

Specialization: Human Resource Management

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Employee Welfare & Social Security
COURSE CODE	04BB0511
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the features and objectives of employee welfare
- Familiarized with vulnerable groups of workers and legal provisions related to them.
- earn working conditions of workers and legal provisions related to welfare.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Employee Welfare Objectives of Employee Welfare, Concept of Employee Welfare, Welfare Measures, Theories of Employee welfare, Agencies of Employee welfare, Workers' Education scheme, Statutory and Non statutory schemes of employee welfare, Role of management in employee welfare.	10
II	Welfare of Special Categories of Labour Child Labour, Female Labour, Contract Labour, Construction Labour, Agricultural Labour, Differently abled Labour, BPO & KPO Labour, Social Assistance – Implications.	10
III	Social Security Evolution, definition and objectives of Social security, Essential requirement of Social security, Growth and overview of social security in India.	10
IV	Social Security Legislation in India Overview of Employee's Compensation Act 1923, Employees State Insurance Act, 1948, Maternity Benefit Act, 1961, Factories Act, 1948, Employee's Provident Fund Act of 1952, Payment of Gratuity Act, 1972.	10
V	International Labor organization & Social Security	08

	International norms on social security for labour: the ILO Conventions and Recommendations on Social Security, Comparison of minimum standards of ILO and standards envisaged in Indian Legislation, Law and Practices in Comparative Perspectives In India, UK and USA.	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	P.K. Padhi	Labour and Industrial Laws	PHI Publications private Limited	3rd Edition
T-02	P.R.N.Sinha, S. P.Shekhar / InduBala	Human Resource Management	Cengage	3rd Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	C.S. VenkataRatnam	Industrial Relations	Oxford University Press	2 nd Edition

Specialization: Human Resource Management

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Compensation Management
COURSE CODE	04BB0512
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand a pay system that is consistent for employees within the organization
 - Identify and describe a variety of reward systems used to determine individual pay levels.
- Implement and administer a compensation system according to the firm's policies and the legal requirements.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Concept of Compensation Exploring and defining the compensation context, System of compensating, compensation dimensions, concept of reward, Role of compensation in Organization, Non-financial compensation system, Concept of total reward system-New trends in compensation management, The 3-P compensation concept.	10
II	Compensation and Employee Behavior Bases For Traditional Pay System and Modern Pay System, Establishing Pay Plans, Aligning Compensation Strategy with HR Strategy and Business Strategy, Person focus to Pay, Team Based Pay	10
III	Legislations related to Compensation-I Payment of Wages Act, 1936, Minimum Wages Act, 1948, Payment of Gratuity Act, 1972, Payment of Bonus Act,1965	10
IV	Legislations related to Compensation-II Employees' State Insurance Act, 1948, Employees' P F & Misc Provisions Act, 1952. , Workmen's Compensation Act, 1923.	10
V	Contemporary Strategic Compensation Challenges International Compensation and Competitive Strategies, Executive Compensation Packages, Contingent Employees and Flexible Work Schedules, Compensation for Expatriates and Repatriates.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Micheal Armstrong	Armstrong's Handbook of Reward Management Practice	Kogan Publication	5 th Edition
T-02	B.D.Singh	Compensation & Reward Management	Excel	2 nd Edition
T-03	Dipak Kumar Bhattacharyya	Compensation Management	Oxford	2 nd Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition
R-01	Terence Jackson	International Human Resource Management a Cross-Cultural approach	SAGE	2 nd Edition
R-02	MonirTayeb	International Human Resource Management	Oxford	2 nd Edition

Subject Code: 04CR0501

Subject Name: Career Readiness Program

BBA-BBA(Hon) Year – III (Semester V)

Objective: This course shall enrich students' preparedness for the upcoming competitive exams, MBA entrance test, and/or placements. It will enhance the verbal and numerical skills of the students through the group interactions, practice sessions, and videos.

Credits Earned: 2 Credits

Course Outcomes: After successful completion of this course, student will be able to

- Understand importance of verbal and numerical skills in the competitive exams

- Inculcate smart approach in verbal and numerical problem solving
- Apply the concepts in both competitive exams and placement drives

Pre-requisite of course: NA.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
2	0	0	2	50	00	20	00	30	100

Contents:

Unit	Topics (VA)	Contact Hours
1	Vocabulary: Concepts and Application <ul style="list-style-type: none"> ● Memory Technique ● Contextual Vocabulary ● Root Words ● Sentence Equivalence ● Idioms and Phrases 	2
2	Reading Comprehension and Para-Completion: Concept, Strategies and Application	1
3	Grammar Application <ul style="list-style-type: none"> ● Spot the Error ● Sentence Correction 	1
4	Logical Reasoning <ul style="list-style-type: none"> ● Statement and Assumptions ● Statement and Conclusion ● Statement and Arguments ● Statement and Course of Action 	2
5	Vocabulary based Reasoning <ul style="list-style-type: none"> ● Odd one Out ● Analogy and reverse analogy 	1
6	Para Jumble <ul style="list-style-type: none"> ● Para-jumbles/Sentence Rearrangement ● Misfit sentence/identify the odd sentence in the given set ● Identify summary sentence 	1

7	Deductive reasoning <ul style="list-style-type: none"> ● Logical Consistency ● Syllogism ● Facts-Inference-Judgement 	3
8	Creative Writing	1
9	Class Test	2
Total Hours		14

Note: Lab MB513 would be used for practice sessions.

References:

1. How To Prepare For The Verbal Ability & Reading Comprehension For The Cat– By Arun Sharma and Meenakshi Upadhyay
2. Word Power Made Easy– By Norman Lewis
3. A Modern Approach to Verbal & Non-Verbal Reasoning By R.S. Aggarwal
4. The Pearson Guide To Verbal Ability And Logical Reasoning For The CAT by Nishit K. Sinha

Unit	Topics (QA)	Contact Hours
1	Introduction of Course Details & Type of questions in various exams	1
2	Blood Relation & Direction Sense	1
3	Series (Number and Letter series) & Coding and Decoding	1
4	Arrangement (Seating and Data)	1
5	Highest Common Factor and Least Common Multiple	1
6	Average and Problems based on Ages	1
7	Percentage, Profit-Loss & Discount and Simple & Compound Interest	2

8	Ratio, Proportion and Partnership	1
9	Time and Work	1
10	Time, Speed and Distance	1
11	Permutation and Combination	1
12	Probability	1
13	Data Interpretation and Data Sufficiency	1
Total Hours		14

Note: Lab MB513 would be used for practice sessions.

References:

1. **Analytic Reasoning** – By M K Pandey, BSC Publishing Co. Pvt. Ltd.
2. **Quantitative Aptitude** – By Dr. R. S. Agarwal, S. Chand
3. **Quantitative Aptitude** – By Abhijit Guha, MC Graw Hills
4. **Magical Book On Quicker Maths** – By M. Tyra, BSC Publishing Co. Pvt. Ltd.

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
20%	20%	30%	15%	10%	5%

Instructional Method:

a. The course delivery method will depend upon the requirement of content and need of students. The trainer shall train students through interactions, demonstration, brainstorming, group tasks etc.

Students will use supplementary resources

PROGRAM	Bachelors Of Business Administration
SEMESTER	VI
COURSE TITLE	Business Ethics & Corporate Governance
COURSE CODE	04BB0601
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the dynamics of business ethics.
- Identify ethical dilemmas in business & suggest solutions to overcome the problems.
- Learn the concept of corporate governance and its relevance to ethical business activity.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Ethics Meaning and classification of Ethics, Importance of Business Ethics, Nature of ethics as moral value; types of value; Teaching from Scriptures like Gita, Quran, Bible w.r.t. Indian Value Systems in Business.	10
II	Ethical Dilemma and Essence of Decision Making Meaning and structure of Ethical Dilemma in business, Sources of Ethical Problems, Managing Ethical Dilemmas; Understanding Decision making, Model of Cognitive Moral Development, The Process of Making Good Ethical Decision; Dynamics of Ethical Leadership.	10
III	Ethical Issues in Financial Management Introduction to Ethics in Finance, Ethical issues in Financial Markets, Financial service industry and by Financial people in organizations. Case study on Strategic failure of Satyam Computer Service.	10
IV	Ethical Issues in Marketing & HRM Role of Marketing, Areas in Marketing Ethics, Truth and Advertising; Functional Areas of HRM, Need for Workplace ethics, HR related ethical issues, Rights and duties of Employees.	10
V	Introduction to Corporate Governance Definition and attributes of good corporate governance, Corporate governance theories – Agency, Stewardship, Shareholder, stake holder theory, Role of Board of Governors, Factors influencing quality of	08

	Corporate Governance.	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	A. C. Fernando	Business Ethics and Corporate Governance	Pearson	2 nd edition, 2012
T-02	Daniel Albuquerque	Business Ethics: Principles and practice	Oxford Uni. Press	2010

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Murthy C.S.V.	Business Ethics and Corporate Governance	Himalaya Publishing	1 st edition, 2017
R-02	S K Mandal	Ethics in Business and Corporate Governance	Tata McGraw Hill	2 nd edition, 2012
R-03	Ferrell, Fraedrich, Ferrell	Business Ethics	Cengage Learning	11 th edition, 2017
R-04	Rupani Riya	Business Ethics and Corporate Governance	Himalaya Publishing	4 th edition, 2015

PROGRAM	Bachelors Of Business Administration
SEMESTER	VI
COURSE TITLE	Management Accounting
COURSE CODE	04BB0602
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the scope of management accounting.
- Understand the importance of marginal costing in decision making.
- Understand the control mechanism on all the element of cost that affect production.
- Understand the changes in operational and financial position of company.
- Understand the role of Budgetary control in framing financial plan.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Management Accounting Meaning, Definition, Nature, Scope, Functions and Limitations of Management Accounting. Relationship and difference between Management Accounting to Cost Accounting and Financial Accounting. Description of Tools and Techniques in Management Accounting.	7
II	Analysis of Fund Flow and Cash Flow Statement Fund Flow Statement: Meaning and usage of Fund Flow Statement; preparation of fund flow statement (Basic level). Cash Flow Statement (AS-3); Distinction between Fund Flow Statement and Cash Flow Statement, Classification of Cash Flows, Objective and Usage of Cash Flow Statement, Preparation of Cash Flow statement.	12
III	Marginal and Absorption Costing Marginal Costing- Meaning, Characteristics, Advantages and Limitations. Difference between Marginal Costing and Absorption Costing; Income determination under Marginal Costing and Absorption Costing; CVP/BEP Analysis; Safety Margin and Key factors that involves decision making.	11

IV	Budgeting and Budgetary Control Meaning, Objectives, Advantages and Limitations. Essentials of effective budgeting in management process; Installation of Budget System Budgetary Control: Types of budgets preparation, Zero Base Budgeting; Performance Budgeting	08
V	Standard Costing Meaning, Difference between Standard Costing and Budgetary Control, Merits and Demerits of Standard costing, Prerequisite for establishment of standard costing, Efficiency and Activity Ratios, Material, Labor and Overhead Variance.	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
T-01	M. N. Arora	Cost and Management Accounting	Vikas Publishing House	10 th Edition
T-02	P.C. Tulsian	Cost and Management Accounting	S Chand	3 rd Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Jawahar Lal	Cost Accounting	Tata McGraw Hill Publication	5 th Edition
R-02	Paresh Shah	Management Accounting	Oxford Publication	2 nd Edition

R-03	Ravi Kishor	Cost Management Accounting	Taxman	6 th Edition
R-04	Bhattacharya	Management Accounting	Pearson Publication	3 rd Edition
R-05	Hilton, Maher and Selto	Cost Management: Strategies for Business Decision	TMH	4 th Edition

PROGRAM	Bachelors Of Business Administration
SEMESTER	VI
COURSE TITLE	International Business
COURSE CODE	04BB0603
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Study the environmental variables that affect world trade.
- Describe the policies and strategies that can lead to successful global trade.
- Evaluate present and future opportunities and risks for international business activities.
- Develop analytical skills which will help them enhance greater understanding towards world trade.
- Make student understand how the global risks are interconnected.
- Identify and evaluate the complexities of world trade and globalization from home versus host-country, regional, and cultural perspectives.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Overview of Globalization: Drivers, Changing Demographics of the Global Economy, Managing the Global Marketplace, Country Differences Political, Legal, Economic, Social, Technological & Demographics, Micro and Marco business Environment Difference in Cultural Aspects, Values & Norms, Social Structure Language, Education ways to enter Foreign Market, Ethics in	12

	international business Dilemmas, Roots of Unethical Behavior, Ethical decision making.	
II	Global Trade and Investment Environments Trade Theories: -Mercantilism, Absolute & Comparative advantage, Heckscher-Ohlin theory, Porter's Diamond model, Foreign Direct Investments, Benefits of FDI Regional Economic Integrations like European Union, NAFTA, MERCOSUR, CARICOM, Association of Southeast Asian Nation.	10
III	Global Monetary Systems. Foreign Market nature & functions , Exchange Rate Determination, Forecasting & Currency Convertibles, Bretton wood systems, GATT, IMF & WTO, Ways to Enter Market Strategy and Structure, Global Expansion, Profitability & Profit Growth, Organizational Structure & Cultures, Control systems, Incentives & Changes. Basic entry Decisions, & Modes.	12
IV	Business Operations Managing Global Supply Chains, International Logistics Practices, global marketing and R & D, Global Human Resources Management International Labor Relations, Accounting and Financial Issues.	10
V	Global Risk Analysis: - Context base discussion of each issue:- Natural and Man-made disasters, Energy price shocks, Large scale involuntary migrations, Weapons of mass destruction, Terrorists attacks, Failure of national governance, Cyber-attacks.	04

Note: - Unit V should be taught by concern faculty, taking into consideration current happening at global level.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books: -

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
T-01	Charles W L hill Arun K Jain	International Business	Mc-Graw-Hill Companies	10 th Edition
T-02	Daniels John, D. Lee H. Radebaugh and David P. Sullivan.	International Business	Pearson Education	15 th Edition

Reference books: -

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Cherunilam, Francis	International Business:	Prentice Hall of India Ltd.	5 TH Edition
R-02	Mike Peng and Deepak Srivastava	Global Business	CengagePublication s	1 st Edition
R-03	Apte, P.G	International Financial Management	Tata McGraw Hill.	6 th Edition
R-04	Subhash C. J	InternationalMarketing,	CengagePublication s	3 rd Edition

Suggested Readings:-

1. UNCTAD Reports.
2. WTO, Annual Report, various issues.
3. RBI. Report on Currency & Finance, various issues.
4. Economic Survey, Govt. of India.
5. Export-import Policy and Other Documents, Govt. of India.
6. <https://www.mckinsey.com/>
7. https://www.youtube.com/watch?v=UNmsz6_EMJM.
8. <http://www.csis.org/gsi> for globalization think tank.



MARWADI UNIVERSITY

Project (04BB0604)

Credits: 8

Guidelines for the Preparation of Project Report (BBA/BBA(Hons) Semester – VI)



MARWADI UNIVERSITY



Rajkot-Morbi Road, At & Po. Gauridad,

Rajkot-360003, Gujarat, India.

Phone : 0281-2924155 / 56, www.marwadiuniversity.in

Course: BBA/BBA(H)

SEMESTER	VI
TITLE OF THE SUBJECT	Project
COURSE CODE	04BB0604
COURSE CREDIT	8

Project

Project is a composition of practical research work, involving the analysis of a specific problem in the area of the specialization and evaluation of the results of the analysis that serves as a basis for developing specific proposals and implementing the appropriate solution to the problem.

Objective of the Project

The objectives of the Project for BBA/BBA (H) students are:

- a. To demonstrate the student's knowledge of the literature relating to the problem of study.
- b. To reveal the student's ability to collect, analyze, interpret and synthesize information/data for analyzing various business situations.
- c. To present the results obtained, in a sequential and logical manner.
- d. To display the student's ability to discuss coherently the meaning of the results.

Content of Report

A project report should contain the following parts in the order shown:

- ☛ Fly page (1 Blank Pages)
- ☛ Title page (please see sample, Annexure I)
 - The project title;
 - The full name of the Candidate/s, enrollment no/s. and Guide name/s;
 - The degree for which the project is submitted;
 - The name of the University, i.e. Marwadi University
 - The month and year of submission
- ☛ Student Declaration (Annexure II)
- ☛ College Certificate (Provided by Guide/Supervisor)
- ☛ Company Certificate
- ☛ Preface

- ☛ Acknowledgement
- ☛ Executive Summary
- ☛ Table of Content
- ☛ Introduction to Topic
- ☛ Review of Literature (8 to 10 literature review)
- ☛ Research methodology
 - Introduction
 - Statement of problem
 - Research Objectives
 - Scope of the study
 - Research hypothesis (If any)
 - Research design (Research Type)
 - Data Collection sources (Primary and secondary sources)
 - Data Collection Instrument (for e.g. Questionnaire)
 - Sampling Design
 - ☞ Population of the study
 - ☞ Sample Size
 - ☞ Sampling Method
 - Data Analysis Design (a brief outline of tools and techniques to be used for analysis, statistical tools and tests to be used)
 - Limitations of the Project
- ☛ Data Analysis and Interpretation
 - Tabular representation of data
 - Charts
 - Statistical tests
 - Analysis and Interpretation
- ☛ Findings & Suggestions
- ☛ Conclusion
- ☛ Annexure
- ☛ Annexure - Questionnaire
- ☛ Annexure – Any other document
- ☛ Bibliography

Language, Style and Format

- ☛ Language
 - Project should be written in English.
- ☛ Final Version
 - The final version of the project must be free from spelling, grammatical and other errors when submitted.



Specification for Project Report

1	Paper Size	International A4, not less than 75 gsm white paper
2	Margins	Left - 1.5" Right - 0.75" Top and Bottom - 1.0"
3	Line Spacing	10 to 12 characters per inch must be used with 1.5 line spacing.
4	Paragraph Spacing	Double Lines/Vertical space of around 12 points should be left between the section title line and the first paragraph of each section and subsections, start without any indentation, In single column format with full justification.
5	Pagination	At bottom–Center Beginning with the first page of chapter 1 (Introduction) to all pages shall be numbered consecutively using Arabic numerals (i.e. 1,2,3) From the title page to the page before the chapter 1 starting page, shall be lower case Roman numerals (e.g. i, ii, iii etc.) No Page Number on Title Page
6	Chapter(s):	New Chapter on New Page font size of 20 should begin with an additional top margin of 30 mm (total 55 mm) Capitalize the first letter all the words. Use boldface letters and numbers only
7	Sections and Subsections (left aligned)	A vertical space of around 36 point should be left between the chapter heading and the title of the first section of every chapter. For all subsequent sections/subsections, leave a vertical space of around 24 points before the section/subsection headings. For example, say the first and second sections in chapter 5 shall be numbered as 5.1 and 5.2, respectively. Likewise, the third subsections of sections 1 and 2 in a chapter 4 shall be numbered as 4.1.3 and 4.2.3, respectively. Same style as in chapter heading but with font size of 14 and 12 for section and subsections,
8	Font Type	Times New Roman
9	Font Size(FS)	For normal–12

10	Bold/Italic/Underline	Should be used for specific purposes only
11	Alignment	Page Justify
12	Tables/Graphs/Diagrams/figures Equations	All tables, figures, and equations must be numbered sequentially and chapter-wise using Arabic numerals. It must reflect the chapter number also, e.g. 2.1, 6.25 etc. e.g., Figure 2.1, Table 3.2. While a caption (figure number) should be placed below the figure, a caption (table number) should be placed above the table Images, Photographs, etc. must be scanned in resolution at least 600 dpi.
13	Figures and Illustrations	Figures, tables, etc., should be positioned according to the scientific publication conventions of the discipline.
14	Borders	NO
15	Header/Footers	Single Line (as per this page) Footer (as per this page): Left side Marwadi University, Rajkot, Right Side Pg. No “NO header/footer on Title page”
16	Word Breaking	No word Breaking
17	Printing	Single side only
18	Report Binding	Hard Bound Cover–BlackColor Writing–Golden color only
19	Copies of the Report	Hard Bound: Total 2 Copy (one for Student, one for Dept. Records) Soft: 01Copy PDF.

References & Bibliography

All references must be cited in the text by the reference number using superscripts. No links between superscripts in the text and actual references in the Reference Sections may be used. Notes may be used to cite manuscripts in preparation,

Unpublished observations and personal communications. References cited should follow the style given below example:

PAPERS

1. Thiel WJ and Nguyen LT, “Fluidized bed film coating of an ordered powder



mixture to produce micro encapsulated ordered units.” *J. Pharm. Pharmacol.* **1984**, *36*, 145-152.

2. Isyumov N, “Criteria for acceptance of wind induced motions of tall buildings”, International Conference on Tall buildings, Rio De Janeiro, CTBUH, 2003.

WEB SITE

1. Boggs, D, “Acceleration and Drift due to Gust forces”, accessed on 10 July 2009, www.cppwind.com/papers/structural/PEAKvsRMS.pdf

BOOKS

1. Pelzar MJ., Chan ECS., and Krieg NR. In *Microbiology*; 5th Edn; Tata McGraw Hill Publishing Company Limited, New Delhi, 1993, pp 536.

DISSERTATIONS/PROJECTS

1. Vaishnav D.K, PhD Thesis, “.....” Marwadi University, July 2012.
2. Pathak VK. Ph.D. Thesis, “.....” Gujarat University, 1979.



ANNEXURE - I

[SAMPLE TITLE PAGE]

[Project Title]

(5 blank lines)

By

(single line)

[Your name as found in official MU records - your enrollment number]

(two lines)

[Guide name]

(3 blank lines)

A Project Submitted to

Marwadi University in Partial Fulfillment of the Requirements for the [Degree name] in [Name
of Program/Branch]

(3 blank lines)

Month and Year





MARWADI UNIVERSITY
Rajkot-Morbi Road, At & Po. Gauridad,
Rajkot-360003, Gujarat, India.



ANNEXURE - II

STUDENT DECLARATION

I hereby declare that this Project Report titled _____
_____ submitted by me to the Faculty of Liberal
Studies, Marwadi University is a bonafide work undertaken by me and it is not submitted to any
other University or Institution for the award of any degree diploma / certificate or published any
time before.

Date: DD/MM/YYYY

Place: Rajkot

Signature of the Student

[Name of Student]

[Enrollment No.]

Evaluation Scheme

Internship consists of 4 Credit, 100 marks and shall be evaluated on two components i) Internal Assessment & ii) Viva.

Particular	Weightage (%)	Conducted By
Internal Assessment (IA)	50%	Supervisor/ Guide
Viva Voce	50%	Viva Panel

I. **Internal Assessment** shall consist of 100 marks, which will be carried out by supervisor/guide.

II. **Viva Voce** shall carry 100 marks and will be conducted by a Panel of two examiners.

Specialization: Finance

PROGRAM	Bachelors Of Business Administration
SEMESTER	VI
COURSE TITLE	Advance Financial Management
COURSE CODE	04BB0605
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Students will be able to understand basic framework of designing capital structure of a firm.
- Students will be able to evaluate the risk aspect for analyzing investment decisions.
- Students will have knowledge about dividend policy and its relevance in value of a firm.
- Ability to determine cash position of a firm.
- Acquire knowledge on receivables management of the firm.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
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I	Capital Structure Decision Introduction, PBIT-EPS Analysis, ROI-ROE Analysis, Leverage Analysis, Ratio Analysis, Factors determining capital structure. (Theory & ratio problems)	10
II	Risk Analysis in Capital Budgeting Sources and Perspectives on Risk, Sensitivity Analysis, Scenario Analysis, Break-even Analysis, Hillier Model, Simulation Analysis, Decision tree Analysis, Corporate risk Analysis, Managing Risk. (Theory & Problems)	10
III	Dividend Policies Introduction, Factors affecting Dividend Decision, Bonus Share & Stock Splits, Different forms of dividend, Bonus share and its impact on stock price, Legal and Tax aspects relating to dividend (Theory & Problems)	10
IV	Cash & Liquidity Management Introduction, Cash budgeting, Long term cash forecasting, Reports for control, Cash collection and Disbursement, Optimal Cash balance, Investment of Surplus Funds, Cash Management Models. (Theory) & Problems	10
V	Credit Management Introduction, Terms of payment, Credit policy Variables, Credit Evaluation, Credit Granting Decision, Control of Accounts Receivables, Credit Management in India (Theory & Problems)	8

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Prasanna Chandra	Financial Management	The McGraw-Hill Publishing Company Ltd.	8 th Edition 2011
T-02	Financial Management	M.Y. Khan & P. K. Jain	The McGraw-Hill Publishing Company Ltd.	5 th Edition 2007

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	I M Pandey	Financial Management	Vikas Publishing House Pvt. Ltd.	9 th Edition, 2009
R-02	Vishwanath S. R.	Corporate Finance	Sage Publication	2 nd Edition, 2007
R-03	J.B.Gupta	Strategic Financial Management	Taxmann Publication Pvt. Ltd.	4 th Edition.
T-04	Ravi M. Kishore	Strategic Financial Management	Taxmann Publications Pvt. Ltd.	2 nd Edition

Specialization: Marketing

PROGRAM	Bachelors Of Business Administration
SEMESTER	VI
COURSE TITLE	Advertising Management
COURSE CODE	04BB0606
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Gain an understanding of effectiveness of advertising as an integral marketing tool.

- Learn the majors of advertising programs of organizations with emphasis on the application of marketing concepts for effective decision making.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to advertising Introduction to Advertising –Meaning, Definition of advertising, objectives, its role and functions. Types of Advertising: Commercial, Non-commercial, Primary demand and Selective Demand, Classified and Display advertising, Comparative advertising, Co-operative advertising.	10
II	Advertising Planning Advertising planning framework – factors involved in advertising planning and decision making, the communication & persuasion process segmentation strategy.	10
III	Creative Strategy Creative Strategy: meaning of creativity, Creative strategy and tactics, various advertising Appeals, the mode of message and theme.	10
IV	Advertising budget Advertising Budget – Objectives, preparation and methods of advertising budget; Top down and Build up approach, methods of advertising – Affordable method, Arbitrary allocation method, percentage of sales method, competitive parity method, Objective and Task method; and DAGMAR Approaches	10
V	Advertising Media Decision Concept, Role of Media, Advertising media- Types of Media Print Media (Newspaper & Magazines, Pamphlets, Posters & Brochures), Electronic Media (Radio, Television, Audio Visual Cassettes), Other Media (Direct Mail, Outdoor Media), New Media –Internet and Mobile phones (Characteristics, merits & Demerits of above media, media scenario in Indian Context.)	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M.V.Kulkarni	Advertising Management	EPH	Fourth Edition
T-02	Chunawalla and Sethia S.A,	Foundations of Advertising theory and practice	Himalaya Publishing House	Sixth Edition

Reference Books

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-1	Belch & Belch	Advertising & Sales Promotion	TMH	Eleventh Edition
R-2	Aaker, David A. and Myers John G	Advertising Management	Prentice Hall of India	Second Edition

Specialization: Human Resource Management

PROGRAM	Bachelors Of Business Administration
SEMESTER	VI
COURSE TITLE	Change Management
COURSE CODE	04BB0607
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the objective of managing change in the organization
- Recognize reactions to change and address the resistance
- Learn the competencies required for effective change management

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Organizational Culture and Change Business as a domain for change, Environmental Factors leading to Change, Organizational Culture and Change: Sources and types of Culture, Significance of Culture during change, Strengths and weaknesses of Indian Culture.	10
II	Resistance to Change Meaning and Nature of Organizational Change, Types of Change, Organizational Barriers to Change, Individual and Group Resistance, Overcoming Resistance to Change, Techniques to manage resistance	10
III	Organizational Change and Change Agents Meaning and Types of Change Agents, Key Roles in Organizational Change, Characteristics of good Change Agent, Strategic Management of Change, Factors in selecting Change Strategy, Formulation and Implementation of Change Strategy.	10
IV	Organizational Diagnosis & Development Meaning of Diagnosis, Introduction to Organizational Diagnosis, Collection of Data, Introduction to OD, OD Intervention and Classification, OD Interventions Techniques, Prerequisites for effective use of OD.	10
V	Learning Organization and Models of Change Meaning and nature of Learning Organization, TQM and Learning Organization, Basic Models of OD: Individualistic Model, Group Oriented Model, Organization-oriented model, Lewin's three-step Model, Case study on Change Management in any Industry.	8

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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Harsh Pathak	Organisational Change	Pearson	1 st edition
T-02	Donald R. Brown, Donald Harvey	An Experiential Approach to Organizational Development	Pearson	8 th edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	Thomas Cummings, Christopher Worli	Theory of Organization Development and Change	Cengage Learning	9 th edition
R-02	Wendell L. French, Cecil Bell, Robert A. Zawacki	Organization Development and Transformation: Managing effective change	McGraw-Hill/Irwin	6 th edition
R-03	S.K. Bhatia	Managing Change and Organization Development	Deep and Deep Publications	1 st edition

2020-2021

Elective

PROGRAM	Bachelors Of Business Administration
SEMESTER	I
COURSE TITLE	Mathematics For Business
COURSE CODE	04BB0106
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Calculate simple and compound interest on investments
- Understand repayments of loan using EMIs
- Structure and solve problems using matrices
- Understand and establish relationship between variables using functions to determine equilibrium
- Determine minimum and maximum (optimum) value of cost and profit

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	MATHEMATICS OF FINANCE Introduction, Simple Interest and Compound Interest – Concept and problem solution Future Value (FV) - Annuity: Amount of ordinary annuity, Amount of annuity due Present Value (PV) -ordinary annuity and annuity due Loan Amortization and Equated Monthly Installments (EMIs) - Reducing balance and flat rate of interest Use of MS Excel	10
II	FUNCTIONS Introduction, Constants, Variables, Types of functions– Linear function and Polynomial functions Functions in Business: Cost function, Revenue function and Profit function, construction of cost functions, Profit function and Break Even Point (BEP)	10
III	DIFFERENTIATION AND APPLICATIONS OF DERIVATIVES Limit of a function, important results, differentiation of algebraic functions – formulae (no derivation) Derivative of function of one variable, derivative of sum, difference, product and quotient of two functions (no derivation), chain rule, differentiation of implicit function, price elasticity of demand, second order derivative	12

	Application of derivatives – Marginal cost, Marginal revenue, Marginal Profit, Maxima and Minima	
IV	DETERMINANTS Determinant of second order and of third order, Minor of an element Expansion of determinant, Properties of determinant, Use of determinants in solving simultaneous linear equations – Cramer's Rule for two and three linear equations Use of MS Excel to calculate determinant	06
V	MATRICES AND APPLICATIONS Introduction, Definition, Types of matrices, Algebra of matrices (Addition and Subtraction), Additive Inverse of a matrix, Structure problems in matrix form, Multiplication of matrices (Max 3X3) Minor, cofactor, adjoint and Inverse of Matrix, Solution of system of linear equations using inverse of coefficient matrix (Max 3) Use of MS Excel to calculate inverse of matrix	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	A. Dikshit and J. Jain	Business mathematics	Himalaya Publishing House	Latest
T-02	P. Hazarika	Business Mathematics	S. Chand and Sons	Latest
T-03	P. Mariappan	Business Mathematics	Pearson Education	Latest

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	D C Sancheti and V K Kapoor	Business Mathematics	Sultan Chand and Sons	Latest
R-02	Zamarudeen and Qazi	Business Mathematics	Vikas Publishing	Latest

PROGRAM	Bachelors Of Business Administration
SEMESTER	I
COURSE TITLE	Career Readiness Program
COURSE CODE	04CR0101

COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

Objectives:

- The “*Linguistics for Interpersonal Interaction*” course is designed to make the Learners feel comfortable understanding, thinking and speaking in English.
- Having undergone the training, the Learners will feel confident about his or her own English-speaking skills.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
Unit I	Phonology: Varieties of Language and Standard English, Phonetics and Phonology - Speech Mechanism and Articulatory Phonetics, English Phonemes. Characterization and Classification of Vowels - Diphthongs and Monophthongs.	6
Unit-II	Syntax and Morphology: Nouns, Pronouns and Determiners - Misconceptions related to usages of noun forms, Using Possessives, Types of Pronouns, General Determiners and Specific Determiners. Verbs and related forms - Types of verbs and their forms, Stative and Dynamic, Lexical and Delexical Adjectives and Adverbs - Word formation, Order of Adjectives, Types of Adverbs Preposition and Phrasal verbs - Preposition of time, Preposition of Movements, Preposition of Place, Phrasal Verbs Conjunctions - Coordinating and Subordinating, Using Conjunctions in formal settings. Present Continuous – Form, Usages, Misconception Present Simple & Simple Past – Form, Usages, Misconception	8
Unit - III	Reading Comprehension: Processing Strategy - Comprehension Strategy, Meta-cognitive Strategy, Prediction and Pre-prediction.	4
Unit - IV	Spoken Discourse: Coherence and Cohesion - Situational Sociolinguual interaction, Conversation Practice. Feature of Spoken Discourse - Semantic and Pragmatic Meanings, Conversation Practice (Role Play)	6

Learning Outcomes:

After studying this course, student should be able to:

- Articulate phonetics and phonology, Noun, Pronoun, Verb
- Reading and processing comprehension.

Evaluation:

The students will be evaluated on following evaluation scheme:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment (Term Work)	30% (I.A.)
C	End-Semester Examination (Viva)	50% (External Assessment)

PROGRAM	Bachelors Of Business Administration
SEMESTER	I
COURSE TITLE	Principles Of Management
COURSE CODE	04LS1102
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Demonstrate their knowledge of business and management principles.
- Get acquainted with management process and functions.
- Comprehend the modern management techniques and its relevance in business

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Management Meaning, Nature and Characteristics of Management – Scope of Management - Functional areas - Management as a Science and an Art - Management & Administration – Levels of management & Managerial Skills - Evolution of Management Thoughts - Principles of management - Ethics in Management.	10

II	Planning in Management Need and importance of planning - basic purpose of planning - Planning process, Types of plans - Objectives - Management By Objectives Decision-making Decision making – Nature and importance- types of decisions – process	10
III	Organizing Need for organization - purpose of organization, fundamental principles of organization - Types of organization - Departmentalization, Committees - Centralization Vs decentralization of authority and responsibility Staffing Staffing – Introduction - Need for Staffing - Importance of staffing -Process of staffing	10
IV	Directing Directing – Meaning, nature and importance – Theories of Motivation – Maslow's, Herzberg's & McGregor's Leadership – Introduction - Formal and Informal Leadership – Characteristics – Styles of Leadership - Importance of Communication as a leader Coordinating Coordination – Introduction - Importance of coordination - Principles of coordination	10
V	Controlling Meaning and steps in controlling – Pre-requisites of a strong control system -Methods of establishing control Modern Management Techniques Introduction to various latest management techniques: Business process re-engineering, business outsourcing, benchmarking, kaizen, six sigma, knowledge management, just in time management, total quality management.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	L. M. Prasad	Principles of Management	Sultan Chand and Sons	Ninth Edition - 2015

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	V.S.P. Rao	Management: Text and Cases	Excel Books India	Second edition
R-02	Koontz & O'Donnell	Principles of Management	McGraw Hill	Forth edition

PROGRAM	Bachelors Of Business Administration
SEMESTER	I
COURSE TITLE	Microeconomics
COURSE CODE	04LS1103
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Apply economic reasoning to the analysis of selected contemporary economic problems.
- Understand how households (demand) and businesses (supply) interact in various market structures to determine price and quantity of goods and services produced and consumed.
- Use economic problem solving skills to discuss the opportunities and challenges of the increasing globalization of the world economy.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO MICROECONOMICS	10

	Meaning and definition of Microeconomics, Nature and scope of Microeconomics, Difference between microeconomics and macroeconomics. Central economic problems of society.	
II	CONSUMER BEHAVIOUR Utility analysis: Meaning of Cardinal and Ordinal utility. Cardinal Utility: Law of diminishing Marginal utility, Law of Equi-marginal Utility, Ordinal Utility: Indifference curve analysis, properties of indifference curve analysis, Marginal rate of substitution, Budget line and consumer's Equilibrium.	10
III	DEMAND AND SUPPLY ANALYSIS Determinants of demand , law of demand, exceptions to law of demand. Elasticity of demand and its applications: Price elasticity, Income elasticity and cross elasticity. Concept and Law of Supply , Factors Affecting Supply	10
IV	PRODUCTION AND COST ANALYSIS Production Function: Short run and long run production functions, laws of returns, and law of returns to scale. Cost Function : classification of costs, short run and long run cost curves and their interrelationship, Planning curve and envelope curve, internal and external economics of scale, revenue curves, optimum size of the firm, factors affecting the optimum size	10
V	EQUILIBRIUM OF FIRM AND INDUSTRY Perfect competition, monopoly, monopolistic competition, discriminating monopoly, aspects of non-price competition; group equilibrium, excess capacity, selling costs, oligopolistic behavior.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	H. L. Ahuja	Principles of Economics	S. Chand Publishing house	11 th ed. 2015

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	N.GregoryMankiw	Principles of Micro Economics	Cengage	6 th ed.
R-02	Pindyck, R.S., D. L. Rubinfeld and P. L. Mehta	Microeconomics	Pearson	7 th ed.
R-03	D. Salvatore	Microeconomic Theory	Tata McGraw Hill	5 th ed
R-04	D N Dwivedi	Managerial Economics,	Vikas Publishing House	4 th ed.

PROGRAM	Bachelors Of Business Administration
SEMESTER	I
COURSE TITLE	Business Organizations & Structures
COURSE CODE	04LS1104
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Describe the business structure and their organization.
- Discuss the changes that have taken place in there structure and organization pattern over the time

Course Contents:

Unit	Unit / Sub Unit	Sessions
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No		
I	INTRODUCTION Defining Business, Industry and Commerce. Classification of Activities of Business – Different types of Industry – Commerce – Trade – Trade supporting activities – Advantages and Disadvantages of Business. Their interrelationship in today's environment. Business and Society.	8
II	FORMS OF BUSINESS ORGANIZATION-I Sole Proprietorship, Partnership, Co-operative Society, Hindu Undivided Business, Franchise, Outsourcing.	12
III	FORMS OF BUSINESS ORGANIZATION- II Company – Types including Transnational company, Multinational Company, Joint Ventures & Business Alliances etc. and their structures. Limited Liability Partnership and MSMEs.	8
IV	BUSINESS COMBINATION: Concept, Causes and Forms- Associations, Federations, Consolidations, conglomerate etc.	10
V	GOVERNMENT, PUBLIC SECTOR & NOT FOR PROFIT ORGANIZATIONS : Non Government Organization, Trusts, Societies, Public Sector Enterprises , Stock And Commodities Exchange.	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	S.A Sherlekar & V.S Sherlekar	Modern Business Organisation and Management	Himalaya Publishing House Pvt. Ltd.	Fourth- 2017

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Y.K. Bhushan	Fundamentals of Business Organisation and Management	Sultan Chand & Sons	2013
R-02	Dr. Alice Mani	Business Organization & Environment	SBH	2 nd Edition
R-03	Muniraju S.K. Podder	Business Organisation & Environment	VBH	(2012)
R-04	Kaul, V.K	Business Organisation and Management	Pearson Education	11 th Edition
R-05	Chhabra, T.N.,	Business Organisation and Management	SunIndia Publications, New Delhi	10 th Edition.

PROGRAM	Bachelors Of Business Administration
SEMESTER	I
COURSE TITLE	Fundamentals Of Accounting
COURSE CODE	04LS1105
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Analyze business transactions and will be able to prepare the Financial Statements.
- Understand the need of uniformity in Accounting.
- Analyze the effects of different Financial Accounting methods on the Financial Statements.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Basics of Book – keeping and Accounting Introduction to Book Keeping and Accounting – Branches of Accounting – Systems of Accounting – Basis of Accounting – Characteristics of Accounting Information – Users of Accounting Information – Basic Accounting Terms – Classification of Accounts and its Rules – Accounting Equation Accounting Concepts and Conventions Accounting Principles: Accounting Concepts and Conventions – Fundamental Accounting Assumptions – Introduction to Ind AS – Applicability of Ind AS.	08
II	Process of Accounting Books of Original Entry – Journalizing (including GST) – Difference between Cash Discount and Trade Discount, Ledger – Preparation, Posting and Overview of Electronic Ledgers under GST: Electronic Cash, Credit and Liability Ledger – Practical problems on Journal and Ledger – Preparation of Trial Balance – Redrafting of Trial Balance – Errors and their Rectification	16
III	Final Accounts Types of Expenditure and Income – Meaning of Deferred Revenue Expenditure – Classification of Assets and Liabilities under different head – Contingent Asset and Contingent Liability – Distinguish between Provisions and Reserves – Types of Reserves – Preparation of Financial Statements of sole proprietorship – Impact of GST on Financial Statements – Format of Companies Financial Statements as per Companies Act, 2013.	14
IV	Depreciation Meaning and difference between Depreciation, Depletion and Amortization – Need of Depreciation – Depreciation methods (Straight Line Method and Written Down Value Method) – Method of recording Depreciation (Charging to Asset Account and Creating provision for Depreciation/ Accumulated Depreciation) – Treatment of Disposal of Fixed assets.	06
V	Valuation of Inventory Meaning of Inventory - Inventory Record Systems: Periodic and Perpetual - Methods of Stock Valuation: FIFO, Weighted Average and LIFO	04

Note: Any revision in Indian Accounting Standard will become applicable immediately.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T - 01	P.C.Tulsian	Financial Accounting	Pearson	Latest
T - 02	Dr. S. N. Maheshwari	Financial Accounting for Management	Vikas Publishing House	Latest
T - 03	Ambrish Gupta	Financial Accounting	Tata McGraw, Hill Publishing Co. Ltd. New Delhi	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R - 01	Jain, S.P. and K.L. Narang.	Financial Accounting.	Kalyani Publishers,	Latest
R - 02	Charles T. Horngren and Donna Philbrick	Introduction to Financial Accounting	Pearson	Latest
R - 03	Deepak Sehgal	Financial Accounting	Vikas Publishing H House	Latest

Elective

PROGRAM	Bachelors Of Business Administration
SEMESTER	I
COURSE TITLE	Computer Essentials
COURSE CODE	04LS1107
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Draft Document / Worksheet and Presentation
- Understand the Computer Hardware and Software Fundamentals
- Detail some of the problems that are encountered when developing documents and worksheets
- Describe briefly some of the technologies that are used to support online applications

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	COMPUTER BASICS Data- Instruction and Information-Characteristics of Computers- Various fields of application of Computers- Input-output Devices (Hardware-Software- Human ware and Firmware)-Advantages and Limitations of Computer- Block Diagram of Computer- Function of Different Units of Computer- Classification of Computers. Data Representation-Different Number System (Decimal- Binary- Octal and hexadecimal) and their Inter Conversion.	10
II	COMPUTER SOFTWARE Types of Software- Application software and system software- Compiler and Interpreter-Generations of languages-Low and High Level Languages-Computer Memory: Primary Memory & Secondary memory. Cache memory-optical memory- Storage Media. Introduction to Operating System-All Directory Manipulation-Creating Directory- Sub Directory-Renaming-Coping and Deleting the Directory File Manipulation-Creating a File-Deleting- Coping- renaming a File Using accessories such as calculator- paint brush- CD player etc.	10
III	INTRODUCTION TO MS- OFFICE (WORD) Introduction to Word Processing- Features - Formatting Documents- Paragraph Formatting- Indents- Page Formatting- Header and Footer- Bullets and Numbering- Tabs- Tables- Formatting the Tables- Finding and	10

	Replacing Text- Mail Merging etc..	
t IV	INTRODUCTION TO MS- OFFICE (EXCEL) Introduction to Electronic Spreadsheets- Feature of MS-Excel- Entering Data- Entering Series- Editing Data- Cell Referencing- ranges- Formulae- Functions- Auto Sum- Copying Formula- Formatting Data- Creating Charts- Creating Database- Sorting Data- Filtering etc.	10
V	INTRODUCTION TO MS- OFFICE (POWERPOINT) PowerPoint- Features of MS PowerPoint Clipping- Slide Animation- Slide Transitions- Slide Shows- formatting etc.- Creating formal presentations- inserting different objects- arts- charts- pictures etc. to slide.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	P.K.Sinha	Fundamental of Computers	B.P.B. Publications	

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Curtin, Foley, Sen, Martin,	Information Technology	Information Technology, Tata MC Graw Hill	2007
R-02	Sanjay Saxena	A First Course in computers	Vikas Publication	

Course: B.B.A.

SEMESTER	I
TITLE OF THE SUBJECT	READING AND WRITING FOR BUSINESS
COURSE CODE	04SL0102
DURATION	24 Hours

Objectives:

The course will enable the students:

- To read and interpret formal business writings such as reports, articles and reviews;
- To know structures of formal business letters and reports;
- To write formal business letters and reports;
- To inculcate a taste for reading and writing habits pertaining to the world of business.

Pre Requisites: None

Course Duration:

- The course duration is of 24 sessions of 60 minutes each.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
Unit I	Introduction to Business world 1. Reading a business case-study – “Tripping Along” by Deep Kalra from <i>Stay Hungry Stay Foolish</i> 2. Reading 3 business articles (general in nature) from the newspapers/magazines i. “Paytm: the wonder wallet” from Forbes India. ii. “Millennials: How They Live and Work” from Gallup. iii. “The Right Culture: Not About Employees Happiness” from Gallup.	12
Unit-II	Reading and writing for business 1. Reading business letters (of sales, inquiry, order, complaint, and adjustment) 2. Writing business letters (Any two types) 3. Reading a few short business reports 4. Writing a short business report	12

Learning Outcomes:

After studying this course, student should be able to:

- Inculcate formal reading and writing skills required to communicate with colleagues in the workplace.
- Writing effective business letters, reports.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

		Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	25% (External Assessment)
D	Viva	25%

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Raman M. and Singh P	Business Communication	Oxford University Press	20 th edition, 2011
T-02	Kumar S. and Lata P.	Communication Skills	Oxford University Press	6 th edition, 2013

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Murphy H., Hildebrandt H. and Thomas J	Effective Business Communication	Tata McGraw-Hill	2008
R-02	Sharma R. and Mohan K	Business Correspondence and Report Writing	Tata McGraw-Hill	4 th edition, 1998
R-03	Lesikar R., Flatley M., Rentz K., Pande N	Business Communication	Tata McGraw-Hill	11 th edition, 2009

1. Arakali, Harichandan. "Paytm: The wonder wallet." Forbes India, 16 Nov. 2016, <http://www.forbesindia.com/printcontent/44825>
2. Clifton, Jim. Millennials: How They Live and Work." Gallup, 11 May 2016, <http://www.gallup.com/opinion/chairman/191426/millennials-live-work.aspx>

3. Harter, Jim. "The Right Culture: Not About Employee Happiness." Gallup, 12 April 2017, http://www.gallup.com/businessjournal/208487/right-culture-not-employeehappiness.aspx?g_source=WORKPLACE&g_medium=topic&g_campaign=tiles
4. Kalra, Deep. "Tripping Along." *Stay Hungry Stay Foolish*, edited by Rashmi Bansal, IIM Ahmedabad, 2008, pp. 130-143.

Course: B.B.A.

SEMESTER	I
TITLE OF THE SUBJECT	SPEAKING AND PRESENTATION SKILLS
COURSE CODE	04SL0103
DURATION	24 Hours

Objectives:

The course will enable students

1. To share information on familiar matters/issues in English.
2. To make effective presentations in English.
3. To gain confidence in speaking in English.

Pre Requisites: None

Course Duration:

- The course duration is of 24 sessions of 60 minutes each.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
Unit I	Speaking/Interacting in an Academic Context Greetings, Introducing self and peers, Asking and sharing information, Expressing points of view, Discussions, Facing viva voce, Group discussions, Facing an interview (interview skills).	12
Unit-II	Effective Presentation Skills Introduction to effective presentation skills, Preparing the presentation (Collection of Data/Information, exploring the topic etc.), Using ICT for the presentation, Getting ready for the presentation, Effective body language, Effective pronunciation, Interacting with the audience (Q & A), Practice (with video recording), Feedback and Suggestions.	12

Learning Outcomes:

After studying this course, student should be able to:

- Inculcate speaking skills required to communicate with colleagues in the workplace.
- Effective presentation skills in business, Pronunciation, Interacting with audience.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

		Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	25% (External Assessment)
D	Viva	25%

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Sprague Jo, and Douglas Stuart	<i>The Speaker's Handbook</i>	Thomson Wadsworth	8 th edition, 2008

Recommended Readings/ Viewings:

- Select TED Talks
 - Select INK Talks
 - Select Toastmasters Videos
 - Select Courtroom Dramas
 - Select Videos of speakers like Steve Jobs, Sundar Pichai etc.
1. "Communication." themuse. 2017. <https://www.themuse.com/tags/communication>. Accessed 4 July 2017.
 2. Presentation Magazine. 2017. <https://www.presentationmagazine.com/>. Accessed 4 July 2017.
 3. "Presentation Skills." *SKILLS YOU NEED*. 2017. <https://www.skillsyouneed.com/presentation-skills.html>. Accessed 4 July 2017.
 4. Siddons Suzy. *The Complete Presentation Skills Handbook*. Kogan Page, 2008.



Marwadi University

Bachelor of Commerce/Business Administration/(Hon.)

Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

PROGRAM	Bachelors Of Business Administration
SEMESTER	II
COURSE TITLE	Statistics in Business
COURSE CODE	04LS0205
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Learn the important statistical concepts
- Understand Application and implementation of statistical methods in field.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	<p>Basic Concepts Basics of Statistics: Introduction, Definition, Application of Statistics in Business, Economics and Industry. Presentation of Data: Data collection methods (Primary Vs. Secondary, Population Vs. Sample), Classification and Tabulation of quantitative data, Frequency distribution and Cumulative frequency distribution, Graphical Presentation of data (Histogram, Polygon and Ogive), Use of MS-Excel to create Frequency Distribution and Graphs Univariate Analysis: Descriptive Measures (Central Tendencies and Variation): Meaning of Central Tendency, Averages – Arithmetic mean, Mode, Median and Percentiles, Variation – Range and Variance and Standard Deviation of ungrouped and grouped data. Coefficient of Variation, Choice of good measures. (Use of MS Excel Statistical function to find descriptive measures)</p>	14
II	<p>Probability Theory Counting ($m \times n$) rule, Permutation and Combination (Use of MS Excel to compute permutation and combination)</p> <p>Theory of Probability: Definition, Basic terminology of Probability, three approaches of assigning probability (Classical, Relative Frequency and Subjective</p>	08



Marwadi University

Bachelor of Commerce/Business Administration/(Hon.)

Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

	approach), Rules of probability, Addition rule, Multiplication rule for independent and dependent events.	
III	Probability Distribution: Random variable, probability distribution and mathematical expectation Discrete Probability Distribution: Binomial, Poisson Continuous probability Distribution: Normal Distribution – Properties and Applications (Use of MS Excel Statistical function to compute Binomial, Poisson and Normal probability)	08
IV	Bivariate Analysis Correlation and Regression Analysis: Meaning of correlation, types of correlation, method of correlation – Karl Pearson’s coefficient of correlation, Meaning of Regression, regression coefficients and two lines of regression, use of regression in prediction. (Use of MS Excel Statistical Function to compute correlation and regression)	10
V	Time based Analysis Time Series and Index Numbers: Basic Concepts, Components of Time series (Trend, Seasonal Variation, Cyclic and Random / Irregular variation), methods to determine trend and Seasonal Indices – simple averages, Use of Time Series in Business and Economics. Overview of Index Numbers as an important statistical tool in economics.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:



Marwadi University

Bachelor of Commerce/Business Administration/(Hon.)

Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	J K Sharma	Fundamentals of Business Statistics	Vikas Publication	Latest Edition
T-02	N D Vohra	Business Statistics	McGraw Hill Education	Latest Edition
T-03	D P Apte	Statistical Tools for Managers Using MS EXCEL	Excel Books	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Lewin and Rubin	Statistics for Management	Prentice-Hall of India	Latest
R-02	Sancheti D.C. and Kapoor V.K	Statistics: Theory, Methods & Application	Sultan Chand & Sons	Latest
R-03	S.C. Gupta	Fundamentals of Statistics	Himalaya Publishing House	Latest
R-04	S P Gupta	Statistical Methods	Sultan Chand	Latest
R-05	R. P. Hooda	Introduction to Statistics	Macmillan	Latest
R-06	S.C. Aggarwal & R.K Rana	Basic Statistics for Economists	V.K. India.	Latest
R-07	Beri, G.C	Business Statistics	TMH	Latest
R-08	Chandan J S	Statistics for Business and Economics	Vikas Publications	Latest

PROGRAM	Bachelors Of Business Administration
SEMESTER	II
COURSE TITLE	Applications Of Spreadsheet



Marwadi University

Bachelor of Commerce/Business Administration/(Hon.)

Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

COURSE CODE	04LS0212
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

COURSE OUTCOMES:

- Able to perform routine organizational tasks using Spreadsheets.
- Can be able to understand about pivot tables and how to use it for routine purpose.
- Able to manage spreadsheet and be able to compare data in to different spreadsheet.
- Create a dynamic spreadsheet.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Manage Worksheet Data, Reorder and Summarize Data Understanding software for spreadsheet, learning basic menu items, Basic operations like create, open and save a file, worksheets and workbooks, Renaming Inserting Data in proper tabular format, Basic formatting like changing fonts, size, merging and splitting cells, Coloring cells, conditional formatting	06
II	Functions & Formulas Basic Arithmetic Functions, Conditional Functions, Lookup Functions, Sorting and Filtering Data, Paste Special, Data Validation, Converting Text to Table, Working with multiple sheets	09
III	Data Analysis and Printing Analyze data dynamically by using PivotTables, Filter, show, and hide PivotTable data, Edit PivotTables, Format PivotTables, Create PivotTables from external data, create dynamic charts by using Pivot Charts, Page Setup and Printing	09

Evaluation:



Marwadi University

Bachelor of Commerce/Business Administration/(Hon.)

Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Cox et al	Step by Step 2007 Microsoft Office System	PHI Learning Private Limited	Second Edition, 2009

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Curtis Frye	Microsoft Excel 2016 Step by Step	Microsoft Press	Latest

PROGRAM	Bachelors Of Business Administration
SEMESTER	II
COURSE TITLE	COST ACCOUNTING
COURSE CODE	04LS1202
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Learn the important cost concepts
- Understand Application and implementation of costing methods



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Bachelor of Commerce/Business Administration/(Hon.)

Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Fundamentals of Cost accounting Objectives and functions of cost accounting, Meaning of Cost, Methods of costing, Techniques of costing, Cost ascertainment and cost estimation, Classifications of cost, Special costs for management decision making, Elements of cost, Steps of installation of a costing system, Advantages of cost accounting, Limitations or objections against cost accounting, Essentials of a good cost accounting system	8
II	Direct Expense Material Cost: Material Control, Techniques of inventory control; ABC, Stock Levels and Economic order Quantity. Proper storage of Materials. Labour Cost: Meaning, Labour Remuneration: Methods of Remuneration: Time rate system, Piece rate system, Incentive plans, Group bonus plans.	9
III	Overheads: (Apportionment) Meaning of overhead cost, Classification of overhead cost, Segregation of semi-variable cost, overheads distribution, Allocation and apportionment of overheads (primary distribution), Re-apportionment of service department cost (secondary distribution). Methods of costing Unit Costing: output costing, Costing procedure, Treatment of Stocks, Items Excluded from Cost, Treatment of Scrap	11
IV	Methods of costing Job and Batch Costing: Job Costing Procedure, Batch costing, Economic Batch Quantity. Process Costing: Introduction, Essential Characteristics of Process Costing, Process Costing and Job Costing— A Comparison, Costing Procedure, Normal Loss and abnormal loss, Normal Gain and abnormal Gain.	11
V	Methods of Costing Operating Costing: Operating costing, Cost unit, Transport costing, Transport costing procedure, Boiler house and power house costing, Canteen costing.	9

Evaluation:



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Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M. N. Arora	A Textbook on Cost and Management	Vikas Publication	Latest Edition
T-02	Paresh Shah	Cost and Management Accounting	Oxford Publication	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Ravi M kishore	Cost and Management Accounting	Taxmann	Latest
R-02	V Rajshekharn&Lalitha	Cost Accounting	Pearson	Latest
R-03	CharlesT, Horngren, S M	Cost Accounting	Pearson	Latest
R-04	P C Tulsiyani	Cost Accounting	S Chand	Latest
R-05	Khan and Jain	Management Accounting	TMH	Latest

PROGRAM	Bachelors Of Business Administration
SEMESTER	II
COURSE TITLE	Macroeconomics



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Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

COURSE CODE	04LS1203
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Comprehend why household, business, government and global behavior determine the aggregate demand for goods and services.
- Understand the basics of national income accounting.
- Apply economic reasoning to understand the operation of an economy.

Course Contents:

Unit No	Unit/Sub-unit	Sessions
I	Introduction to Macroeconomics & National Income: Nature and Scope of Macroeconomics, Circular Flow of Income and National Income Accounting , Concepts of GDP and NDP- Sectoral Composition of National Income - GDP measured at Factor Price and Constant Prices- Concept of GNP and NNP, Factor Cost and National Income-Per Capita income, Disposable Income and Personal Disposable Income- Measurement of National Income – Difficulties in measuring National Income	10
II	Keynesian Economic Theory Say's Law of Market and its criticism by Keynes. Simple Keynes Model of Income Determination. Concepts of Consumption Function, Saving Function and Investment Function. Average Propensity to consume, Marginal Propensity to Consume, Investment Multiplier–Marginal Efficiency of Capital and factors affecting MEC.	10
III	Money Supply and Central Bank Meaning and Evolution of Money- Definition of Money- Functions of Money – Demand for Money - Quantity Theory of Money- Fisher's Equation of Exchange-Cambridge Theory. Supply of Money – Determinants of Money Supply- Components of Money Supply-	10



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Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

	RBI's Approach-M1, M2, M3, M4.	
IV	<p>Business Cycle & Inflation</p> <p>Concepts of Business cycle – Four phases of Business Cycle – Interest rate –Loanable fund Theory and Liquidity preference theory- Motives for liquidity preference--Transaction Motive, Precaution Motive, Speculative Motive. Factors affecting interest Rate, Inflation-Meaning, Types, Causes, Effects-Inflation and Investment.</p>	10
V	<p>Open Economy Macroeconomics</p> <p>Balance of Payments –Meaning and assessment, Balance of payment and disequilibrium causes and remedies. Introduction to Foreign Exchange Rates-Fixed V/s Flexible foreign exchange rates. Exchange rate determination.</p>	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	H.L.Ahuja	Macro Ecoomics	S.Chand	20 th ,2015



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Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	D.M.Mithani and Prof. Nayak	Macroeconomics II	Himalaya Publication	1 st edition
R-02	D. N. Dwivedi	Macroeconomics Theory and policy	Tata Mcgraw Hill	4 th edition
R-03	Mankiw	Macroeconomics-Indian edition	Cengage	1st

PROGRAM	Bachelors Of Business Administration
SEMESTER	II
COURSE TITLE	Organizational Behavior
COURSE CODE	04LS1204
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand individual differences and utilize them effectively in making groups to achieve organizational objectives.
- Apply knowledge of models and theories to promote the effectiveness in workplace

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO ORGANIZATIONAL BEHAVIOUR Introduction to OB- Meaning, Definition, Scope, Contributing disciplines, Determinants of OB, Evolution of OB, challenges and Opportunities for Organization Behavior	07



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Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

II	<p>UNDERSTANDING INDIVIDUAL BEHAVIOR Understanding Personality: Meaning, Types, Determinants, Personality Attribute influences Organizational behavior Perception : Meaning, factors, link between perception and Individual decision making Attitude: Meaning, components, Types of attitude, Formation of attitude, Attitude and workforce diversity. Values : Meaning, Types and Importance of values Motivation : Meaning, Types and Theories- Hierarchy of Needs Theory, Theory X and Theory Y, Two-Factor Theory , carrot and stick Approach to Motivation Learning : Meaning and Various Approaches of Learning</p>	15
III	<p>GROUP BEHAVIORS AND LEADERSHIP Group; Meaning, classification of Group, stages of Group formation Understanding teams; Meaning, Difference Between Group and Team, Types of Team Leadership; Meaning of leadership , leadership styles, traits, Theories; Trait Theory</p>	09
IV	<p>ORGANIZATION STRUCTURE AND ORGANIZATION CULTURE Organization Structure; Work Specialization, Departmentalization , Chain of Command , Span of Control, Centralization and Decentralization, Formalization Organizational Designs :Simple Structure ,Bureaucracy ,Matrix Structure , Virtual Organization , Boundaryless Organization Organization Culture –Meaning, Definition, Features, Importance of Culture.</p>	10
V	<p>ORGANIZATIONAL CHANGE AND CONFLICT MANAGEMENT Organizational Change: Meaning – Factors influencing change - Resistance to change - Overcoming resistance Conflict Management: Meaning – types of conflict –factors affecting conflict in organization.</p>	07

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)



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Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

C	End-Semester Examination	50% (External Assessment)
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SUGGESTED READINGS:

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Robbins	Organizational Behaviour	Prentice Hall	Latest Publication
T-02	K. Aswathappa	Organizational Behaviour	HPH	Latest Publication
T-03	P.G. Aquinas	Organizational Behavior	Excel Books	Latest Publication

Reference Books

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	John W. Newstrom & Kieth Davis	Organizational Behaviour	McGraw Hill	Latest Publication
R-02	Fred Luthans	Organizational Behaviour	McGraw Hill	Latest Publication



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Semester II (w.e.f. Jan, 2018) Subject

Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

PROGRAM	Bachelors Of Business Administration
SEMESTER	II
COURSE TITLE	E-Commerce
COURSE CODE	04LS1206
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Comprehend why household, business, government and global behavior determine the aggregate demand for goods and services.
- Understand the basics of national income accounting.
- Apply economic reasoning to understand the operation of an economy.

Course Contents:

Unit No	Unit/Sub-unit	Sessions
I	INTRODUCTION TO E COMMERCE Introduction to E-Commerce – History of E-commerce, types of E-Commerce - Comparison of traditional commerce and e-commerce. Business models under E-Commerce – Business to Business (B2B) - Business to Customer model (B2C), Consumer-to-Consumer (C2C) - Consumer-to-Business (C2B) model - Peer to-Peer (P2P) model – emerging trends - Advantages and Disadvantages of e-commerce - web auctions, virtual communities - portals - e-business revenue generation models.	10
II	HOW TO SET UP E COMMERCE BUSINESS Why do I want to set up an E-Commerce enterprise?:- competition, global research, customer service, value edition, operations oriented process, 'pettish' products; What do I want to do on the net? Web	10



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Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

	development and maintenance, static web pages, integration with operational database, dynamic web site, customer transaction, transaction processing/ payment, merchant account, transaction processing, online credit card frauds, full E-Commerce.	
III	PAYMENTS IN E – BUSINESS E-payment systems – An introduction - B to C payments - B to B payments - Types of E- payment system – Credit card - debit cards - accumulating balance - online stored value payment systems - Secure Electronic Transaction (SET) protocol - payment gateways - digital cash - digital wallets - agile wallet - smart cards and digital cheques.	10
IV	SECURITY OPERATIONS FOR E-BUSINESS Possible Security threats – implementation of E-commerce security – encryption – Decryption - protecting client computers - E-Commerce Communication channels and web servers Encryption - SSL protocol – Firewalls - Cryptography methods – VPNs - protecting networks - policies and procedures	10
V	MARKETING OF E-BUSINESS E-Commerce and marketing - B to B and B to C marketing and branding strategies - Web transaction logs – cookies - shopping cart database – DBMS – SQL - data mining - CRM (customer relationship Management) system – permission marketing - affiliate marketing - viral marketing.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	K. Bajaj & D. Nag	E-Commerce: The cutting edge of business	TMGH	Latest



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Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Becker, S. Ann (ed.),	Electronic Commerce: Concepts, Methodologies, Tools and Applications	IGI Global	2007

Course Description

The course will help the students to develop their ability to communicate in English for workplace. The course will introduce the students to various workplace situations through videos, audios, and simulations and develop students' texts workplace language for

Course Objectives

The course will enable the students

1. to familiarize with workplace culture;
2. to share information and collect information;
3. to express one's views and agree or disagree with others;
4. to write workplace documents.

Recommended Reading:

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Unit 1: Working together

1. Making requests, suggestions, agreeing and disagreeing
2. Accepting and declining an invitation
3. Giving feedback and verifying information
4. Communication in a meeting (Induction meetings)
5. Telephonic conversation

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Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

Expressions:

3. Let's Talk video: Requests and Command
in <https://youtu.be/TrCsLOqOuSg>

at Work:
English:



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Subject Name: English for Workplace

4. Let's Talk video: Making suggestions and recommendations:

<https://youtu.be/Bjglvhc6Hnc>

5. Online article: BBC - Agreeing and disagreeing:

<http://learnenglishteens.britishcouncil.org/exams/speaking-exams/agreeing-and-disagreeing>

6. Youtube video: Making, Accepting & Declining an Invitation in English.

<https://youtu.be/GqwpBEynsyo>

7. BBC video: Giving feedback - 18 - at Work:

https://youtu.be/UKz1Fsw_e8c

8. Online article: Effective Meetings:

http://people.ucalgary.ca/~design/engg251/First%20Year%20Files/effect_mee t.pdf

9. Youtube video: Useful Telephone Phrases: https://youtu.be/6tfFRD_e1V0

Unit 2 Writing for Workplace

1. Letter Writing
2. Email writing
3. Report writing
4. Writing Notices
5. Minutes of meeting

Recommended Readings/Viewings:

1. Online article: Letterbarn: Sample Employment and Workplace Letters: <http://letterbarn.blogspot.in/2008/12/sample-recruitment-letters-training-and.html>
2. Online article: Business letter examples: <https://www.thebalance.com/business-letter-examples-samples-and-writing-tips-2059673>



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3. BBC Learning English video: Writing an Email- 18 - English at work:

<https://youtu.be/aO3Det4ir8U>



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Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

4. BBC Article: English Email:
for <https://learnenglish.britishcouncil.org/en/english-emails>
5. Blog: My School: How to write notice and circular:
<http://english-cbse.blogspot.in/2011/09/how-to-write-notice-and-circulars.html>
6. Online article: Drafting of Notices, Circulars, Minutes and Resolutions:
<http://www.yourarticlelibrary.com/business/reports/drafting-of-notices-circulars-minutes-and-resolutions/75904/>

Teaching Scheme:

Teaching Scheme (Hours per week)	Evaluation Scheme					Total Marks	
	Theory	ES E	IA	CS E	Viv a		Term Work
2 Hours		00	30	20	25	25	100

1. IA will consist of the following components (30 marks):

a. Assignments (20 Marks): Students will prepare assignments as following.

Writing a letter, a circular, a notice and a minute of meeting on the givensubjects. (05 Marks each)

b. In-Class Participation (10 Marks)

2. CSE (20 marks):

Term End Simulation: Performing a simulated

wor



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Workplace scene/situation and video/audio recording it. (20 Marks) on a given

3. **Viva (25 Marks):** Viva will be conducted at the end of the semester. It will be based on the CSE, Term Work, Assignments and topics covered in the syllabus.

4. **Term Work (25 Marks):**



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Subject Name: English through Movies

Term-End Presentation: Students will make a presentation based on topics provided by the faculty at the end of the semester.

Further Suggested Readings:

1. Cosgrove Anthony, *English at Work (with audio CD and practical language activities in the UK)*, Cambridge University, 2011
2. BBC video series on English at Work (45+ videos): Link:
https://www.youtube.com/playlist?list=PLcetZ6gSk969oGvAl0e4_PgVnlGbm64bp
3. FutureLearn course on English for Workplace:
Link: <https://www.futurelearn.com/courses/workplace-english/2/todo/10069>
4. Video conference on first day of joining:
<https://view.vzaar.com/9734063/video>
5. Maheshwari, *English at the workplace*, Laxmi Publication, 2006
6. MuktiSanyal, VarmaPromodini, *English at the Workplace II*, Oxford University Press, 2007
7. HelgesenMarc, Adams Keith, *Workplace English:Office File*, Longman, 1996
8. Schofield, James, *Collins Workplace English*, Harper Collins Publisher, 2012

Course Description

The course offers select English movies as a medium for teaching English language skills. Given that 'context' is a vital aspect for language learning, film as an audio-visual

'text' re-creates reality whilst presenting its viewers with demonstrations of varied

linguistic contexts. This course thus aims to create a sense of ease in learning English in a contextual manner. Moreover, the objectives of learning language are fluency and accuracy. These aims can be achieved



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Subject Name: English through Movies

best by various language contexts (situations) demonstrated in movies. Also, movies present language in a more accessible fashion for the students to easily acquire language skills.

Course Objectives

The course will enable the learners to

1. further enhance their basic language skills;
2. identify and use different language functions in an audio-visual context;
3. learn to use film and its elements as tools for language learning.

Unit 1: Language Functions, Contexts & Movies

In this unit, students will learn, understand, and explore English through clips from various selected movies. They will primarily study a number of language situations, as shown in the clips, in order to understand how English can be used in varying contexts. This unit aims to improve the students' basic language skills LSRW by dealing with

varying language activities by focusing on strengthening their vocabulary,

interpretation skills, reading non-verbal cues, pronunciations, and also their writing skills. Students would explore the following language activities in this unit:

1. Introducing the course
 - a. Instructors will introduce each film included in the syllabus along with a very brief background of the recommended movies, and



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Subject Name: English through Movies

- b. Students will be asked to list the kinds of movies they prefer and also provide a reason for their preferences
2. Focusing on dialogues and understanding parts of speech
3. Creative Writing: Making a pamphlet (for Continuous Semester Evaluation)
4. Reading nonverbal cues in context
5. Vocabulary building exercises – word meanings, making sentences & finding images and synonyms and antonyms
6. Interpreting dialogues & pronunciation
7. Daily Conversations

Recommended Web-links

1. www.fluentu.com/english/blog/learn-english-movies-film-esl/?lang=en
2. www.academia.edu/.../The_Impact_of_Using_Movies_on_Learning_English_language
3. <https://speechyard.com/us/video/>
4. <https://www.learnenglish.de/improveenglish/films.html>

Unit 2: Detailed Analyses of the Movies

Students would be asked to watch the selected movies and individual scenes in order to transcribe dialogues, respond to and discuss various issues dealt within the movies, answer questionnaires, and write movie reviews. They will also be asked to interpret the trailers of these movies and discuss them in groups. The following activities will be covered in this unit:

- a. Dialogue and monologue transcription
- b. Interpreting the trailers [Group discussion]
- c. Interpreting the scene(s) [Group discussion in context]
- d. Movie comprehension (a short film and a long scene will be played in class)
- e. Reading and Writing Movie reviews
- f. Describing/Discussing the posters of the movies,
- g. Describing characters & themes (Questionnaire)
- h. Giving feedback/expressing opinions.



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Code: 04SL0153 - Subject Credits: 02

Subject Name: English through Movies

Recommended Web-links

1. <http://www.imdb.com>
2. <https://www.rottentomatoes.com/>
3. warmupsfollowups.blogspot.com/
4. www.learnenglishfeelgood.com/eslvideo/
5. <http://www.esl-galaxy.com/video.htm>

Evaluations and Assessment:

The evaluation and assessment would consciously

Teaching Scheme (Hours per week)	Evaluation Pattern					Total Marks
	ESE	IA (In-Class Participation & Assignments)	CSE	Term-End Presentation	Viva	
Theory						
2	00	30	20	25	25	100

1. IA (Internal Assessment): The IA consists of two components. First being the In-

Class participation of 10 marks. The second assignments consisting being three

prepared by students and submitted during the semester. It carries 20 marks. The list of three assignments is as follows:

- a. Transcribing a monologue of a major character (5 marks)
- b. Plot description on the basis of a trailer (5 marks)
- c. Comprehension of a short film/ long scene (10m)

2. CSE (Continuous Semester Evaluation): Students will be assigned a particular

film(s) for this endeavour. It carries 20 marks. Students will be given the topic by the end of the first fortnight of the semester. The details of the task are as follows:



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Subject Name: English through Movies

-
- a. Preparing a four-page pamphlet on the selected film, describing the production details, film synopsis, and other details.



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Code: 04SL0153 - Subject Credits: 02

Subject Name: English through Movies

3. Term-End Presentation: They will be assigned two movies for the term-work. It carries 25 marks. The students will write two movie reviews. The reviews have to be handwritten. After the submission of the review file, they will be making a presentation of their written submission. The reviews carry 15 marks and the presentation will carry 10 marks.

4. Viva: It carries 25 marks. Viva will include questions on their term work on movie reviews. Out of 25 marks, 10 marks will be allotted for their term-work and 15 marks for their linguistic skills along with their understanding of the course materials.

Selected Movies

1. *Harry Potter and the Philosopher's Stone*. Directed by Chris Columbus, WarnerBros. Pictures, 2001.
2. *Paperman*. Directed by John Kahrs, Walt Disney Animation Studios, 2012.



3. *Steve Jobs*. Directed by Danny Boyle, Universal Pictures, 2015.
4. *The Social Network*. Directed by David Fincher, Columbia Pictures, 2010.
5. *WALL-E*. Directed by Andrew Stanton, Walt Disney Pictures & Pixar Studios, 2008.



10.

r Animation

PROGRAM	Bachelors Of Business Administration
SEMESTER	III
COURSE TITLE	Marketing Management
COURSE CODE	04BB0301
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Comprehend Fundamental Marketing Concepts and marketing environment.
- Apprehend the concepts of Basic 4Ps of Marketing.
- Understand and apply the concepts of Segmenting and Targeting Customers.
- Comprehend various channels of distribution and various means of promotion.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO MARKETING MANAGEMENT Introduction to marketing management – Need of marketing management, Definition, Scope, Core Marketing concepts, Understanding – Needs, Wants and Demand, Customer Value & Satisfaction, Functions of marketing, Eras in marketing, Marketing environment, Marketing mix , Role of marketing manager.	08
II	CONSUMER BEHAVIOUR & SEGMENTATION Understanding Consumer behaviour, Factors affecting Consumer Buying Decisions, Consumer Buying Process, difference between Consumer buying and Industrial buying. Introduction to Segmenting, Concept, Importance and Bases of segmentation, Targeting & Positioning, Product differentiation.	10
III	PRODUCT AND PRICE Understanding Product and its importance, Product Levels, Product mix, Branding, Product Life Cycle & Strategies at various levels, New Product Development, Overview of Packaging, Introduction to Service marketing, SERVQUAL Pricing: Introduction to Pricing, Factors affecting Pricing and Strategies for Pricing.	10
IV	DISTRIBUTION Introduction to Distribution – Meaning and Importance, Channels of Distribution, Channel members, Wholesaling and Retailing, Introduction to Logistics.	08

V	PROMOTION Introduction to Promotion – Types, Scope, Tools, Advertising – Roles, 5MS; Personal selling, Public relations, Direct Marketing & sales promotion – concept and characteristics. Brief introduction to Latest trends in marketing (Online Marketing - Green marketing and Rural Marketing)	10
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Philip Kotler & Kevin Lane Keller	A Framework for Marketing Management	Pearson Education.	Sixth Edition (2016)

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Philip Kotler; Kevin Lane Keller; Abraham Koshy; MithileshwarJha	Marketing Management: A South Asian Perspective	Pearson Education	Latest Edition
R-02	Tapan Panda	Marketing Management	Excel Books	Latest Edition
R-03	Rajan Saxena	Marketing Management	TMGH	Fourth Edition

PROGRAM	Bachelors Of Business Administration
SEMESTER	III
COURSE TITLE	Human Resource Management
COURSE CODE	04BB0302
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Explain the importance of human resources and their effective management in organizations.
- Analyze the key issues related to administering the human elements such as recruitment, training, compensation, management development and employment relations.
- Understand the process of job analysis and appreciate its importance as a foundation for human resource management practice.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction: An Introduction to Human Resource Management, characteristics and significance of HRM, Skills and Competencies of a Human Resource Manager, changing skill requirement, changing employee expectations, Challenges faced by HR managers.	08
II	Procurement: Human Resource Planning, process and significance, job analysis – job description and job specification, Recruitment - Selection – Placement and Induction, HRM Workshop: Linking Concepts to Practice.	12
III	Development: Identification of training needs, Methods of training, Difference between Training & Development. Introduction to Management Development, DO YOU KNOW?: Where Are the Jobs?(class discussion).	10
IV	Compensation: Introduction - Basic factors in determining pay rates, Basic, Supplementary and Executive Remuneration, types of employee benefits and services, Ethical issues in Compensation Management: <i>Discussion</i> .	10
V	Employment Relations: Employee Relationship Management– Definitions and Main Aspects, Industrial Disputes & Conflicts, Contemporary issues in Human Resource	08

	Management.	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Pravin Durai	Human Resource Management	Pearson: Dorling Kindersley (India)	4th

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	K. Aswathappa	Human Resource and Personnel Management, Text and Cases	Tata MC Graw-Hill	6 th , 2010
R-02	Gary Dessler & BijuVarkkey	Human Resource Management	Pearson	14 th , 2016
R-03	V.S.P. Rao	Human Resource Management - Text and Cases	Excel Books	2006

PROGRAM	Bachelors Of Business Administration
SEMESTER	III
COURSE TITLE	Business Environment
COURSE CODE	04BB0303

COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the meaning and relationship of environment and business
- Know the characteristics of modern business
- Explain the competitive structure of an industry

Course Contents:

Unit No.	Unit / Sub Unit	Sessions
I	INTRODUCTION TO BUSINESS ENVIRONMENT Introduction to Business environment - salient features – importance - internal & external environment –Macro & Micro Factors(SWOT Analysis- Firm Specific) environment scanning: features - process & techniques -Social and Cultural Factors, Business Environment with reference to global integration, ecological environment protection Act	10
II	ECONOMIC ENVIRONMENT & POLITICAL ENVIRONMENT Political structure: Legislature institutions – executive institutions – judiciary institutions - Economic systems: capitalism, socialism; mixed economy, mixed economy of India; LPG - Liberalization, Privatization & Globalization and its impacts –Highlights of New industrial policy & its implication in India –Fundamentals of fiscal policy.	10
III	TECHNOLOGICAL & LEGAL FRAMEWORK Impact of Technology on Business –Overview of Technological Policies- ISO standards- Bureau Of Indian Standards–Important features of Intellectual property rights – Trademarks –The Competition Act 2002: Basics of Foreign Exchange Management Act 1999 (FEMA): Features – objectives - application of the Act - FEMA Vs FERA.	10
IV	SOCIAL ENVIRONMENT Business and Society, Changing Concepts and objectives of Business, Interdependence of business and society, technological development and social change, Consumers' rights & consumerism, Consumer protection Act; corporate governance.	10
V	INTERNATIONAL BUSINESS ENVIRONMENT Importance of International Business, Types of International Business, Protectionism, EXIM policy, EPZs, EOUs, SEZ, WTO, regional blocks.	8

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
1	Francis Cherunilam	Environment For Business	Himalaya Publishing House	2 nd edition 2011

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
1	Mishra, S.K. and Puri V.K	Economic Environment of Business	Himalaya Publishing House	1 st - 2011
2	Paul Justin	Business Environment-Text and Cases	TATA McGraw Hill Publishing	3 rd - 2010
3	Vivek Mittal	Business Environment	Excel Books	2 nd - 2010
4	Raj Agarwal	Business Environment	Excel Books	5 th - 2002
5	Francis Cherunilam	Business Environment, Text & Cases	Himalaya Publishing House	25 th - 2016
6	Aswathappa K	Essentials of Business Environment	Himalaya Publishing House	13 th - 2016
7	Morrison J	The International Business Environment	Palgrave	2 nd - 2006
8	Richard G. Lipsey	An Introduction to Positive Economics	ELBS, Oxford	7 th - 1989

List of Journals /Periodicals/ Magazines/ Newspapers etc.

1. International Journal of Business Environment

2. International Journal of Entrepreneurship & Business Environment Perspectives
3. Journal of World Business
4. Economic & Political Weekly
5. Intellectual Property Rights
6. Corporate Governance
7. Business India / Business World
8. Banking & Finance
9. Industrial Economist
10. Fortune, Global Business Review,
11. Economic Survey- GOI
12. World Development Report
13. India Development Report (Latest Edition)
14. RBI Annual Report, etc

PROGRAM	Bachelors Of Business Administration
SEMESTER	III
COURSE TITLE	Research Methodology
COURSE CODE	04BB0304
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Gain basic knowledge on research methods.
- To make decisions based on actual business conditions using statistical method.
- Demonstrate knowledge in different types of research methods and techniques.
- Perform statistical analysis and compile structured reports that reflect appropriate decision making.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	RESEARCH PROCESS – 1 Objective, Introduction, Scope of Business Research , Managerial value of Business Research, Business Research in a Global context , Ethics and Business Research , Types of Business Research, Stages in Research Process , Importance and criteria of Good research, Need for Research Design, Features of good research design.	12
II	RESEARCH PROCESS – 2 Introduction to Qualitative and Quantitative Research, Sampling Design – Census and Sample survey, Characteristics of good sample design, Sampling Methods – Random sampling and non-random Sampling.	06

	Sampling and non-sampling Errors , sample size determination.	
III	DATA COLLECTION, MEASUREMENT AND SCALING Data collection methods – Primary and Secondary Data , Measurement in Research, Measurement Scale, Meaning of Scaling, Scaling Techniques and it's construction , Questionnaire Design, Developing Measurement Tools using Excel functions.	12
IV	PROCESSING AND ANALYSIS OF DATA Measures of Relationship – Simple Correlation and Simple Regression Analysis, Formulation and statement of hypothesis, confidence interval, Type-I error, Type-II error, one-tailed , two tailed, , Testing of hypothesis(population mean and population proportion for single population)	12
V	PREPARING REPORTS Technical and Academic Report Writing, Significance of Report writing, Layout of Research Report, Precaution for writing Research Report and Conclusion.	06

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
TEXT BOOKS:-

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Deepak Chawla & Neena Sodhi	Research Methodology, Concepts And Cases	Vikas Publication	2/e,2016

REFERENCE BOOKS:-

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Naval Bajpai	Business Research Methodolgy	Pearson Education	1/e,2011

R-02	Cooper And Schindler	Business Research Methods	Mcgraw-Hill Publication	12/e,2014
R-03	D.K. Bhattacharya	Research Methodology	Excel Books	2/e,2006
R-04	J K Sachdeva	Business Research Methodology	Hph	2/e,2011
R-05	Uma Sekaran & Roger Bougie	Research Methods For Business – A Skill Building Approach	Wiley	6/e,2013
R-06	Naresh K Malhotra	Marketing Research	Pearson Education	5/e,2007

PROGRAM	Bachelors Of Business Administration
SEMESTER	III
COURSE TITLE	Financial Management
COURSE CODE	04BB0305
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand how to maximize shareholders value by applying various financial decision.
- Compute cost of capital, capital budgeting, dividend decision and working capital.
- Learn various sources of finance.
- Understand capital structure theories and its importance.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Financial management: Meaning, Nature and Scope. Functions and objectives. Wealth Vs. Profit Maximization; Role of Finance Manager in 21 st Century. Time Value of Money: Concept, Compounding, Discounting and Annuity (Numerical).	8
II	Financing Decision: Sources of Financing – Equity, preferred and debt capital. Cost of Capital: Cost of equity, preferred and debt capital, weighted average cost of Capital (WACC). Capital Structure – determinants, theories – NI, NOI &; MM Hypothesis. Leverage – Operating, financial &; combined.	12
III	Investment Decision: Nature of investment decisions; different types of investment; investment	12

	appraisal methods – Non discounting cash flow methods (Payback period, ARR) and discounting cash flow methods (NPV, IRR & PI).	
IV	Dividend decisions: Types of dividend, dividend distribution practices, Walter's, Gordon's & MM dividend models; principles of dividend policy. Dividend payment practices in corporate India.	6
V	Working Capital: Meaning, significance and classification. Financing & sources of working capital; estimation of working capital requirement, operating cycle period. Basic concepts of cash, receivables, & inventory management. New dimensions in management of working capital in modern era.	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Prasanna Chandra	Financial Management – Theory & Practices	New Delhi, TMH	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	I.M. Pandey	Financial Management	Vikas Publication	Latest Edition

R-02	M.Y. Khan and P.K. Jain	Financial Management – Text, Problems & cases	New Delhi, TMH	Latest Edition
R-03	Rajiv Srivastava and Anil Sharma	Financial Management	Oxford University Press	Latest Edition
R-04	Horne, James C Van.	Financial Management And Policy	Phi Learning Pvt Ltd	Latest Edition

PROGRAM	Bachelors Of Business Administration
SEMESTER	III
COURSE TITLE	Business Laws
COURSE CODE	04BB0306
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Explain the basic elements of forming an enforceable contract and agreement.
- Classify various negotiable instruments and reason of its dishonor.
- Enumerate the types of companies its management and its rules of corporate governance.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INDIAN CONTRACT ACT, 1872 GENERAL PRINCIPLE OF LAW OF CONTRACT Introduction, Object of the Law of Contract, Nature of Contract, Essential elements of a Valid Contract, Classification of Contract and Kinds of Contracts, offer and acceptance, Consideration, Capacity to Contract, Free Consent, Performance of Contract, Distinguish between Agreement and Contract, Discharge of Contract, Remedies for breach of Contract, Quasi Contract.	10
II	SALE OF GOODS ACT, 1930 Introduction, Formation of Contract of Sale and its features, Condition and warranties, Caveat Emptor, performance of contracts, Rights of an unpaid seller, remedies for breach of contract of sale, Finder of loss goods, Auction sale.	10

III	NEGOTIABLE INSTRUMENTS ACT,1881 Definition, Introduction, Characteristics and Types of Negotiable Instruments, Essential elements of negotiable instruments, parties to negotiable instruments, Dishonor and Discharge of Negotiable instrument.	10
IV	COMPANIES ACT, 2013 - I Introduction, Historical development of company law in India, Types of Companies, Registration of Companies, Memorandum of Associations, Article of Associations, prospectus.	10
V	COMPANIES ACT, 2013 - II Type of Meetings, Directors, Appointment and removal of Directors, Board of directors, Rules of corporate governance related to business of company, NCIT (National Company Law Tribunal), NCLAT (National Company Law Appellate Tribunal) , Special Courts with major amendments.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books :

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M. C. Kuchhal	Mercantile Laws	Vikas Publication	Latest Editions
T-02	N. D. Kapoor	Elements of Business Law	Sultan Chand and sons.	Latest Editions

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication

R-01	S.S.Gulsan	Business Law	New Age International Publishers	Latest Edition
R-02	Avtar Singh	Business Law	Eastern Book Co.	Latest Edition
R-03	Desai T.R	Indian contract act, sale of goods act, partnership act	Universal Law Publications	Latest Edition
R-04	Munish Bhanderi	Corporate Law Allied	Best world's	Latest Edition

PROGRAM	Bachelors Of Business Administration
SEMESTER	III
COURSE TITLE	Fundamentals of Digital Marketing
COURSE CODE	04BB0307
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

COURSE OUTCOMES:

- Detail what is meant by the term 'digital marketing'
- Understand the role of digital marketing in any product / service / concept
- Detail the steps of marketing online
- Show how some of the technologies detailed in the course are used in concert to realise a typical marketing situation

Course Contents:

Unit	Unit / Sub Unit	Sessions
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No		
I	OVERVIEW OF DIGITAL MARKETING Introduction to Digital Marketing : history – importance - good practice in Digital Marketing –Critical issues & challenges – applications of Digital Marketing in development of brands, driving sales, encouraging product and service development and innovation – digital marketing as an aid for recruitment and training	08
II	WEB MARKETING Bookmarking and News Aggregators, Really Simple Syndication (RSS), Blogging, Live Chat, User Generated Content (Wikipedia etc), Multi-media - Video (Video Streaming, YouTube etc), Multi-media - Audio & Podcasting (iTunes etc), Multi-media - Photos/Images (Flickr etc), Google Alerts and Giga Alert (Brand, product and service monitoring online) Crowd sourcing, Virtual Worlds (Second Life, There, Habboetc)	08
III	SEARCH ENGINE OPTIMISATION (SEO) Basics & working of Search Engines - Popular Search Engines. Crawlers / Spiders, Visibility on Search Engines Meta Tag Optimization, Image optimization, Creating/uploading Robots file, Creating/uploading HTML & XML Sitemap, Bold & Italic Tag - Page Rank - 404 Error Redirects, 301 / 302 redirection, Competitor analysis, Pre/post-website analysis, Alexa report, Some Common SEO tools & plug-ins, Anchor Text, Heading tag,	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Ian Dodson	The Art of Digital Marketing: The Definitive Guide to Creating Strategic, Targeted, and Measurable Online Campaigns	Wiley	2016

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Philip Kotler	Marketing 4.0 : Moving from Traditional to Digital	Wiley	2016
R-02	Ryan Deiss	Digital Marketing for Dummies	John Wiley & Sons	2015

PROGRAM	Bachelors Of Business Administration
SEMESTER	IV
COURSE TITLE	Production & Operations Management
COURSE CODE	04BB0401
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the relevance of production and operations management in industry.
- Apply the techniques of inventory management and quality management.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction: Meaning, Nature and Scope of Production and Operation Management, Types of production processes	08
II	Plant location and Lay out: Factors considered in location, Types of Layout , PPC (Only concept)	10
III	Materials Management: Importance of Materials Management, Concept of purchasing, principles of purchasing and process of purchasing. Types of purchasing: Inventory management, its prime importance, Inventory Control Techniques - ABC, FSN, GOLF, VED, SOS (only concepts).	12
IV	Methods Study & Maintenance Management: Methods Study, Work Study and Time Study: (only Concept), Maintenance Management: Need of maintenance management, Types of maintenance management	10
V	Quality Management: lean manufacturing, JIT, Kaizen, ISO series, TQM	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	K. Aswathappa and K. Shridhara Bhat	Production and Operation Management	Himalaya Publishing House	Second Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	S.A.Chunawalla and D.R. Patel	Production and Operation Management	Himalaya Publishing House	Ninth Edition
R-02	Kanishka Bedi	Production and Operation management	Oxford higher education	Second Edition
R-03	Mahadevan B	Operations Management	Pearson Education	Second Edition

PROGRAM	Bachelors Of Business Administration
SEMESTER	IV
COURSE TITLE	Management Information System
COURSE CODE	04BB0402
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Comprehend types of MIS applications in organizations
- Deliberate the expansion of management information systems in organizations.
- Critically evaluate security challenges associated with the use of Information system.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Management Information Systems: Meaning of information system, difference between information and data, Role	10

	and Importance MIS in modern business. Types of decisions and the use of information system.	
II	Types of Information system Transaction processing system, Office Automation system, Management Information system, Decision support system, Executive support system, Group decision support system, Geographic Information system	10
III	Enterprise Resource Planning and Enterprise Applications Meaning of ERP- Its role in modern organization, merits and demerits. Enterprise Applications- Customer relationship management systems, supply chain management systems, Knowledge Management system and its role in modern business.	10
IV	Networks and its types Types of Network, LAN, WAN, MAN, CAN, PAN. Its advantages and disadvantages, Topologies, communication medium, wired and wireless networks, Meaning of internet and intranet and the difference between the two.	10
V	Security challenges in India Types of computer crimes, sources of information technology vulnerabilities. Remedies for preventing unauthorised use of information technology Challenges faced by working population- working conditions, individual's health and social issues.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Laudon, Kenneth C. and Laudon, Jane P	Management Information Systems: Managing the Digital Firm	Pearson Education	13 th edition 2014

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	Jawadekar, W. S	Management Information Systems	Tata-McGraw Hill	2nd edition ,2002
R-02	O'Brien J.	Management Information Systems – Managing Information Technology in the Business Enterprise	Tata McGraw Hill	11 th edition, 2011
R-03	McLeod, Raymond and Schell, George P	Management Information Systems	Pearson Education	9th edition, 2012

PROGRAM	Bachelors Of Business Administration
SEMESTER	IV
COURSE TITLE	Income Tax Law And Practice
COURSE CODE	04BB0403
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the residential status and tax incidence based on it
- Calculate income under all the five heads of Income
- Gain knowledge regarding the exempt income
- Gain knowledge regarding the deductions from total income
- Calculate tax payable on taxable income
- Understand the concept of tax deduction and tax collected at source

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION, RESIDENTIAL STATUS AND EXEMPT INCOME Levy of income tax - Rates of tax & slab - Important Definitions - Relevance and significance of residential status - Types of residential status and its Determination - Incidence of tax based on residential status - Income which do not form part of total income - Conditions to be satisfied for availing exemptions	05
II	INCOME UNDER THE HEAD SALARY & INCOME FROM HOUSE PROPERTY Definition of Salary – Chargeability - Treatment of various	15

	<p>Allowances - Perquisites and their valuation - Deductions from gross Salary - Retirement benefits - Provisions regarding Provident Fund - Computation of taxable salary (Practical Problems)</p> <p>Chargeability of income from house property - Composite rent - Annual value and its determination - Deductions from annual value - Deemed ownership - Computation of taxable income under this head (Practical Problems)</p>	
III	<p>INCOME UNDER PROFITS AND GAINS OF BUSINESS AND PROFESSION & INCOME FROM CAPITAL GAIN Meaning of Business and Profession – Chargeability of income from profits and gains of business and profession - Allowable expenses – Expressly disallowed expenses - Deemed profits and incomes - Computation of taxable income under this head (Practical Problems)</p> <p>Chargeability of income from capital gain - Capital asset – Transfer - Short term and Long term capital assets - Short term and Long term capital gain - Exemptions from long term capital gain - Computation of capital gains (Practical Problems)</p>	16
IV	<p>INCOME FROM OTHER SOURCES AND DEDUCTIONS FROM GROSS TOTAL INCOME Income taxable under other sources - Deductions allowed - Inadmissible deductions - Computation of taxable income from other sources (Practical Problems)</p> <p>Chapter VI-A deductions from the gross total income [Section 80C to 80U] -</p>	08
V	<p>TAX PAYABLE, TAX DEDUCTION AT SOURCE & ADVANCE TAX Calculation of taxable income and tax payable</p> <p>Deduction of tax at source under various sections [only those applicable to individual] – Concept of tax collected at source – Liability for payment of advance tax and due dates</p>	04

Note: Any change in the provisions of Income Tax Act, 1961 as per budget or otherwise, shall be respectively made applicable to the syllabus. The syllabus of an academic year shall be the provisions of the relevant Assessment Year.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Dr. V. K. Singhania and Dr. Monica Singhania	Students' guide to Income Tax (University Edition)	Taxmann	Latest
T-02	Dr. Girish Ahuja and Dr. Ravi Gupta	Direct Tax Law and Practice	Bharat Publication	Latest
T-03	CA. T. N. Manoharan	Direct Tax Laws	Snow White Publication	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Dr. Girish Ahuja and Dr. Ravi Gupta	Practical Approach to Tax Laws and Practice	Bharat Publication	Latest
R-02	Dr. V. K. Singhania and Dr. Monica Singhania	Students' guide to Income Tax	Taxmann	Latest
R-03	Gaur, V. P. & Narang, B. K.	Income tax Law and practice	Kalyani Publishers, New Delhi	Latest
R-04	Prasad, B.	Income tax Law and practice	New Age Publications	Latest
R-05	B.B. Lal and N. Vashisht	Direct tax	I. K. International Publishing House	Latest

PROGRAM	Bachelors Of Business Administration
SEMESTER	IV
COURSE TITLE	Indian Financial System
COURSE CODE	04BB0404
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- To understand the fundamentals of financial markets.

- To examine impact factors of Money Market, Capital Market & Foreign Exchange Market
- To appreciate the Need and Working of Financial Intermediaries.
- To recognize the importance and various functions of Market Regulation

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Indian Financial System Structure of Financial System, Instruments of Financial System, organised and unorganised Financial System; Components: Financial Assets, Financial Intermediaries, Financial Markets (money and capital markets in India) Relevance of various interest/return rates, Regulatory framework,	10
II	Role of Financial Institutions in Indian Financial System Financial Institutions and its meaning, Functions and Role of Financial Institutions; Money market institutions: Meaning, Role of the Central Bank(RBI) in money markets; Commercial banks: Meaning and Functions; Indigenous Financial Agencies: Bankers, Money lenders, Discount houses, Accepting houses(only meaning and features); Capital Market institutions: (Meaning and functions) Merchant Banks, Investment companies, Management Investment companies, Development banks, Mutual Funds ; Special Financial Institutions: Factors for their growth (need) ; Objectives and functions of: (1) IDBI (2) IFCI (3) SFCs (4) ICICI (5) EXIM Bank of India; Non-Banking Finance Companies: Meaning, Role, Types of NBFC services; Functions SEBI.	10
III	Financial Instruments Financial Instruments Meaning, importance and classification of Financial instruments; Short-term, Medium-term and Long Term Instruments; Primary and Secondary Securities; Innovative Instruments	10
IV	Functions of Financial Markets in India Financial Market in India: Capital Market, Money Market: meaning, function, types.	08
V	Meaning and Importance of Financial services in India Meaning, importance and types of Financial Services; 1. Factoring: Meaning, Types, costs and benefits of factoring 2. Leasing: Meaning, Definition, advantages to lessor and lessee, types of leases (operating, finance, leveraged, sales and lease-back, leveraged and cross-border.) 3. Underwriting: Meaning and benefits 4. Credit Rating Agencies: Meaning and role of such agencies. A brief idea about: CRISIL, CARE ICRA. 5. Others: A brief idea about: NSDL, STCI.	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Khan M. Y	Indian Financial System	Tata McGraw Hill	7 th edition 2014
T-02	Vasant Desai	The Indian financial system and Development	Himalaya Publishing House	5 th edition 2017
T-03	Pathak B. V.	Indian Financial System	Pearson	4 th edition 2014

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	Bhole L. M. & Mahakud J	Financial Institutions and Markets: Structure, Growth & Innovations	Tata-McGraw Hill	8 th edition ,2012
R-02	Khan M. Y	Financial Markets and Institutions	Tata McGraw Hill	5 th edition, 2010
R-03	Khan M. Y	Financial Services,	Tata-McGraw Hill	6 th edition, 2011
R-04	C.Sudarsana Reddy	Financial Management- Principles and Practice,	Himalaya Publishing House	1 st edition, 2010

PROGRAM	Bachelors Of Business Administration
SEMESTER	IV
COURSE TITLE	Entrepreneurship
COURSE CODE	04BB0405
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Comprehend Fundamental Concepts for starting the business
- Apprehend the concepts of industrial environment and preparing a business plan.
- Understand available sources for raising funds for start-ups.
- Comprehend various challenges and possible solutions for starting a business units.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	ENTREPRENEURSHIP - AN INTRODUCTION Meaning & Definition of Entrepreneurship, Common History & Entrepreneurial Characteristics, Required skills of an Entrepreneurs, Entrepreneurial Process, Role of Entrepreneurship in Economic Development of the Nation, Advantages & Drawbacks of Entrepreneurship, Introduction to Intrapreneurship	10
II	UNDERSTANDING INDUSTRIAL ENVIRONMENT: Industry - Large Scale - Small Scale - Tiny - Ancillary - Cottage, Challenges for Small Scale Industries, Registration process of SME, Definition & Symptoms of industrial sickness and suggested remedies for sick units, Domestic & International Entrepreneurship Options	12
III	PREPARING BUSINESS PLAN: Generation of Project Ideas, Sources of Business Ideas, Methods to generate business ideas , Feasibility Analysis: Economic, Managerial competency. Marketing, Financial & Technical, Environmental Scanning and SWOT analysis. Structure of a business plan, Importance of Business Plan, process of Preparation of Business Plan.	10
IV	SOURCES OF FINANCE FOR BUDDING ENTREPRENEURS: Debt V/S Equity, Internal V/s External Funds, Options for Borrowing Funds, Various Financial Institutions Supporting entrepreneurial activities, Introduction to Venture Capital Funding, Managing Growth	08
V	SUCCESS & FAILURE STORIES OF ENTREPRENEURSHIP: Discussions of various business stories & Cases of Successful Businesses, Lessons to be learnt from various organizational	08

	failures Launching the New Venture: Choosing the legal form of new venture, protection of intellectual property, and marketing the new venture	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Kumar Arya	Entrepreneurship	Pearson Education.	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	Desai Vasant	The Dynamics of Entrepreneurial Development & Management	Himalaya Publishing House	Latest Edition
R-02	K Ramchandran	Entrepreneurship – Indian Cases on Change Agents	TMGH	Latest Edition
R-03	Rashmi Bansal	Stay Hungry Stay Foolish	IIM Ahmedabad CIIE publication	-

PROGRAM	Bachelors Of Business Administration
SEMESTER	IV
COURSE TITLE	Management Of Services
COURSE CODE	04BB0406

COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand service marketing and utilize them effectively in managing products and people to achieve organizational objectives.
- Apply knowledge of models and theories to promote the effectiveness in workplace

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO SERVICES: Introduction to Services, Nature & Characteristics of Services, Classification of services, Consumer Versus Industrial Services	06
II	SERVICES MARKETING MIX : Introduction to the 7P's of Service Marketing, Product-Service Continuum, Standalone service Products, Service Products bundled with tangible Products	08
III	CUSTOMER SATISFACTION & SERVICE QUALITY Monitoring and measuring customer satisfaction, Order taking and Fulfillment, Service Guarantee – Handling complaints effectively, Defects, failures & Recovery, Service Quality Models – GAPS Model & SERQUAL	10
IV	TECHNOLOGY & SERVICE STRATEGY : Applying Technology to service sittings, e- services, Global and Indian Scenario in service sector, Importance of Service marketing, Every business is a service business, Service as a key differentiator	08
V	TYPES OF SERVICES : Introduction to Various Service Sectors : Hospitality; Transportation; Tourism; Information Technology; Banking & Insurance; Telecom ; Entertainment	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)

B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Zeithaml, Bitner, Gremler & Pandit	Services Marketing	McGraw-Hill	Latest Publication
T-02	R. Srinivasan	Services Marketing	Prentice-Hall of India	Latest Publication

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	Christopher Lovelock	Services Marketing	Pearson	Latest Publication
R-02	Rampal & Gupta	Services Marketing	Galgotia	Latest Publication

PROGRAM	Bachelors Of Business Administration
SEMESTER	IV
COURSE TITLE	Basics of French Language
COURSE CODE	04BB0407
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the basics of French Language.
- Start basic conversations using French Language

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION Introduction – Greetings – Alphabet- Definite Articles - Indefinite Articles - Gender - Colour - Demonstrative Pronouns - Numbers (0 to	08

	60) - Numbers (61 to 100) - Time Telling – 1 - Time Telling – 2 - Days and Months - Family Members & Possessive Adjectives	
II	GRAMMER - I To have & To be - To go & To call - 1st Group Verbs with 'er' - 2nd Group Verbs with 'ir' - Irregular Verbs- Negative Sentences – 1 - Negative Sentences – 2	08
III	GRAMMER - II Numbers (Singular-Plural) – Prepositions - Future Proche - Future Simple - Passé imparfait - Le conditionnel - Yes/No Questions - WH Questions - Pasa Compose – 1 - Pasa Compose – 2 - Past Simple - Les nationalités et Professions – Les présentations oral - Les présentationsécrit	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	J. Girardet	A1 ECHO Methode de francaise	CLE International	Latest
T - 02	J. Girardet	Cahier Personnel D'apprentissage	CLE International	Latest

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Operations Research
COURSE CODE	04BB0501
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

Understand and Formulate decision problem as mathematical model and solve using appropriate operations research technique.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	<p>Basics of Operations Research (OR) Introduction, Concepts, Definition, Characteristics, Potential Applications, Steps in OR Problems, Basic Operations Research Techniques, Role of Computers in OR</p> <p>Linear Programming Problem (LPP) 1 – Formulation: Introduction to Linear Programming, Applications of LPP, Requirements and Assumptions Underlying LPP, Generalized Linear Programming Problems, LPP Model Formulation – Maximization and Minimization Problems (Max 3-Variables and 4-Constraints)</p> <p>Linear Programming Problem (LPP) 2 – Graphical Method: Concept of Feasible Region, Solution of LP Problems using Graphical Method, Maximization and Minimization Problems (Max 4-Constraints), Special Cases in LPP – Multiple or Alternate Optimum Solutions, Unbounded Solution and Infeasible Solution</p> <p><i>Note: Constraints of all types (Less than type, Greater than type and combination of both the types) should be covered</i></p>	12
II	<p>Linear Programming Problem (LPP) 3 – Simplex Method: Simplex Method – Only Maximization LPP, Two or three Variables and Two Constraints (Max Three Iterations), All Constraints to be Less Than or Equal To type Concept of Slack Variable, Unique or Alternate Optimal Solution, Shadow Prices of Resources, Utilized and Unutilized Capacity of Resources</p> <p>Concept of Duality: Introduction to Duality, Relation between Primal Problem and Dual</p>	10

	LPP, Conversion of Primal Problem to Dual LPP, <i>Note: Mixed-constraints and Unrestricted Variables, Max 3-Variables and 3-constraints</i>	
III	Transportation Problem (TP) Introduction, Structure of TP, Solution of TP – Initial Feasible Solution (IFS) using North West Corner Method (NWCM), Least Cost Method (LCM) and Vogel's Approximation Method (VAM), Finding Optimal Solution using MODI Method, Types of Transportation Problem – Balanced and Unbalanced, Minimization and Maximization, Case of Degeneracy and Prohibited or Restricted Route, Unique Optimum Solution and Multiple Optimum Solutions <i>Note: Max 4X4 Transportation Matrix, MODI Method - Maximum One Iterations after IFS, Degeneracy to be covered at Conceptual Level, Not to be Included in Numerical</i>	10
IV	Assignment Problem (AP) Introduction, Structure of AP, Solution of AP using Hungarian Method, Types of Assignment Problems - Balanced and Unbalanced, Minimization and Maximization, Restricted Assignment, Unique Optimum Solution and Multiple Optimum Solutions, Travelling Salesman Problem <i>Note: Max 5X5 Assignment Matrix, Maximum Two Iterations after Row and Column Minimization</i>	08
V	Probabilistic Operations Research Models Waiting Line Models: Queuing Models – Concepts, General structure of a queuing system. Single-channel queuing model: Poisson-distributed arrivals and exponentially distributed service times with infinite source population. M/M/1 queuing models. Digital Simulation: Introduction, Areas of Applications, Steps involved in Monte Carlo Simulation, Application of Simulation Method, Advantages and Disadvantages of Simulation, Application in Queuing, Inventory, Profitability and Investment problems	08

Note: Guidelines for the Faculty

Instructor is required to demonstrate solution of OR problems using QM for Windows Software. Not to be included for assessment / examination

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition &Year of Publication
T-01	J K Sharma	Operations Research	Laxmi Publication	6 th ed.,2017

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	N D Vohra	Quantitative Techniques in Management	Tata McGrawHill	4 th .ed.,2010
R-02	V K Kapoor	Operations Research	Sultan Chand and Sons	7 th .ed.,2001

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Strategic Management
COURSE CODE	04BB0502
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Differentiate between strategies made at different levels of organization.
- Create & implement strategy formulation at various levels of management

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction:	8

	Strategy – Introduction to Strategy, Levels of Strategy, Difference between Policy, Strategy and Tactics. Vision, Mission & goals (Concept & difference) Strategic Management – Definition, Process of Strategic Management.	
II	Environment Analysis: Concept of Environment – Internal & External. SWOT Analysis, Environmental Sector, Environmental Scanning. Internal Environment – Factors & Methods of analysis – Internal, Comparative & Comprehensive Analysis.	10
III	Strategy Formulation – Business Level Strategy & Functional Level Generic Business Level Strategy – Cost Leadership, Differentiation & Focus – Business Strategy for different industry conditions. Functional Plans & Policies – Financial – Marketing – Operations – Personnel.	10
IV	Strategy Formulation – Corporate Level Strategy Concentration – Integration – Diversification – Internalization Strategies – M&A, Joint Venture, Strategic alliance. Digitalization Strategies - Retrenchment & Restructuring (Only concepts).	10
V	Strategic Implementation evaluation & Control: Strategy Implementation - Nature & Barrier to strategy implementation – Strategic Leadership – Strategic Control – Operational Control – Techniques of Strategic Evaluation & Control	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Azhar Kazmi	Strategic Management and Business Policy	Tata McGraw Hill Publications	3 rd Edition
T -02	Subba Rao	Strategic Management	Himalaya Publication	2 nd Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	John A. Pearce II, Richard B. Robinson Jr. and Amita Mital	Strategic Management	Tata McGraw Hill Publications	8 th Edition
R-02	Adrian Haberberg and Alison Rieple	Strategic Management	Oxford University Press	1 st Edition
R-03	V S Ramaswami, S Namaumari	Strategic Planning & Formulation of Corporate Strategy	Macmillan, India	1 st Edition

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Project Management
COURSE CODE	04BB0503
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Analyze the project idea for better selection.
- Identify the completion of project in a better control way.
- Understand the topics like planning, selection and implementation.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Project: Introduction, Characteristics of a project, element of a project, target and needs of a project, types of projects, functions of project manager, project management body of knowledge, benefits of project management.	9
II	Idea Generation and Initiation: Generation and Screening of Project Ideas, Market and Demand Analysis, Technical Analysis, Financial Estimates and Projections,	10

	Project Life Cycle.	
III	Project Planning and Selection: Project Scope, Scope of a Project and Scope Verification, SWOT Analysis, Organization Structure, Work Breakdown Structure, Project Selection Methods.	10
IV	Project Implementation: Estimation, Scheduling, Network Techniques for Project Management- CPM & PERT (only network diagram and Critical path identification), Project Risk, Project Communication.	10
V	Project Closeout: Project Evaluation, Project Auditing, Project Closeout Reports, Project Review and Administrative Aspects.	9

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Kamaraju Ramakrishna	Essentials of Project Management	PHI Learning Private Limited	2010
T-02	Prasanna Chandra	Projects: Planning, Analysis, Selection, Financing, Implementation and Review	McGraw Hill Education.	8 th Edition 2014

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Sitangshukhatua	Project Management and Appraisal	Oxford Higher Education	2011
R-02	Clifford F Gray, Erik W Larson	Project Management-The Managerial Process	McGraw Hill Education (India) Pvt. Ltd.	6 th , 2014

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Brand India : From Local to Global
COURSE CODE	04BB0504
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

COURSE OUTCOMES:

- To understand key elements in building and maintaining brands and brand equity.
- To understand the role they have to play in the development of India

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Branding Concept of Brand, Types of Brand, what can be branded, Characteristics, brand evolution, brand level, Understanding branding challenges and opportunities, Local Brands & Global Brands	06
II	Brand India The Concept of Brand India: India as a Product, Transformation of the product into Brand India. The Evolution of Brand India: the History of Brand India, the Development of Brand India. The Justifications for Brand India: True Development cannot be Sector-specific or Need-based, Holistic Approach, All-Round Development. The Benefits of Brand India: Highest Standard of Education, Increased Employability, Social Equality, Law and Order, Corruption Control, Sense of Patriotism, Economic Development, India as the World's Only Hyper Brand.	10
III	Brand India at a Global Level	

	The Implementation of Brand India: Quality Education, Robust Education System, Civic Sense, Ethics, Governance, Removal of Red Tapism, Strong Judiciary, Social Justice, Make in India, Digital India, Start-Up India , Stand-Up India, Skill India, the Role of India Brand Equity Foundation.	08
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Project)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination (Viva)	50% (External Assessment)

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	S. A. Chunawala	Brand Management	Himalaya Publishing House	Fifth edition
T-02	Sharif D. Rangnekar	Realizing Brand India: The Changing Face of Contemporary India	Rupa Publications	February, 2005

Reference Books

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	DR. S. L. Gupta	Brand Management – Text & Cases	Himalaya Publishing House	Second edition
R-02	Keller, K.L.	Strategic Brand Management	Prentice Hall Of India.	Third edition
R-03	Sunanda Mongia	Brand India: Master Images and Narratives in the Backdrop of	B R Publishing Corporation	First Edition -2005

MARWADI UNIVERSITY

Subject Code: 04BB0506

Credits: 4

Guideline
Internship
(BBA/BBA (H) Sem – V)



MARWADI UNIVERSITY



Rajkot-Morbi Road, At & Po. Gauridad,
Rajkot-360003, Gujarat, India.

Phone : 0281-2924155 / 56, www.marwadiuniversity.in

INTERNSHIP (04BB0506)(BBA/BBA (H)) Content

Components

A project report should contain the following parts in the order shown:

- ☛ Fly page (1 Blank Pages)
- ☛ Title page (please see sample, Annexure I), containing: (1 Page)
 - The project title;
 - The full name of the Candidate/s, enrollment no/s. and Guide name/s;
 - The degree for which the project is submitted;
 - The name of the University, i.e. Marwadi University
 - The month and year of submission
- ☛ Student Declaration (1 Page) (Annexure II)
- ☛ College Certificate (1 Page) (Provided by Guide/Supervisor)
- ☛ Company Certificate (1 Page)
- ☛ Preface (1 Page)
- ☛ Acknowledgement (1 Page)
- ☛ Executive Summary (1 Page)
- ☛ Table of Content (1 Page)
- ☛ Introduction and History of Company (15 to 20 Pages)
- ☛ Vision & Mission of Company (2 Pages)
- ☛ Organization Structure (1 to 2 Pages)
- ☛ Departmental Study (15 to 20 Pages)
 - Marketing Department
 - Finance Department
 - Human Resource Department
 - Production Department
 - Accounting Department
 - R & D Department etc...
- ☛ SWOT Analysis (2 to 4 Pages)
- ☛ Overview of Industry & Major Players (4 to 5 Pages)
- ☛ Porter's Five Force Model Analysis of Industry (2 to 4 Pages)
- ☛ Learning form Internship (1 to 2 Pages)
- ☛ Conclusion (1 Page)
- ☛ Bibliography (1 Page)
- ☛ Annexure (if Any) (1 Page)

Language, Style and Format

- ☛ Language
 - Project should be written in English.
- ☛ Final Version
 - The final version of the project must be free from spelling, grammatical and other errors when submitted.

Specification for Project Report

1	Paper Size	International A4, not less than 75 gsm white paper
2	Margins	Left - 1.5" Right - 0.75" Top and Bottom - 1.0"
3	Line Spacing	10 to 12 characters per inch must be used with 1.5 line spacing.
4	Paragraph Spacing	Double Lines/Vertical space of around 12 points should be left between the section title line and the first paragraph of each section and subsections, start without any indentation, In single column format with full justification.
5	Pagination	At bottom–Center Beginning with the first page of chapter 1 (Introduction) to all pages shall be numbered consecutively using Arabic numerals (i.e. 1,2,3) From the title page to the page before the chapter 1 starting page, shall be lower case Roman numerals (e.g. i, ii, iii etc.) No Page Number on Title Page
6	Chapter(s):	New Chapter on New Page font size of 20 should begin with an additional top margin of 30 mm (total 55 mm) Capitalize the first letter all the words. Use boldface letters and numbers only
7	Sections and Subsections (left aligned)	A vertical space of around 36 point should be left between the chapter heading and the title of the first section of every chapter. For all subsequent sections/subsections, leave a vertical space of around 24 points before the section/subsection headings. For example, say the first and second sections in chapter 5 shall be numbered as 5.1 and 5.2, respectively. Likewise, the third subsections of sections 1 and 2 in a chapter 4 shall be numbered as 4.1.3 and 4.2.3, respectively. Same style as in chapter heading but with font size of 14 and 12 for section and subsections,
8	Font Type	Times New Roman
9	Font Size(FS)	For normal–12

10	Bold/Italic/Underline	Should be used for specific purposes only
11	Alignment	Page Justify
12	Tables/Graphs/Diagrams/figures Equations	All tables, figures, and equations must be numbered sequentially and chapter-wise using Arabic numerals. It must reflect the chapter number also, e.g. 2.1, 6.25 etc. e.g., Figure 2.1, Table 3.2. While a caption (figure number) should be placed below the figure, a caption (table number) should be placed above the table Images, Photographs, etc. must be scanned in resolution at least 600 dpi.
13	Figures and Illustrations	Figures, tables, etc., should be positioned according to the scientific publication conventions of the discipline.
14	Borders	NO
15	Header/Footers	Single Line (as per this page) Footer (as per this page): Left side Marwadi University, Rajkot, Right Side Pg. No “NO header/footer on Title page”
16	Word Breaking	No word Breaking
17	Printing	Single side only
18	Report Binding	Hard Bound Cover–BlackColor Writing–Golden color only
19	Copies of the Report	Hard Bound: Total 2 Copy (one for Student, one for Dept. Records) Soft: 01 Copy PDF.

References & Bibliography

All references must be cited in the text by the reference number using superscripts. No links between superscripts in the text and actual references in the Reference Sections may be used. Notes may be used to cite manuscripts in preparation,

Unpublished observations and personal communications. References cited should follow the style given below example:

PAPERS

1. Thiel WJ and Nguyen LT, “Fluidized bed film coating of an ordered powder mixture to produce micro encapsulated ordered units.” *J. Pharm. Pharmacol.* **1984**, *36*, 145-152.
2. Isyumov N, “Criteria for acceptance of wind induced motions of tall



buildings”, International Conference on Tall buildings, Rio DeJanerio, CTBUH, 2003.

WEB SITE

1. Boggs, D, “Acceleration and Drift due to Gust forces”, accessed on 10 July 2009, www.cppwind.com/papers/structural/PEAKvsRMS.pdf

BOOKS

1. Pelzar MJ., Chan ECS., and Krieg NR. In Microbiology; 5th Edn; Tata McGraw Hill Publishing Company Limited, New Delhi, 1993, pp 536.

DISSERTATIONS/PROJECTS

1. Vaishnav D.K, PhD Thesis, “.....” Marwadi University, July 2012.
2. Pathak VK. Ph.D. Thesis, “.....” Gujarat University, 1979.



ANNEXURE - I

[SAMPLE TITLE PAGE]

[Project Title]

(5 blank lines)

By

(single line)

[Your name as found in official MU records - your enrollment number]

(two lines)

[Guide name]

(3 blank lines)

A Project Submitted to

Marwadi University in Partial Fulfillment of the Requirements for the [Degree name] in
[Name of Program/Branch]

(3 blank lines)

Month and Year



MARWADI UNIVERSITY

Rajkot-Morbi Road, At & Po. Gauridad,
Rajkot-360003, Gujarat, India.



ANNEXURE - II

STUDENT DECLARATION

I hereby declare that this project Report titled _____
_____ submitted by me to the Faculty of
Liberal Studies, Marwadi University is a bonafide work undertaken by me and it is not
submitted to any other University or Institution for the award of any degree diploma /
certificate or published any time before.

Date: DD/MM/YYYY

Place: Rajkot

Signature of the Student

[Name of Student]

[Enrollment No.]

Evaluation Scheme

Internship consists of 4 Credit, 100 marks and shall be evaluated on two components i) Internal Assessment & ii) Viva.

Particular	Weightage (%)	Conducted By
Internal Assessment (IA)	50%	Supervisor/ Guide
Viva Voce	50%	Viva Panel

I. **Internal Assessment** shall consist of 50 marks, which will be carried out by supervisor/guide.

II. **Viva Voce** shall carry 50 marks and will be conducted by a Panel of two examiners.

Duration & Time Period

☛ Duration of Internship: Minimum 15 Days and Maximum 30 Days.

☛ Internship must be in between 10th May 2018 to 20th June 2018.

Reporting Schedule

Sr. No.	Review	Particular	Marks
1	First Review (After 10 Days of Commencement of Internship)	<ul style="list-style-type: none"> ☛ Introduction and History of Company (15 to 20 Pages) ☛ Vision & Mission of Company (2 Pages) ☛ Organization Structure (1 to 2 Pages) ☛ Departmental Study (15 to 20 Pages) <ul style="list-style-type: none"> • Marketing Department • Finance Department • Human Resource Department • Production Department • Accounting Department • R & D Department etc... 	15
2	Second Review (within two days after completion of Internship)	<ul style="list-style-type: none"> ☛ SWOT Analysis (2 to 4 Pages) ☛ Overview of Industry & Major Players (4 to 5 Pages) ☛ Porter's Five Force Model Analysis of Industry (2 to 4 Pages) ☛ Learning form Internship (1 to 2 Pages) ☛ Conclusion (1 Page) 	15
3	Third Review (Within 10 Days after Completion of Internship)	Final submission of Internship Report to Supervisor (Soft Copy)	20

Specialization: Finance

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Management of Financial Markets
COURSE CODE	04BB0507
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the fundamentals of financial markets
- Understand ways in which financial markets will be managed
- Understand the role of regulators in management of financial markets
- Understand about instruments to be traded in the financial markets

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Financial Markets: Meaning, Definition, Functions, Classification, Key players in financial market (Stock Exchange, Brokers, Dealers, Traders, Depositories, Clearing corporation), Security Exchange Board of India	8
II	Capital Market: Overview, Function of capital market, Primary market reforms, Issues in capital market, secondary market reforms, Capital market scams Primary Market: Mechanism in India, Initial Public Offer (IPO), Methods of IPO (type of IPO), eligibility norms, Book Building Process, Limitations Reverse book building, Green shoe option Secondary Market: Meaning, Function of Secondary, Post reforms stock market scenario, organizational structure of stock exchanges, listing of securities, trading and settlement, Internet trading, Stock Market Indices(Nifty & Sensex)	15
III	Money Market: Meaning, Development Money market in India , Money market instruments, Money market intermediaries	7
IV	Debt Market: Meaning, history and characteristics of debt market, participants in the debt market, private corporate debt market, measures to boost liquidity in the secondary market Government securities market: Introduction, Trading in Government Securities, Evolution, Role, Significance of Government securities markets, Functions, Salient feature of government securities, Forms of Government Securities, Operation in government security market	8
V	Repo-Market: Definition, REPO and Reverse Repo, Repo	10

	Instrument, Bank Rate and Repo rate, Usage of Repo, Functions, Structure of the Foreign Exchange Market, Asian Clearing Union Foreign exchange Market: Function, Foreign Exchange Dealers Association of India, Instruments of Credit Traded, Asian Clearing Union, FSLRC, Finance Code	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M Y Khan	Financial Services	Mcgraw Hill Education	8th Edition, 2015
T-02	Bharti V. Pathak	The Indian Financial System: Markets, Institutions and Services	Pearson Education India	2011

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Vasant Desai	Financial Markets & Services	Himalaya Publication	2016
R-02	L M Bhole & Jitendra Mahakud	Financial Institutions and Markets: Structure, Growth & Innovations	McGraw-Hill Education	2017
R-03	Gupta N & Agrawal N.	Financial Services	Kalyani Publishers	2015
R-04	K.Sasidharan	Financial Services & System	Tata Mcgraw	8 th Edition

R-05	M Y Khan	Indian Systems	Financial	Tata McGraw- Hill Education	2013
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Specialization: Finance

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Banking
COURSE CODE	04BB0508
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand role of banks in Indian financial system.
- Understand role of central bank as controller of state's currency and interest rates.
- Understand the wider range of functions done by Scheduled commercial banks in India.
- Understand relationship of bank and customer.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction To Indian Banking System: Introduction, Origin, Definition, Characteristics of Banks, Types of Banks, Recent Reforms In Indian Banking, International Security Issues In Banking Systems.	8
II	Role of Central Bank in Indian Banking System: Introduction, Origin, Definition, Objectives, Principle, Functions: Monopoly of Note Issue, Banker's Bank, Bankers to Government, Lender of the Last Resort, Bank of Clearance, Custodian of Foreign Reserves, Maintenance of Reserves, Maintaining Exchange Rate. Monetary Policy: Meaning, Objectives, Instruments of Credit Control, Effects Of Monetary Policy on Price Stability and Development, Limitations of Monetary Policy.	12
III	Function of Commercial Bank in Economic Development- Acceptance of Deposits, Agency Service, Payment and Collection of Cheques, Bill of Exchange and Promissory Notes, Execution of Standing Order, Trustee Business, Safe Custody, Remittance of Funds, Issue of LC, Performance of Government Transactions. Need for Sound Banking System, Role Of Banks in Economic Development: Mobilization Of Saving, Capital Formation, Monetization, Innovation, Priority Sector Bank Lending, Agriculture Lending, Industrial Finance, Export Finance.	10

IV	Loans and Advances Loans: Meaning, Classification, Purpose, Appraisal and Disbursal, Evaluation of Loan Proposal, Mode of Securing Loans Credit and Advances: Cash Credit, Overdraft, Discounting of Bill, Mode of Securing Loans/Advances, Domestic Lending, Global Lending. Asset Classification: Standard Asset, Sub-Standard Asset, Doubtful Asset, Loss Asset, Non-Performing Asset.	10
V	Rights and Duties of Banker and Customer: The Banker – General Responsibility, Specific Duties, Positive Traits of a Banker. Various Rights of Banks. The Customer – Duties of a Customer. Banker-Customer Relationship: Nature, Normal Incidents of the Relationship, Appropriation of Payment.	8

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	D. Muraleedharan	Modern Banking	PHI	2 nd Edition, 2013

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Iyengar, Vijayaragavan	Introduction to Banking	Excel Book	1 st Edition, 2007
R-02	Gordon & Natarajan	Banking Theory, Law and Practice	HPH	3 rd Edition, 2012
R-03	K C Shekhar & Lekshmy Shekhar	Banking Theory and Practice	S.Chand and Company	21 st Edition, 2013

R-04	Macdonald Scott S. Koch, Timothy W.	Management of Banking	Cengage Learning	7 th Edition, 2009
R-05	Nadar E Narayanan	Money and banking	PHI	1stEdition, 2013

Specialization: Marketing

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Consumer Behavior
COURSE CODE	04BB0509
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Identify the dynamics of human behaviour and the basic factors that influence the consumers decision process
- Demonstrate how concepts may be applied to marketing strategy.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction To Consumer Behavior: Introduction, Consumer Behaviour - Definition - Nature and Scope of Consumer Behaviour – STP (Segmenting, Targeting, Positioning) – Customer Based Brand Equity (CBBE) Model.	10
II	Psychographic Factors Affecting Consumer Behavior: Lifestyle, Opinions, Perception, Learning, Attitude. VALS model. Generation Analysis Indian perspective: Gen X , Gen Y & Gen Z	10
III	Consumer Choice Analysis: Consumer Comparisons - Categories of Consumer Choice processes; Affective based choice, Attribute based choice, Attitude based choice Socio-Cultural Influences On Consumer Behavior Family and Social Class, Family life cycle, Influence of Culture on Consumer Behaviour, Cross-cultural Consumer Behaviour, Diffusion of innovation	10

IV	Consumer Decision Making: Consumer buying process - Impact of technology on consumer behavior Online buyer behavior : Characteristics, Difficulties and Challenges - Post purchase Processes, Customer Satisfaction, and Customer Commitment - The impact of branding on consumer decision making	10
V	Consumer Protection (Rights of Consumers): Consumer Protection Bill – 2018 ,Consumerism Consumer Forums, FSSAI, Hallmark, UNCTAD (Concepts)	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Loudon and Della Bitta	Consumer Behaviour	Tata McGraw Hill	2011

Reference Books

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Blackwell and Engel	Consumer Behaviour	Cengage	10 th Edition
R-02	MajumudarRamanuj	Consumer Behaviour: Insights from Indian Market	PHI	2010
R-03	Hoyer, MacInnis and Dasgupta	Consumer Behaviour	Biztantra	2008
R-04	Evans	Consumer Behaviour	Wiley	2 nd Edition

R-05	Lingquist Jay D	Consumer Behaviour	Cengage	2010
R-06	Coakes, Steed and Dzidic	SPSS 13.0 for Windows	Wiley	2003

Specialization: Marketing

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Retail Marketing
COURSE CODE	04BB0510
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand Retail Marketing Concepts.
- Appreciate the operations management for retailing.
- Understand the latest advancement in Retail Management

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Retailing – An Introduction Definition – functions - types of retailing – forms of retailing based on ownership. Retail life cycle - Retailing in India – Influencing factors – current retail scenario in India.	8
II	Operations Of A Retail Business Store location – Choice –Impacting Factors - Market area analysis – Trade area analysis – Rating Plan method - Site evaluation - Store Layout and visual merchandising – Designing of the Store – Space planning - Inventory management – Merchandising – Category Management – Franchising in Retail	12

III	Consumer Behaviour With Retailing Retail buying decision making process– influence of group and individual factors - Customer shopping trends - Customer Service satisfaction.	10
IV	Retail Marketing Mix Introduction - Product: Decisions related to Merchandise (Products) – delivery of service. Pricing: Factors affecting pricing decisions – approaches to pricing – price sensitivity - Value pricing – Markdown pricing. Place: Channel members – Supply Chain Management in Retail – Retail logistics. Promotion: Setting goals – designing communication – checking effects of communication - promotional mix.	10
V	Role Of Information Technology In Retailing Introduction to Non-store retailing (E tailing) - The impact of IT in retailing - Integrated systems and networking – Retailing from the International perspective - Introduction to technological aids in retail operations (EDI, RFID, Data Warehousing & Data Mining, AI)	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition &Year of Publication
T-01	Swapna Pradhan	Retailing Management	TMH	2E, 11 th Reprint, 2008

Reference Books:

Sr.	Author/s	Name of the Book	Publisher	Edition &Year of
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No				Publication
R-01	Barry R. Berman, Joel R. Evans, Patrali M. Chatterjee	Retail Management – A Strategic Approach	Pearson	2017

Specialization: Human Resource Management

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Employee Welfare & Social Security
COURSE CODE	04BB0511
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the features and objectives of employee welfare
- Familiarized with vulnerable groups of workers and legal provisions related to them.
- earn working conditions of workers and legal provisions related to welfare.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Employee Welfare Objectives of Employee Welfare, Concept of Employee Welfare, Welfare Measures, Theories of Employee welfare, Agencies of Employee welfare, Workers' Education scheme, Statutory and Non statutory schemes of employee welfare, Role of management in employee welfare.	10
II	Welfare of Special Categories of Labour Child Labour, Female Labour, Contract Labour, Construction Labour, Agricultural Labour, Differently abled Labour, BPO & KPO Labour, Social Assistance – Implications.	10
III	Social Security Evolution, definition and objectives of Social security, Essential requirement of Social security, Growth and overview of social security in India.	10
IV	Social Security Legislation in India Overview of Employee's Compensation Act 1923, Employees State Insurance Act, 1948, Maternity Benefit Act, 1961, Factories Act, 1948, Employee's Provident Fund Act of 1952, Payment of Gratuity Act, 1972.	10
V	International Labor organization & Social Security	08

	International norms on social security for labour: the ILO Conventions and Recommendations on Social Security, Comparison of minimum standards of ILO and standards envisaged in Indian Legislation, Law and Practices in Comparative Perspectives In India, UK and USA.	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	P.K. Padhi	Labour and Industrial Laws	PHI Publications private Limited	3rd Edition
T-02	P.R.N.Sinha, S. P.Shekhar / InduBala	Human Resource Management	Cengage	3rd Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	C.S. VenkataRatnam	Industrial Relations	Oxford University Press	2 nd Edition

Specialization: Human Resource Management

PROGRAM	Bachelors Of Business Administration
SEMESTER	V
COURSE TITLE	Compensation Management
COURSE CODE	04BB0512
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand a pay system that is consistent for employees within the organization
 - Identify and describe a variety of reward systems used to determine individual pay levels.
- Implement and administer a compensation system according to the firm's policies and the legal requirements.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Concept of Compensation Exploring and defining the compensation context, System of compensating, compensation dimensions, concept of reward, Role of compensation in Organization, Non-financial compensation system, Concept of total reward system-New trends in compensation management, The 3-P compensation concept.	10
II	Compensation and Employee Behavior Bases For Traditional Pay System and Modern Pay System, Establishing Pay Plans, Aligning Compensation Strategy with HR Strategy and Business Strategy, Person focus to Pay, Team Based Pay	10
III	Legislations related to Compensation-I Payment of Wages Act, 1936, Minimum Wages Act, 1948, Payment of Gratuity Act, 1972, Payment of Bonus Act,1965	10
IV	Legislations related to Compensation-II Employees' State Insurance Act, 1948, Employees' P F & Misc Provisions Act, 1952. , Workmen's Compensation Act, 1923.	10
V	Contemporary Strategic Compensation Challenges International Compensation and Competitive Strategies, Executive Compensation Packages, Contingent Employees and Flexible Work Schedules, Compensation for Expatriates and Repatriates.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Micheal Armstrong	Armstrong's Handbook of Reward Management Practice	Kogan Publication	5 th Edition
T-02	B.D.Singh	Compensation & Reward Management	Excel	2 nd Edition
T-03	Dipak Kumar Bhattacharyya	Compensation Management	Oxford	2 nd Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition
R-01	Terence Jackson	International Human Resource Management a Cross-Cultural approach	SAGE	2 nd Edition
R-02	MonirTayeb	International Human Resource Management	Oxford	2 nd Edition

Subject Code: 04CR0501

Subject Name: Career Readiness Program

BBA-BBA(Hon) Year – III (Semester V)

Objective: This course shall enrich students' preparedness for the upcoming competitive exams, MBA entrance test, and/or placements. It will enhance the verbal and numerical skills of the students through the group interactions, practice sessions, and videos.

Credits Earned: 2 Credits

Course Outcomes: After successful completion of this course, student will be able to

- Understand importance of verbal and numerical skills in the competitive exams

- Inculcate smart approach in verbal and numerical problem solving
- Apply the concepts in both competitive exams and placement drives

Pre-requisite of course: NA.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
2	0	0	2	50	00	20	00	30	100

Contents:

Unit	Topics (VA)	Contact Hours
1	Vocabulary: Concepts and Application <ul style="list-style-type: none"> ● Memory Technique ● Contextual Vocabulary ● Root Words ● Sentence Equivalence ● Idioms and Phrases 	2
2	Reading Comprehension and Para-Completion: Concept, Strategies and Application	1
3	Grammar Application <ul style="list-style-type: none"> ● Spot the Error ● Sentence Correction 	1
4	Logical Reasoning <ul style="list-style-type: none"> ● Statement and Assumptions ● Statement and Conclusion ● Statement and Arguments ● Statement and Course of Action 	2
5	Vocabulary based Reasoning <ul style="list-style-type: none"> ● Odd one Out ● Analogy and reverse analogy 	1
6	Para Jumble <ul style="list-style-type: none"> ● Para-jumbles/Sentence Rearrangement ● Misfit sentence/identify the odd sentence in the given set ● Identify summary sentence 	1

7	Deductive reasoning <ul style="list-style-type: none"> ● Logical Consistency ● Syllogism ● Facts-Inference-Judgement 	3
8	Creative Writing	1
9	Class Test	2
Total Hours		14

Note: Lab MB513 would be used for practice sessions.

References:

1. How To Prepare For The Verbal Ability & Reading Comprehension For The Cat– By Arun Sharma and Meenakshi Upadhyay
2. Word Power Made Easy– By Norman Lewis
3. A Modern Approach to Verbal & Non-Verbal Reasoning By R.S. Aggarwal
4. The Pearson Guide To Verbal Ability And Logical Reasoning For The CAT by Nishit K. Sinha

Unit	Topics (QA)	Contact Hours
1	Introduction of Course Details & Type of questions in various exams	1
2	Blood Relation & Direction Sense	1
3	Series (Number and Letter series) & Coding and Decoding	1
4	Arrangement (Seating and Data)	1
5	Highest Common Factor and Least Common Multiple	1
6	Average and Problems based on Ages	1
7	Percentage, Profit-Loss & Discount and Simple & Compound Interest	2

8	Ratio, Proportion and Partnership	1
9	Time and Work	1
10	Time, Speed and Distance	1
11	Permutation and Combination	1
12	Probability	1
13	Data Interpretation and Data Sufficiency	1
Total Hours		14

Note: Lab MB513 would be used for practice sessions.

References:

1. **Analytic Reasoning** – By M K Pandey, BSC Publishing Co. Pvt. Ltd.
2. **Quantitative Aptitude** – By Dr. R. S. Agarwal, S. Chand
3. **Quantitative Aptitude** – By Abhijit Guha, MC Graw Hills
4. **Magical Book On Quicker Maths** – By M. Tyra, BSC Publishing Co. Pvt. Ltd.

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
20%	20%	30%	15%	10%	5%

Instructional Method:

a. The course delivery method will depend upon the requirement of content and need of students. The trainer shall train students through interactions, demonstration, brainstorming, group tasks etc.

Students will use supplementary resources

PROGRAM	Bachelors Of Business Administration
SEMESTER	VI
COURSE TITLE	Business Ethics & Corporate Governance
COURSE CODE	04BB0601
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the dynamics of business ethics.
- Identify ethical dilemmas in business & suggest solutions to overcome the problems.
- Learn the concept of corporate governance and its relevance to ethical business activity.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Ethics Meaning and classification of Ethics, Importance of Business Ethics, Nature of ethics as moral value; types of value; Teaching from Scriptures like Gita, Quran, Bible w.r.t. Indian Value Systems in Business.	10
II	Ethical Dilemma and Essence of Decision Making Meaning and structure of Ethical Dilemma in business, Sources of Ethical Problems, Managing Ethical Dilemmas; Understanding Decision making, Model of Cognitive Moral Development, The Process of Making Good Ethical Decision; Dynamics of Ethical Leadership.	10
III	Ethical Issues in Financial Management Introduction to Ethics in Finance, Ethical issues in Financial Markets, Financial service industry and by Financial people in organizations. Case study on Strategic failure of Satyam Computer Service.	10
IV	Ethical Issues in Marketing & HRM Role of Marketing, Areas in Marketing Ethics, Truth and Advertising; Functional Areas of HRM, Need for Workplace ethics, HR related ethical issues, Rights and duties of Employees.	10
V	Introduction to Corporate Governance Definition and attributes of good corporate governance, Corporate governance theories – Agency, Stewardship, Shareholder, stake holder theory, Role of Board of Governors, Factors influencing quality of	08

	Corporate Governance.	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	A. C. Fernando	Business Ethics and Corporate Governance	Pearson	2 nd edition, 2012
T-02	Daniel Albuquerque	Business Ethics: Principles and practice	Oxford Uni. Press	2010

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Murthy C.S.V.	Business Ethics and Corporate Governance	Himalaya Publishing	1 st edition, 2017
R-02	S K Mandal	Ethics in Business and Corporate Governance	Tata McGraw Hill	2 nd edition, 2012
R-03	Ferrell, Fraedrich, Ferrell	Business Ethics	Cengage Learning	11 th edition, 2017
R-04	Rupani Riya	Business Ethics and Corporate Governance	Himalaya Publishing	4 th edition, 2015

PROGRAM	Bachelors Of Business Administration
SEMESTER	VI
COURSE TITLE	Management Accounting
COURSE CODE	04BB0602
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the scope of management accounting.
- Understand the importance of marginal costing in decision making.
- Understand the control mechanism on all the element of cost that affect production.
- Understand the changes in operational and financial position of company.
- Understand the role of Budgetary control in framing financial plan.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Management Accounting Meaning, Definition, Nature, Scope, Functions and Limitations of Management Accounting. Relationship and difference between Management Accounting to Cost Accounting and Financial Accounting. Description of Tools and Techniques in Management Accounting.	7
II	Analysis of Fund Flow and Cash Flow Statement Fund Flow Statement: Meaning and usage of Fund Flow Statement; preparation of fund flow statement (Basic level). Cash Flow Statement (AS-3); Distinction between Fund Flow Statement and Cash Flow Statement, Classification of Cash Flows, Objective and Usage of Cash Flow Statement, Preparation of Cash Flow statement.	12
III	Marginal and Absorption Costing Marginal Costing- Meaning, Characteristics, Advantages and Limitations. Difference between Marginal Costing and Absorption Costing; Income determination under Marginal Costing and Absorption Costing; CVP/BEP Analysis; Safety Margin and Key factors that involves decision making.	11

IV	Budgeting and Budgetary Control Meaning, Objectives, Advantages and Limitations. Essentials of effective budgeting in management process; Installation of Budget System Budgetary Control: Types of budgets preparation, Zero Base Budgeting; Performance Budgeting	08
V	Standard Costing Meaning, Difference between Standard Costing and Budgetary Control, Merits and Demerits of Standard costing, Prerequisite for establishment of standard costing, Efficiency and Activity Ratios, Material, Labor and Overhead Variance.	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
T-01	M. N. Arora	Cost and Management Accounting	Vikas Publishing House	10 th Edition
T-02	P.C. Tulsian	Cost and Management Accounting	S Chand	3 rd Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Jawahar Lal	Cost Accounting	Tata McGraw Hill Publication	5 th Edition
R-02	Paresh Shah	Management Accounting	Oxford Publication	2 nd Edition

R-03	Ravi Kishor	Cost Management Accounting	Taxman	6 th Edition
R-04	Bhattacharya	Management Accounting	Pearson Publication	3 rd Edition
R-05	Hilton, Maher and Selto	Cost Management: Strategies for Business Decision	TMH	4 th Edition

PROGRAM	Bachelors Of Business Administration
SEMESTER	VI
COURSE TITLE	International Business
COURSE CODE	04BB0603
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Study the environmental variables that affect world trade.
- Describe the policies and strategies that can lead to successful global trade.
- Evaluate present and future opportunities and risks for international business activities.
- Develop analytical skills which will help them enhance greater understanding towards world trade.
- Make student understand how the global risks are interconnected.
- Identify and evaluate the complexities of world trade and globalization from home versus host-country, regional, and cultural perspectives.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Overview of Globalization: Drivers, Changing Demographics of the Global Economy, Managing the Global Marketplace, Country Differences Political, Legal, Economic, Social, Technological & Demographics, Micro and Marco business Environment Difference in Cultural Aspects, Values & Norms, Social Structure Language, Education ways to enter Foreign Market, Ethics in	12

	international business Dilemmas, Roots of Unethical Behavior, Ethical decision making.	
II	Global Trade and Investment Environments Trade Theories: -Mercantilism, Absolute & Comparative advantage, Heckscher-Ohlin theory, Porter's Diamond model, Foreign Direct Investments, Benefits of FDI Regional Economic Integrations like European Union, NAFTA, MERCOSUR, CARICOM, Association of Southeast Asian Nation.	10
III	Global Monetary Systems. Foreign Market nature & functions , Exchange Rate Determination, Forecasting & Currency Convertibles, Bretton wood systems, GATT, IMF & WTO, Ways to Enter Market Strategy and Structure, Global Expansion, Profitability & Profit Growth, Organizational Structure & Cultures, Control systems, Incentives & Changes. Basic entry Decisions, & Modes.	12
IV	Business Operations Managing Global Supply Chains, International Logistics Practices, global marketing and R & D, Global Human Resources Management International Labor Relations, Accounting and Financial Issues.	10
V	Global Risk Analysis: - Context base discussion of each issue:- Natural and Man-made disasters, Energy price shocks, Large scale involuntary migrations, Weapons of mass destruction, Terrorists attacks, Failure of national governance, Cyber-attacks.	04

Note: - Unit V should be taught by concern faculty, taking into consideration current happening at global level.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books: -

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
T-01	Charles W L hill Arun K Jain	International Business	Mc-Graw-Hill Companies	10 th Edition
T-02	Daniels John, D. Lee H. Radebaugh and David P. Sullivan.	International Business	Pearson Education	15 th Edition

Reference books: -

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Cherunilam, Francis	International Business:	Prentice Hall of India Ltd.	5 TH Edition
R-02	Mike Peng and Deepak Srivastava	Global Business	CengagePublication s	1 st Edition
R-03	Apte, P.G	International Financial Management	Tata McGraw Hill.	6 th Edition
R-04	Subhash C. J	InternationalMarketing,	CengagePublication s	3 rd Edition

Suggested Readings:-

1. UNCTAD Reports.
2. WTO, Annual Report, various issues.
3. RBI. Report on Currency & Finance, various issues.
4. Economic Survey, Govt. of India.
5. Export-import Policy and Other Documents, Govt. of India.
6. <https://www.mckinsey.com/>
7. https://www.youtube.com/watch?v=UNmsz6_EMJM.
8. <http://www.csis.org/gsi> for globalization think tank.



MARWADI UNIVERSITY

Project (04BB0604)

Credits: 8

**Guidelines for the Preparation of
Project Report
(BBA/BBA(Hons) Semester – VI)**



MARWADI UNIVERSITY



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Rajkot-360003, Gujarat, India.

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Course: BBA/BBA(H)

SEMESTER	VI
TITLE OF THE SUBJECT	Project
COURSE CODE	04BB0604
COURSE CREDIT	8

Project

Project is a composition of practical research work, involving the analysis of a specific problem in the area of the specialization and evaluation of the results of the analysis that serves as a basis for developing specific proposals and implementing the appropriate solution to the problem.

Objective of the Project

The objectives of the Project for BBA/BBA (H) students are:

- a. To demonstrate the student’s knowledge of the literature relating to the problem of study.
- b. To reveal the student’s ability to collect, analyze, interpret and synthesize information/data for analyzing various business situations.
- c. To present the results obtained, in a sequential and logical manner.
- d. To display the student’s ability to discuss coherently the meaning of the results.

Content of Report

A project report should contain the following parts in the order shown:

- ☛ Fly page (1 Blank Pages)
- ☛ Title page (please see sample, Annexure I)
 - The project title;
 - The full name of the Candidate/s, enrollment no/s. and Guide name/s;
 - The degree for which the project is submitted;
 - The name of the University, i.e. Marwadi University
 - The month and year of submission
- ☛ Student Declaration (Annexure II)
- ☛ College Certificate (Provided by Guide/Supervisor)
- ☛ Company Certificate
- ☛ Preface

- ☛ Acknowledgement
- ☛ Executive Summary
- ☛ Table of Content
- ☛ Introduction to Topic
- ☛ Review of Literature (8 to 10 literature review)
- ☛ Research methodology
 - Introduction
 - Statement of problem
 - Research Objectives
 - Scope of the study
 - Research hypothesis (If any)
 - Research design (Research Type)
 - Data Collection sources (Primary and secondary sources)
 - Data Collection Instrument (for e.g. Questionnaire)
 - Sampling Design
 - ☞ Population of the study
 - ☞ Sample Size
 - ☞ Sampling Method
 - Data Analysis Design (a brief outline of tools and techniques to be used for analysis, statistical tools and tests to be used)
 - Limitations of the Project
- ☛ Data Analysis and Interpretation
 - Tabular representation of data
 - Charts
 - Statistical tests
 - Analysis and Interpretation
- ☛ Findings & Suggestions
- ☛ Conclusion
- ☛ Annexure
- ☛ Annexure - Questionnaire
- ☛ Annexure – Any other document
- ☛ Bibliography

Language, Style and Format

- ☛ Language
 - Project should be written in English.
- ☛ Final Version
 - The final version of the project must be free from spelling, grammatical and other errors when submitted.

Specification for Project Report

1	Paper Size	International A4, not less than 75 gsm white paper
2	Margins	Left - 1.5" Right - 0.75" Top and Bottom - 1.0"
3	Line Spacing	10 to 12 characters per inch must be used with 1.5 line spacing.
4	Paragraph Spacing	Double Lines/Vertical space of around 12 points should be left between the section title line and the first paragraph of each section and subsections, start without any indentation, In single column format with full justification.
5	Pagination	At bottom–Center Beginning with the first page of chapter 1 (Introduction) to all pages shall be numbered consecutively using Arabic numerals (i.e. 1,2,3) From the title page to the page before the chapter 1 starting page, shall be lower case Roman numerals (e.g. i, ii, iii etc.) No Page Number on Title Page
6	Chapter(s):	New Chapter on New Page font size of 20 should begin with an additional top margin of 30 mm (total 55 mm) Capitalize the first letter all the words. Use boldface letters and numbers only
7	Sections and Subsections (left aligned)	A vertical space of around 36 point should be left between the chapter heading and the title of the first section of every chapter. For all subsequent sections/subsections, leave a vertical space of around 24 points before the section/subsection headings. For example, say the first and second sections in chapter 5 shall be numbered as 5.1 and 5.2, respectively. Likewise, the third subsections of sections 1 and 2 in a chapter 4 shall be numbered as 4.1.3 and 4.2.3, respectively. Same style as in chapter heading but with font size of 14 and 12 for section and subsections,
8	Font Type	Times New Roman
9	Font Size(FS)	For normal–12

10	Bold/Italic/Underline	Should be used for specific purposes only
11	Alignment	Page Justify
12	Tables/Graphs/Diagrams/figures Equations	All tables, figures, and equations must be numbered sequentially and chapter-wise using Arabic numerals. It must reflect the chapter number also, e.g. 2.1, 6.25 etc. e.g., Figure 2.1, Table 3.2. While a caption (figure number) should be placed below the figure, a caption (table number) should be placed above the table Images, Photographs, etc. must be scanned in resolution at least 600 dpi.
13	Figures and Illustrations	Figures, tables, etc., should be positioned according to the scientific publication conventions of the discipline.
14	Borders	NO
15	Header/Footers	Single Line (as per this page) Footer (as per this page): Left side Marwadi University, Rajkot, Right Side Pg. No “NO header/footer on Title page”
16	Word Breaking	No word Breaking
17	Printing	Single side only
18	Report Binding	Hard Bound Cover–BlackColor Writing–Golden color only
19	Copies of the Report	Hard Bound: Total 2 Copy (one for Student, one for Dept. Records) Soft: 01Copy PDF.

References & Bibliography

All references must be cited in the text by the reference number using superscripts. No links between superscripts in the text and actual references in the Reference Sections may be used. Notes may be used to cite manuscripts in preparation,

Unpublished observations and personal communications. References cited should follow the style given below example:

PAPERS

1. Thiel WJ and Nguyen LT, “Fluidized bed film coating of an ordered powder



mixture to produce micro encapsulated ordered units.” *J. Pharm. Pharmacol.* **1984**, *36*, 145-152.

2. Isyumov N, “Criteria for acceptance of wind induced motions of tall buildings”, International Conference on Tall buildings, Rio De Janeiro, CTBUH, 2003.

WEB SITE

1. Boggs, D, “Acceleration and Drift due to Gust forces”, accessed on 10 July 2009, www.cppwind.com/papers/structural/PEAKvsRMS.pdf

BOOKS

1. Pelzar MJ., Chan ECS., and Krieg NR. In *Microbiology*; 5th Edn; Tata McGraw Hill Publishing Company Limited, New Delhi, 1993, pp 536.

DISSERTATIONS/PROJECTS

1. Vaishnav D.K, PhD Thesis, “.....” Marwadi University, July 2012.
2. Pathak VK. Ph.D. Thesis, “.....” Gujarat University, 1979.



ANNEXURE - I

[SAMPLE TITLE PAGE]

[Project Title]

(5 blank lines)

By

(single line)

[Your name as found in official MU records - your enrollment number]

(two lines)

[Guide name]

(3 blank lines)

A Project Submitted to

Marwadi University in Partial Fulfillment of the Requirements for the [Degree name] in [Name of Program/Branch]

(3 blank lines)

Month and Year





MARWADI UNIVERSITY
Rajkot-Morbi Road, At & Po. Gauridad,
Rajkot-360003, Gujarat, India.



ANNEXURE - II

STUDENT DECLARATION

I hereby declare that this Project Report titled _____
_____ submitted by me to the Faculty of Liberal
Studies, Marwadi University is a bonafide work undertaken by me and it is not submitted to any
other University or Institution for the award of any degree diploma / certificate or published any
time before.

Date: DD/MM/YYYY

Place: Rajkot

Signature of the Student

[Name of Student]

[Enrollment No.]

Evaluation Scheme

Internship consists of 4 Credit, 100 marks and shall be evaluated on two components i) Internal Assessment & ii) Viva.

Particular	Weightage (%)	Conducted By
Internal Assessment (IA)	50%	Supervisor/ Guide
Viva Voce	50%	Viva Panel

- I. **Internal Assessment** shall consist of 100 marks, which will be carried out by supervisor/guide.
- II. **Viva Voce** shall carry 100 marks and will be conducted by a Panel of two examiners.

Specialization: Finance

PROGRAM	Bachelors Of Business Administration
SEMESTER	VI
COURSE TITLE	Advance Financial Management
COURSE CODE	04BB0605
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Students will be able to understand basic framework of designing capital structure of a firm.
- Students will be able to evaluate the risk aspect for analyzing investment decisions.
- Students will have knowledge about dividend policy and its relevance in value of a firm.
- Ability to determine cash position of a firm.
- Acquire knowledge on receivables management of the firm.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
---------	-----------------	----------

I	Capital Structure Decision Introduction, PBIT-EPS Analysis, ROI-ROE Analysis, Leverage Analysis, Ratio Analysis, Factors determining capital structure. (Theory & ratio problems)	10
II	Risk Analysis in Capital Budgeting Sources and Perspectives on Risk, Sensitivity Analysis, Scenario Analysis, Break-even Analysis, Hillier Model, Simulation Analysis, Decision tree Analysis, Corporate risk Analysis, Managing Risk. (Theory & Problems)	10
III	Dividend Policies Introduction, Factors affecting Dividend Decision, Bonus Share & Stock Splits, Different forms of dividend, Bonus share and its impact on stock price, Legal and Tax aspects relating to dividend (Theory & Problems)	10
IV	Cash& Liquidity Management Introduction, Cash budgeting, Long term cash forecasting, Reports for control, Cash collection and Disbursement, Optimal Cash balance, Investment of Surplus Funds, Cash Management Models. (Theory) & Problems	10
V	Credit Management Introduction, Terms of payment, Credit policy Variables, Credit Evaluation, Credit Granting Decision, Control of Accounts Receivables, Credit Management in India(Theory & Problems)	8

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Prasanna Chandra	Financial Management	The McGraw-Hill Publishing Company Ltd.	8 th Edition 2011
T-02	Financial Management	M.Y. Khan & P. K. Jain	The McGraw-Hill Publishing Company Ltd.	5 th Edition 2007

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	I M Pandey	Financial Management	Vikas Publishing House Pvt. Ltd.	9 th Edition, 2009
R-02	Vishwanath S. R.	Corporate Finance	Sage Publication	2 nd Edition, 2007
R-03	J.B.Gupta	Strategic Financial Management	Taxmann Publication Pvt. Ltd.	4 th Edition.
T-04	Ravi M. Kishore	Strategic Financial Management	Taxmann Publications Pvt. Ltd.	2 nd Edition

Specialization: Marketing

PROGRAM	Bachelors Of Business Administration
SEMESTER	VI
COURSE TITLE	Advertising Management
COURSE CODE	04BB0606
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Gain an understanding of effectiveness of advertising as an integral marketing tool.

- Learn the majors of advertising programs of organizations with emphasis on the application of marketing concepts for effective decision making.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to advertising Introduction to Advertising –Meaning, Definition of advertising, objectives, its role and functions. Types of Advertising: Commercial, Non-commercial, Primary demand and Selective Demand, Classified and Display advertising, Comparative advertising, Co-operative advertising.	10
II	Advertising Planning Advertising planning framework – factors involved in advertising planning and decision making, the communication & persuasion process segmentation strategy.	10
III	Creative Strategy Creative Strategy: meaning of creativity, Creative strategy and tactics, various advertising Appeals, the mode of message and theme.	10
IV	Advertising budget Advertising Budget – Objectives, preparation and methods of advertising budget; Top down and Build up approach, methods of advertising – Affordable method, Arbitrary allocation method, percentage of sales method, competitive parity method, Objective and Task method; and DAGMAR Approaches	10
V	Advertising Media Decision Concept, Role of Media, Advertising media- Types of Media Print Media (Newspaper & Magazines, Pamphlets, Posters & Brochures), Electronic Media (Radio, Television, Audio Visual Cassettes), Other Media (Direct Mail, Outdoor Media), New Media –Internet and Mobile phones (Characteristics, merits & Demerits of above media, media scenario in Indian Context.)	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M.V.Kulkarni	Advertising Management	EPH	Fourth Edition
T-02	Chunawalla and Sethia S.A,	Foundations of Advertising theory and practice	Himalaya Publishing House	Sixth Edition

Reference Books

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-1	Belch & Belch	Advertising & Sales Promotion	TMH	Eleventh Edition
R-2	Aaker, David A. and Myers John G	Advertising Management	Prentice Hall of India	Second Edition

Specialization: Human Resource Management

PROGRAM	Bachelors Of Business Administration
SEMESTER	VI
COURSE TITLE	Change Management
COURSE CODE	04BB0607
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the objective of managing change in the organization
- Recognize reactions to change and address the resistance
- Learn the competencies required for effective change management

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Organizational Culture and Change Business as a domain for change, Environmental Factors leading to Change, Organizational Culture and Change: Sources and types of Culture, Significance of Culture during change, Strengths and weaknesses of Indian Culture.	10
II	Resistance to Change Meaning and Nature of Organizational Change, Types of Change, Organizational Barriers to Change, Individual and Group Resistance, Overcoming Resistance to Change, Techniques to manage resistance	10
III	Organizational Change and Change Agents Meaning and Types of Change Agents, Key Roles in Organizational Change, Characteristics of good Change Agent, Strategic Management of Change, Factors in selecting Change Strategy, Formulation and Implementation of Change Strategy.	10
IV	Organizational Diagnosis & Development Meaning of Diagnosis, Introduction to Organizational Diagnosis, Collection of Data, Introduction to OD, OD Intervention and Classification, OD Interventions Techniques, Prerequisites for effective use of OD.	10
V	Learning Organization and Models of Change Meaning and nature of Learning Organization, TQM and Learning Organization, Basic Models of OD: Individualistic Model, Group Oriented Model, Organization-oriented model, Lewin's three-step Model, Case study on Change Management in any Industry.	8

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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Harsh Pathak	Organisational Change	Pearson	1 st edition
T-02	Donald R. Brown, Donald Harvey	An Experiential Approach to Organizational Development	Pearson	8 th edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	Thomas Cummings, Christopher Worli	Theory of Organization Development and Change	Cengage Learning	9 th edition
R-02	Wendell L. French, Cecil Bell, Robert A. Zawacki	Organization Development and Transformation: Managing effective change	McGraw-Hill/Irwin	6 th edition
R-03	S.K. Bhatia	Managing Change and Organization Development	Deep and Deep Publications	1 st edition

2021-2022

PROGRAM	BBA/BBA(Hons)/ BBA (FM)
SEMESTER	I
COURSE TITLE	Principles Of Management
COURSE CODE	04BB0101
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Explain the importance of management and describe the functions, roles, and skills of manager.
- Discuss the evolution of Management thought and current practices of management
- Demonstrate the ability to plan, organize, direct ,lead and control effectively
- Assess managerial practices and choices of an organization
- Comprehend the modern management techniques and its relevance in business

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Internal Marks (50%)		End-Semester Examination (50%)			Total Marks
Theory	Tutorial	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	
4	0	0	4	30	20	50	0	0	100

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Management Meaning, Nature and Characteristics of Management – Scope of Management - Functional areas - Management as a Science and an Art - Management & Administration – Levels of management & Managerial Skills - Evolution of Management Thoughts - Principles of management - Ethics in Management.	10
II	Planning in Management Need and importance of planning - basic purpose of planning - Planning process, Types of plans - Objectives - Management By Objectives Decision-making Decision making – Nature and importance- types of decisions – process	10
III	Organizing Need for organization - purpose of organization, fundamental principles of	10

	<p>organization - Types of organization - Departmentalization, Committees - Centralization Vs decentralization of authority and responsibility</p> <p>Staffing Staffing – Introduction - Need for Staffing - Importance of staffing -Process of staffing</p>	
IV	<p>Directing Directing – Meaning, nature and importance – Theories of Motivation – Maslow’s, Herzberg’s & McGregor’s Leadership – Introduction - Formal and Informal Leadership – Characteristics – Styles of Leadership - Importance of Communication as a leader</p> <p>Coordinating Coordination – Introduction - Importance of coordination - Principles of coordination</p>	10
V	<p>Controlling Meaning and steps in controlling – Pre-requisites of a strong control system - Methods of establishing control</p> <p>Modern Management Techniques Introduction to various latest management techniques: Business process re-engineering, business outsourcing, benchmarking, kaizen, six sigma, knowledge management, just in time management, total quality management.</p>	08

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	L. M. Prasad	Principles of Management	Sultan Chand and Sons	Ninth Edition - 2015

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	V.S.P. Rao	Management: Text and Cases	Excel Books India	Second edition
R-02	Koontz & O'Donnell	Principles of Management	McGraw Hill	Forth edition

PROGRAM	BBA/BBA(Hons)/BBA(FM)
SEMESTER	I
COURSE TITLE	Microeconomics
COURSE CODE	04BB0102
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- To make acquainted the students with the basic concept of microeconomics.
- To understand that economics is about the allocation of scarce resources and how that results in trade-offs.
- To make student understand the demand and supply analysis in business applications
- To disseminate students with the production and cost structure under different stages of production.
- To comprehend the pricing and output decisions under various market structure.
- To help students understand and apply the various decision tools to understand the market structure.
- Use economic problem solving skills to discuss the opportunities and challenges of the increasing economy growth of the country.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Internal Marks (50%)		End-Semester Examination (50%)			Total Marks
Theory	Tutorial	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	
4	0	0	4	30	20	50	0	0	100

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO MICROECONOMICS Meaning and definition of Microeconomics, Nature and scope of Microeconomics, Difference between microeconomics and macroeconomics. Central economic problems of society.	10
II	CONSUMER BEHAVIOUR	10

	Utility analysis: Meaning of Cardinal and Ordinal utility. Cardinal Utility: Law of diminishing Marginal utility, Law of Equi-marginal Utility, Ordinal Utility: Indifference curve analysis, properties of indifference curve analysis, Marginal rate of substitution, Budget line and consumer's Equilibrium.	
III	DEMAND AND SUPPLY ANALYSIS Determinants of demand, law of demand, exceptions to law of demand. Elasticity of demand and its applications: Price elasticity, Income elasticity and cross elasticity. Concept and Law of Supply, Factors Affecting Supply	10
IV	PRODUCTION AND COST ANALYSIS Production Function: Short run and long run production functions, laws of returns, and law of returns to scale. Cost Function: classification of costs, short run and long run cost curves and their interrelationship, Planning curve and envelope curve, internal and external economics of scale, revenue curves, optimum size of the firm, factors affecting the optimum size	10
V	EQUILIBRIUM OF FIRM AND INDUSTRY Perfect competition, monopoly, monopolistic competition, discriminating monopoly, aspects of non-price competition; group equilibrium, excess capacity, selling costs, oligopolistic behavior.	08

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M. John Kennedy	Advanced Micro Economics	Himalaya Publication	1 st Ed, 2016
T-02	H. L. Ahuja	Principles of Economics	S. Chand Publishing house	5 th Ed, 2019
T-03	D.M. Mithani	Principles of Economics	Himalaya Publication	11 th Ed, 2018
T-04	Hubbard R. Glenn, O'Brien Anthony P.	Micro Economics	Pearson Education	5 th Ed, 2017

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Lipsey, R. G., & Chrystal, K. A,	Principles of Economics	Oxford University Press, Oxford	9 th ed.

R-02	Pindyck, R. S., & Rubinfeld, D. L	Microeconomics	Pearson Education, USA.	8 th ed.
R-03	Salvatore, D.	Managerial Economics in a Global Economy	Oxford University Press.	7 th ed
R-04	D N Dwivedi	Managerial Economics,	Vikas Publishing House	4 th ed.
R-05	Case, K.E., Fair, R.C., & Oster, S.M	Principles of Microeconomics	Pearson Education Inc.	11 th ed

PROGRAM	BBA/BBA(Hons)/BBA(FM)
SEMESTER	I
COURSE TITLE	Fundamentals Of Accounting
COURSE CODE	04BB0103
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Analyze business transactions and will be able to prepare the Financial Statements
- Apply the process of accounting;
- Understand and apply preparation of final accounts;
- Evaluate methods of depreciation;
- Understand methods of valuation of inventory.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Internal Marks (50%)		End-Semester Examination (50%)			Total Marks
Theory	Tutorial	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	
4	0	0	4	30	20	50	0	0	100

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Basics of Book – keeping and Accounting Introduction to Book Keeping and Accounting – Branches of Accounting – Systems of Accounting – Basis of Accounting – Characteristics of Accounting Information – Users of Accounting Information – Basic Accounting Terms – Classification of Accounts and its Rules – Accounting Equation Accounting Concepts and Conventions Accounting Principles: Accounting Concepts and Conventions – Fundamental Accounting Assumptions – Introduction to Ind AS – Applicability of Ind AS.	08
II	Process of Accounting Books of Original Entry – Journalizing (including GST) – Difference between Cash Discount and Trade Discount, Ledger – Preparation, Posting and Overview of Electronic Ledgers under GST: Electronic Cash, Credit and Liability Ledger – Practical problems on Journal and Ledger – Preparation of Trial Balance – Redrafting of Trial Balance – Errors and their Rectification.	16

III	Final Accounts Types of Expenditure and Income – Meaning of Deferred Revenue Expenditure – Classification of Assets and Liabilities under different head – Contingent Asset and Contingent Liability – Distinguish between Provisions and Reserves – Types of Reserves – Preparation of Financial Statements of sole proprietorship – Impact of GST on Financial Statements – Format of Companies Financial Statements as per Companies Act, 2013.	14
IV	Depreciation Meaning and difference between Depreciation, Depletion and Amortization – Need of Depreciation – Depreciation methods (Straight Line Method and Written Down Value Method) – Method of recording Depreciation (Charging to Asset Account and Creating provision for Depreciation/ Accumulated Depreciation) – Treatment of Disposal of Fixed assets.	06
V	Valuation of Inventory Meaning of Inventory - Inventory Record Systems: Periodic and Perpetual - Methods of Stock Valuation: FIFO, Weighted Average and LIFO	04

Note: Any revision in Indian Accounting Standard will become applicable immediately.

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	P.C.Tulsian	Financial Accounting	Pearson Education India	7 th Edition, 2015
T-02	Dr. S. N. Maheshwari	Financial Accounting for Management	Vikas Publishing House	2 nd Edition
T-03	Ambrish Gupta	Financial Accounting	Tata McGraw, Hill Publishing Co. Ltd. New Delhi	2 nd Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
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R-01	Jain, S.P. and K.L. Narang.	Financial Accounting.	Kalyani Publishers,	2017
R-02	Charles T. Horngren and Donna Philbrick	Introduction to Financial Accounting	Pearson	11 th Edition
R-03	Deepak Sehgal	Financial Accounting	Vikas Publishing H House	1 st Edition

PROGRAM	BBA/BBA(Hons)/BBA(FM)
SEMESTER	I
COURSE TITLE	Computer Essentials & Office Applications
COURSE CODE	04BB0104
COURSE CREDITS	04
COURSE DURATION	48 Hours

COURSE OUTCOMES:

- Understand Fundamental Structure of a Computer System
- Understand & Use Word Processor Utilities for Business using MS Word
- Understand & Use Spreadsheet Utilities for Business using MS Excel
- Understand & Design Presentations using MS Powerpoint
- Use Google Workspace Utilities

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Internal Marks (50%)		End-Semester Examination (50%)			Total Marks
Theory	Tutorial	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	
4	0	0	4	30	20	0	25	25	100

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	COMPUTER ESSENTIALS: Structure of a Computer System – Input / Output Devices – Hardware & Software – Operating System – Files – Folders (Directories) – Copying / Removing / Renaming Files & Folders – Using Basic Applications like Calculators, Notepad, Paintbrush – Changing Settings for Display & Themes – Using Various Browsers for Surfing Internet	04
II	MICROSOFT WORD ESSENTIALS: Word Screen Elements – Quick Access Toolbar – Basic Formatting (Fonts, Format Painter, Bullet & Numbering, Alignment, Line Spacing) – Inserting Page Breaks & Blank Pages – Adding Cover Page – Creating Table – Inserting Picture, Shapes, Symbols & Icons, watermark – Headers & Footers – Page Numbering – Setting Margins – Paper Orientation & Size – Table of Content – Footnotes & Endnotes – Citations & Bibliography – Mail Merge – Proof reading – Page Setup & Printing.	12

III	MICROSOFT EXCEL ESSENTIALS: Excel Interface, Copying, Moving & Hiding Worksheets – Insert, Hide & Unhide Columns & Rows – All about Formatting (Alignment, Borders, Text Size & Font, Text Wrap, Merge & Centre, Number Formatting) – Creating Table – Basic Excel Formulas – Order of Precedence – Absolute & Relative Cell Referencing – Freeze Panes – Paste Special – Protecting Worksheet & Specific Ranges – Find & Replace Values - Math Functions (SUM, ROUND, SUBTOTAL) – Statistics Functions (COUNT, COUNTA, COUNTBLANK, AVERAGE, MAX, MIN, MEAN, MEDIAN, MODE) – Text Functions (LEFT, RIGHT, MID, PROPER, UPPER, LOWER, TRIM, CONCATENATE) – Logical Functions (IF, OR, AND) - Sort & Filter Data – Conditional Formatting – Data Validation – Text to Column - Creating Basic Charts – Page setup & Printing	18
IV	MICROSOFT POWER POINT ESSENTIALS: Power Point Interface – Quick Access Toolbar – Ribbons – Inserting different types of Slides & Duplicating Slides – Inserting Images, Shapes, Smart Art & Icons – Inserting Table & Charts – Formatting Table & Charts – Inserting Hyperlinks - Animation – Timeline Creation - Slide Transitions – Proofing tools	12
V	GOOGLE WORKSPACE ESSENTIALS FOR BUSINESS: Google Applications – Doc – Sheet – Slides – Meet – Groups – Calendar – Creating Forms with multiple sections & Creating Quiz through Google Forms – Using Google Drive -Collaborating through Google Applications	04

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	P.K.Sinha	Fundamental of Computers	B.P.B. Publications	2 nd Edition - 2020
T-02	Joe Habraken	Microsoft Office 2019 Inside Out	Pearson	2018
T-03	Paul McFedries	Microsoft Excel 2019 Formulas and Functions	Pearson	2019

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Michael Alexander	Excel 2019 Bible	Wiley	Latest-2019
R-02	Curtin, Foley, Sen, Martin,	Information Technology	Information Technology, Tata MC Graw Hill	2007

PROGRAM	BBA/BBA(Hons)/ BBA (FM)
SEMESTER	I
COURSE TITLE	Business Laws
COURSE CODE	04BB0105
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Comprehend the legal provisions in India related to Business.
- Explain the basic elements of forming an enforceable contract and agreement.
- Classify various negotiable instruments and reason of its dishonor.
- Enumerate the types of companies its management and its rules of corporate governance.
- Gain in-depth knowledge about sale and agreement to sell
- Understand various provisions related to Negotiable Instruments in Business
- Apply theoretical and practical learning to problems related to legal matters in their business.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Internal Marks (50%)		End-Semester Examination (50%)			Total Marks
Theory	Tutorial	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	
4	0	0	4	30	20	50	0	0	100

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INDIAN CONTRACT ACT, 1872- General Principle Of Law Of Contract Introduction, Object of the Law of Contract, Nature of Contract, Essential elements of a Valid Contract, Classification of Contract and Kinds of Contracts, offer and acceptance, Consideration, Capacity to Contract, Free Consent, Performance of Contract, Distinguish between Agreement and Contract, Discharge of Contract, Remedies for breach of Contract, Quasi Contract.	10
II	SALE OF GOODS ACT, 1930 Introduction, Formation of Contract of Sale and its features, Condition and warranties, Caveat Emptor, performance of contracts, Rights of an unpaid seller,	10

	remedies for breach of contract of sale, Finder of loss goods, Auction sale.	
III	NEGOTIABLE INSTRUMENTS ACT, 1881 Definition, Introduction, Characteristics and Types of Negotiable Instruments, Essential elements of negotiable instruments, parties to negotiable instruments, Dishonor and Discharge of Negotiable instrument.	10
IV	COMPANIES ACT, 2013 - I Introduction, Historical development of company law in India, Types of Companies, Registration of Companies, Memorandum of Associations, Article of Associations, prospectus.	10
V	COMPANIES ACT, 2013 - II Type of Meetings, Directors, Appointment and removal of Directors, Board of directors, Rules of corporate governance related to business of company, NCIT (National Company Law Tribunal), NCLAT (National Company Law Appellate Tribunal), Special Courts with major amendments.	08

SUGGESTED READINGS:

Text Books :

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M. C. Kuchhal	Mercantile Laws	Vikas Publication	8 th Editions
T-02	N. D. Kapoor	Elements of Mercantile Law	Sultanchand and sons.	34 th Editions

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	S.S.Gulsan & G.K Kapoor	Business Law Including Company Law	New Age International Publishers	2018
R-02	Avtar Singh	Business Law	Eastern Book Co.	1st Edition, 2012
R-03	Desai T.R	Indian contract act, sale of goods act, partnership act	Universal Law Publications	20 th Edition, 2009
R-04	Munish Bhanderi	Corporate Allied Law	Best world's	2021



**Elective I: BBA, BBA (Hon.) BBA
(FM), B. Com. & B.Com(Hons)
Reading and Writing for Business**

Subject Code:04SL0102

Credit: 2

Semester: 1

Course Description

The course will inculcate skills of formal reading and writing for business among the students. Good reading skills play a vital role in decision making in response to a proposal or a report. Formal writing, on the other hand, enables one to express one's ideas, plans, aims and objectives on paper. The course will offer a number of classroom activities, assignments and tasks to ensure the inculcation of the aforesaid skills among the students.

Course Objectives

The course will enable the students:

1. to read and interpret formal business writings such as reports, articles and reviews;
2. to know structures of formal business letters and reports;
3. to write formal business letters and reports;
4. to inculcate a taste for reading and writing habits pertaining to the world of business.

Unit 1: Introduction to business world

1. Reading a business case-study – “Tripping Along” by Deep Kalra from *Stay Hungry Stay Foolish*
2. Reading 3 business articles (general in nature) from the newspapers/magazines

- I. "Paytm: the wonder wallet" from Forbes India.
- II. "Millennials: How They Live and Work" from Gallup.
- III. "The Right Culture: Not About Employees Happiness" from Gallup.

Recommended Reading

Arakali, Harichandan. "Paytm: The wonder wallet." Forbes India, 16 Nov. 2016,
<http://www.forbesindia.com/printcontent/44825>

Clifton, Jim. Millennials: How They Live and Work." Gallup, 11 May 2016,
<http://www.gallup.com/opinion/chairman/191426/millennials-live-work.aspx>

Harter, Jim. "The Right Culture: Not About Employee Happiness." Gallup, 12 April 2017,
http://www.gallup.com/businessjournal/208487/right-culture-not-employeehappiness.aspx?g_source=WORKPLACE&g_medium=topic&g_campaign=tiles

Kalra, Deep. "Tripping Along." *Stay Hungry Stay Foolish*, edited by Rashmi Bansal, IIM Ahmedabad, 2008, pp. 130-143.

Unit 2: Reading and writing for business

1. Reading business letters (of sales, inquiry, order, complaint, and adjustment)
2. Writing business letters (Any two types)
3. Reading a few short business reports
4. Writing a short business report

Teaching Scheme

Teaching Scheme (Hours per week)	Evaluation Scheme					Total Marks	
	Practical	ESE	IA	CSE	Viva		Term Work
2 Hours		00	30	20	25	25	100

1. IA will consist of the following components (30 marks):

- a. **Assignments (20 Marks):** Students will prepare three assignments as following.

- 1) Letter: Write three letters on the given subjects (10 Marks)
- 2) Article: Write a business article on the given theme (05 Marks)

3) Report: Write a report on the given subject(05 Marks)

b. In-Class Participation (10 Marks)

2. CSE (20 marks):

a. **(Term Paper):** Students will write a paper on the given topic.

3. **Viva (25 Marks):** Viva will be conducted at the end of the semester. It will be based on the CSE, Term Work, Assignments and topics covered in the syllabus.

4. Term Work (25 Marks):

a. **(Term-End Presentation):** Students will make a presentation based on topics provided by the faculty, at the end of the semester.

Further Suggested Readings

1. Raman M. and Singh P., *Business Communication*.20th ed., Oxford University Press, 2011.
2. Kumar S. and Lata P., *Communication Skills*.6th ed., Oxford University Press, 2013.
3. Murphy H., Hildebrandt H. and Thomas J., *Effective Business Communication*. Tata MacGraw-Hill, 2008.
4. Sharma R. and Mohan K., *Business Correspondence and Report Writing*. 4th ed.,Tata MacGraw-Hill, 1998.
5. Lesikar R., Flatley M., Rentz K., Pande N., *Business Communication*.11th ed., Tata MacGraw-Hill, 2009.



**Elective II: BBA, BBA (Hon.) BBA
(FM), B. Com. & B.Com(Hons)
Speaking and Presentation Skills**

Subject Code: 04SL0103

Credits: 02

Semester: 1

Course Description

The course intends to make students confident in speaking in English with the help of various language functions. It also focuses on developing students' presentation skills.

Course Objectives

The course will enable students

1. to share information on familiar matters/issues in English;
2. to make effective presentations in English;
3. to gain confidence in speaking in English.

Unit 1: Speaking/Interacting in an Academic Context

1. Greetings
2. Introducing self and peers
3. Asking and sharing information
4. Expressing points of view
5. Discussions
6. Facing viva voce
7. Group discussions
8. Facing an interview (interview skills)

Unit 2: Effective Presentation Skills

1. Introduction to effective presentation skills
2. Preparing the presentation (Collection of Data/Information, exploring the topic etc.)

3. Using ICT for the presentation
4. Getting ready for the presentation
5. Effective body language
6. Effective pronunciation
7. Interacting with the audience (Q & A)
8. Practice (with video recording)
9. Feedback and Suggestions

Recommended Readings/ Viewings

- Select TED Talks
- Select INK Talks
- Select Toastmasters Videos
- Select Courtroom Dramas
- Select Videos of speakers like Steve Jobs, Sundar Pichai etc.

Teaching Scheme

Teaching Scheme (Hours per week)	Evaluation Scheme					Total Marks	
	Practical	ESE	IA	CSE	Viva		Term Work
2 Hours		00	30	20	25	25	100

- 1. IA will consist of the following components (30 marks):**
 - a. **Assignments (20 Marks):** Students will prepare three oral assignments.
 - b. **In-Class Participation (10 Marks)**
- 2. CSE (20 marks):**
 - a. **(Term End Simulation):** Students will carry out simulated tasks at the end of the semester. It would comprise individual and group tasks.
- 3. Viva (25 Marks):** Viva will be conducted at the end of the semester. It will be based on the CSE, Term Work, Assignments and topics covered in the syllabus.
- 4. Term Work (25 Marks):**
 - a. **(Term-End Presentation):** Students will make a presentation based on topics provided by the faculty, at the end of the semester.

Recommended Readings

“Communication.” themuse. 2017. <https://www.themuse.com/tags/communication>. Accessed 4 July 2017.

Presentation Magazine. 2017. <https://www.presentationmagazine.com/>. Accessed 4 July 2017.

“Presentation Skills.” *SKILLS YOU NEED.* 2017. <https://www.skillsyouneed.com/presentation-skills.html>. Accessed 4 July 2017.

Siddons Suzy. *The Complete Presentation Skills Handbook*. Kogan Page, 2008.

Sprague Jo, and Douglas Stuart. *The Speaker's Handbook*. 8th ed., Thomson Wadsworth, 2008.

PROGRAM	BBA/BBA(Hons)/BBA(FM)
SEMESTER	II
COURSE TITLE	Macroeconomics
COURSE CODE	04BB0201
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- To explain the concept of macroeconomics and apply the circular flow of income and expenditure
- To identify with the basics of national income accounting
- To analyze the income determination through classical and Keynesian economics
- To comprehend why household, business, government and global behavior determine the aggregate demand for goods and services.
- Learn the important concepts in money, banking and exchange and their significance in day to day life.
- To relate open economic interpretation to understand the operation of an economy

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Internal Marks (50%)		End-Semester Examination (50%)			Total Marks
Theory	Tutorial	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	
4	0	0	4	30	20	50	0	0	100

Course Contents:

Unit No	Unit/Sub-unit	Sessions
I	Introduction to Macroeconomics & National Income: Nature and Scope of Macroeconomics, Circular Flow of Income and National Income Accounting, Concepts of GDP and NDP- Sectoral Composition of National Income - GDP measured at Factor Price and Constant Prices- Concept of GNP and NNP, Factor Cost and National	10

	Income-Per Capita income, Disposable Income and Personal Disposable Income- Measurement of National Income – Difficulties in measuring National Income	
II	Keynesian Economic Theory Say's Law of Market and its criticism by Keynes. Simple Keynes Model of Income Determination. Concepts of Consumption Function, Saving Function and Investment Function. Average Propensity to consume, Marginal Propensity to Consume, Investment Multiplier– Marginal Efficiency of Capital and factors affecting MEC.	10
III	Money Supply and Central Bank Meaning and Evolution of Money- Definition of Money- Functions of Money – Demand for Money - Quantity Theory of Money- Fisher's Equation of Exchange-Cambridge Theory. Supply of Money – Determinants of Money Supply- Components of Money Supply- RBI's Approach-M1, M2, M3, M4.	10
IV	Business Cycle & Inflation Concepts of Business cycle – Four phases of Business Cycle – Interest rate –Loanable fund Theory and Liquidity preference theory- Motives for liquidity preference--Transaction Motive, Precaution Motive, Speculative Motive. Factors affecting interest Rate, Inflation- Meaning, Types, Causes, Effects-Inflation and Investment.	10
V	Open Economy Macroeconomics Balance of Payments –Meaning and assessment, Balance of payment and disequilibrium causes and remedies. Introduction to Foreign Exchange Rates-Fixed V/s Flexible foreign exchange rates. Exchange rate determination.	08

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	H.L.Ahuja	Macro Economics	S Chand Publishing	1, jan 2019

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	Dornbusch, Fisher, Startz (2005)	Macroeconomics	Tata Mcgraw-Hill; Publishing Company Ltd New Delhi	2005
R-02	D. N. Dwivedi	Macroeconomics Theory and policy	Tata Mcgraw Hill	4 th edition
R-03	R.G. Lipsey and K.A. Chrystal	"Principles of Economics	Oxford University Press	9 th Edition
R-04	Ackley, G.	Macro-Economic Theory	Macmillan, New York	2016
R-05	Shapiro, E	Macroeconomic Analysis	Galgotia Publication, New Delhi	5 th Ed, 2001

PROGRAM	BBA/BBA(Hons)
SEMESTER	II
COURSE TITLE	Organizational Behavior
COURSE CODE	04BB0202
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES: This course aims to,

- Analyze individual and group behaviour and understand the implications of organizational behaviour on the process of management.
- Identify different motivational theories and evaluate motivational strategies used in a variety of organizational settings.
- Understand individual differences and utilize them effectively in making groups to achieve organizational objectives.

- Evaluate the appropriateness of various leadership styles and conflict management strategies used in organizations.
- Describe and assess the basic design elements of organizational structure and evaluate their impact on employees.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Internal Marks (50%)		End-Semester Examination (50%)			Total Marks
Theory	Tutorial	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	
4	0	0	4	30	20	50	0	0	100

Course Contents:

Unit No	Unit / Subunit	Sessions
I	INTRODUCTION TO ORGANIZATIONAL BEHAVIOUR Introduction to OB- Meaning, Definition, Scope, Contributing disciplines, Determinants of OB, Evolution of OB, challenges and Opportunities for Organization Behavior	07
II	UNDERSTANDING INDIVIDUAL BEHAVIOR Understanding Personality; Meaning, Types, Determinants, Personality Attribute influences Organizational behavior Perception: Meaning, factors, link between perception and Individual decision making Attitude: Meaning, components, Types of attitude, Formation of attitude, Attitude, and workforce diversity. Values: Meaning, Types and Importance of values	11
III	INDIVIDUAL MOTIVATION AND GROUP BEHAVIORS Motivation: Meaning, Types and Theories- Hierarchy of Needs Theory, Theory X and Theory Y, Two-Factor Theory, carrot, and stick Approach to Motivation Learning: Meaning and Various Approaches of Learning Group; Meaning, classification of Group, stages of Group formation. Understanding teams; Meaning, Difference Between Group and Team, Types of Team	10

IV	LEADERSHIP AND ORGANIZATION STRUCTURE Leadership: Meaning of leadership, leadership styles, traits, Theories; Trait Theory Organization Structure: Work Specialization, Departmentalization, Chain of Command, Span of Control, Centralization and Decentralization, Formalization Organizational Designs: Simple Structure, Bureaucracy, Matrix Structure, Virtual Organization, Boundaryless Organization	10
V	ORGANIZATION CULTURE AND CONFLICT MANAGEMENT Organization Culture –Meaning, Definition, Features, Importance of Culture. Conflict Management: Meaning – types of conflict –factors affecting conflict in organization.	10

SUGGESTED READINGS:

Textbooks:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Robbins	Organizational Behaviour	Prentice Hall	Latest Publication
T-02	K. Aswathappa	Organizational Behaviour	HPH	Latest Publication
T-03	P.G. Aquinas	Organizational Behavior	Excel Books	Latest Publication

Reference Books

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	John W. Newstrom & Kieth Davis	Organizational Behaviour	McGraw Hill	Latest Publication

R-02	Fred Luthans	Organizational Behaviour	McGraw Hill	Latest Publication
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PROGRAM	BBA/BBA(Hons)/BBA(FM)
SEMESTER	II
COURSE TITLE	Statistics for Business
COURSE CODE	04BB0203
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Acquire a fair degree of proficiency in comprehending statistical data, processing and analyzing it.
- Apply various measures of central tendency and measures of dispersion in data analysis.
- Analyze the relationship between two variables using concepts of correlation and regression and its use in prediction.
- Analyze the patterns revealed by the time series data and use it to make predictions for the future.
- Analyze and apply the concept of probability and distributions in managerial decision making.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Internal Marks (50%)		End-Semester Examination (50%)			Total Marks
Theory	Tutorial	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	
4	0	0	4	30	20	50	0	0	100

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Classification and Tabulation Introduction, Classification of Data , Organizing data using data array Tabulation of Data , Graphical Presentation of Data , Types of Diagrams , Exploratory Data Analysis. Use of MS-Excel to create Frequency Distribution and Graphs.	8
II	Measures of Central Tendency and Dispersion Introduction, Mathematical Averages , Geometric Mean , Harmonic Mean Relationship Among AM,GM & HM, Partition Values, Mode, Relationship Between Mean , Median and Mode , Comparison between Measures of Central Tendency, Range; Quartile deviation; Inter Quartile Range; Mean Deviation; Standard Deviation; Variance & Coefficient of Variation; Concept of Skewness & Kurtosis. Use of MS Excel Statistical function to find descriptive measures.	10
III	Correlation and Regression Introduction, Significance of Measuring Correlation, Correlation and Causation, Types of Correlation , Methods of Correlation Analysis. Two lines of regression , regression coefficients , prediction . Use of MS Excel Statistical Function to compute correlation and regression .	10
IV	Trend Analysis in Time Series Introduction ,Components of Time Series; Additive and Multiplicative Models; Fitting of Linear Trend Line, Second degree Parabola by Using Principles of Least Squares	10
V	Probability and Probability Distribution Introduction to Permutation and Combination ,Counting Rules ,Concepts of Probability, Definition of Probability, Rules of Probability(Addition and Multiplication). Mathematical Expectation, Binomial Distribution , Normal Distribution – Properties and Applications.	10

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and
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				Year
T-01	J.K.Sharma	Business Statistics	Vikas Publishing House Pvt. Ltd	4 th edition,2014
T-02	N D Vohra	Business Statistics	McGraw Hill Education	1 st edition,2012
T-03	<u>R P Hooda</u>	Statistics for Business and Economics	Vikas Publishing House Pvt. Ltd	5 th edition,2015

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Sancheti D.C. and Kapoor V.K	Statistics: Theory, Methods & Application	Sultan Chand & Sons	7 th .edition,2014
R-02	S.C. Gupta	Fundamentals of Statistics	Himalaya Publishing House	7 th .edition,2015
R-03	Beri, G.C	Business Statistics	TMH	3 rd .edition,2009

PROGRAM	BBA/BBA(Hons)/BBA(FM)
SEMESTER	II
COURSE TITLE	Human Resource Management
COURSE CODE	04BB0204
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

Course Outcomes

-  Explain the importance of human resources and their effective management in organizations.
-  Analyze the key issues related to administering the human elements such as recruitment, training, compensation, management development and employment relations.
-  Understand fundamentals and importance of Training and Development.
-  Analysis various components of Compensation

- Understand the process of job analysis and appreciate its importance as a foundation for human resource management practice.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Internal Marks (50%)		End-Semester Examination (50%)			Total Marks
Theory	Tutorial	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	
4	0	0	4	30	20	50	0	0	100

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction: An Introduction to Human Resource Management, characteristics and significance of HRM, objectives and functions, Skills and Competencies of a Human Resource Manager, changing skill requirement, changing employee expectations, Challenges faced by HR managers.	08
II	Procurement: Job analysis, Job Description and Job Specification-Definitions and Objectives Human Resource Planning- Definition and objectives. Recruitment and Selection – Definitions and objectives Placement and Induction.	12
III	Training and Development: Training: Definition, objectives and advantages, Identification of training needs, Methods of training, Difference between Training & Development. Succession Planning.	10
IV	Compensation: Job evaluation-Introduction and objectives, Compensation- Definitions and objectives – Introduction to Regulatory Framework for Compensation Management(Codes, PF/Gratuity/Basic DA) Basic factors in determining pay rates, Basic, Supplementary and Executive Remuneration, types of employee benefits and services, Ethical issues in Compensation Management: <i>Discussion</i> .	10
V	Employment Relations and Contemporary issues in HRM Employee Relationship Management– Definitions and Main Aspects, Industrial Disputes & Conflicts – Collective Bargaining Grievance Handling, Contemporary issues in Human Resource Management.	08

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Pravin Durai	Human Resource	Pearson: Dorling Management	4 th Kindersley (India)

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	K. Aswathappa	Human Resource and Personnel Management, Text and Cases	Tata MC Graw-Hill	6 th , 2010
R-02	Gary Dessler & BijuVarkkey	Human Resource Management	Pearson	15 th , 2016
R-03	V.S.P. Rao	Human Resource Management - Text and Cases	Excel Books	2006

PROGRAM	BBA/BBA(Hons)/BBA(FM)
SEMESTER	II
COURSE TITLE	Business Environment
COURSE CODE	04BB0205
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

Course Outcome:

- Understand the meaning and relationship of environment and business
- Know the characteristics of modern business
- Explain the competitive structure of an industry
- To scan various social, political, legal, economic and other factors that influence business in India.

- To foresee the impact of socio-economic changes at the national and international level on its stability.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Internal Marks (50%)		End-Semester Examination (50%)			Total Marks
Theory	Tutorial	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	
4	0	0	4	30	20	50	0	0	100

Course Contents:

Unit No.	Unit / Sub Unit	Sessions
I	INTRODUCTION TO BUSINESS ENVIRONMENT Introduction to Business environment - salient features – importance - internal & external environment –Macro & Micro Factors(SWOT Analysis- Firm Specific) environment scanning: features - process & techniques -Social and Cultural Factors, Business Environment with reference to global integration, ecological environment protection Act	10
II	ECONOMIC ENVIRONMENT & POLITICAL ENVIRONMENT Political structure: Legislature institutions – executive institutions – judiciary institutions - Economic systems: capitalism, socialism; mixed economy, mixed economy of India; LPG - Liberalization, Privatization & Globalization and its impacts –Highlights of New industrial policy & its implication in India –Fundamentals of fiscal policy.	10
III	TECHNOLOGICAL & LEGAL FRAMEWORK Impact of Technology on Business –Overview of Technological Policies- ISO standards- Bureau Of Indian Standards–Important features of Intellectual property rights – Trademarks –The Competition Act 2002: Basics of Foreign Exchange Management Act 1999 (FEMA): Features – objectives - application of the Act - FEMA Vs FERA.	10

IV	SOCIAL ENVIRONMENT Business and Society, Changing Concepts and objectives of Business, Interdependence of business and society, technological development and social change, Consumers' rights & consumerism, Consumer protection Act; corporate governance.	10
V	INTERNATIONAL BUSINESS ENVIRONMENT Importance of International Business, Types of International Business, Protectionism, EXIM policy, EPZs, EOUs, SEZ, WTO, regional blocks.	8

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
1	Francis Cherunilam	Environment For Business	Himalaya Publishing House	2 nd edition 2011

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
1	Mishra, S.K. and Puri V.K	Economic Environment of Business	Himalaya Publishing House	1 st - 2011
2	Paul Justin	Business Environment- Text and Cases	TATA McGraw Hill Publishing	3 rd - 2010
3	Vivek Mittal	Business Environment	Excel Books	2 nd - 2010
4	Raj Agarwal	Business Environment	Excel Books	5 th - 2002
5	Francis Cherunilam	Business Environment, Text & Cases	Himalaya Publishing House	25 th - 2016
6	Aswathappa K	Essentials of Business Environment	Himalaya Publishing House	13 th - 2016
7	Morrison J	The International Business Environment	Palgrave	2 nd - 2006
8	Richard G. Lipsey	An Introduction to Positive Economics	ELBS, Oxford	7 th - 1989

List of Journals /Periodicals/ Magazines/ Newspapers etc.

1. International Journal of Business Environment
2. International Journal of Entrepreneurship & Business Environment Perspectives
3. Journal of World Business
4. Economic & Political Weekly
5. Intellectual Property Rights
6. Corporate Governance
7. Business India / Business World
8. Banking & Finance
9. Industrial Economist
10. Fortune, Global Business Review,
11. Economic Survey- GOI
12. World Development Report



Marwadi University

Bachelor of Commerce/Business Administration/(Hon.)

Semester II (w.e.f. Jan, 2018)

Subject Code: **04SL0152** - Subject Credits: 02

Subject Name: **English for Workplace**

Course Description

The course will help the students to develop their ability to communicate in English for workplace. The course will introduce the students to various workplace situations through videos, audios, texts and simulations and develop students' language for workplace.

Course Objectives

The course will enable the students

1. to familiarize with workplace culture;
2. to share information and collect information;
3. to express one's views and agree or disagree with others;
4. to write workplace documents.

Unit 1: Working together

1. Making requests, suggestions, agreeing and disagreeing
2. Accepting and declining an invitation
3. Giving feedback and verifying information
4. Communication in a meeting (Induction meetings)
5. Telephonic conversation

Recommended Reading:

1. EngVid video series: More Common Workplace Expressions:
https://youtu.be/8EO_pAfCWc
2. Youtube video: Make polite requests - 05 - English at Work:
<https://youtu.be/QWBwCoecvkM>
3. Let's Talk video: Requests and Command in English:
<https://youtu.be/TrCsLOqOuSg>



Marwadi University

Bachelor of Commerce/Business Administration/(Hon.)

Semester II (w.e.f. Jan, 2018)

Subject Code: **04SL0152** - Subject Credits: 02

Subject Name: **English for Workplace**

4. Let's Talk video: Making suggestions and recommendations:
<https://youtu.be/BigJvhc6Hnc>
5. Online article: BBC - Agreeing and disagreeing:
<http://learnenglishteens.britishcouncil.org/exams/speaking-exams/agreeing-and-disagreeing>
6. Youtube video: Making, Accepting & Declining an Invitation in English.
<https://youtu.be/GqwpBEynsyo>
7. BBC video: Giving feedback - 18 - English at Work:
https://youtu.be/UKz1Fsw_e8c
8. Online article: Effective Meetings:
http://people.ucalgary.ca/~design/engg251/First%20Year%20Files/effect_mee_t.pdf
9. Youtube video: Useful Telephone Phrases: <https://youtu.be/6tfFRD0enV0>

Unit 2 Writing for Workplace

1. Letter Writing
2. Email writing
3. Report writing
4. Writing Notices
5. Minutes of meeting

Recommended Readings/Viewings:

1. Online article: Letterbarn: Sample Employment and Workplace Letters:
<http://letterbarn.blogspot.in/2008/12/sample-recruitment-letters-training-and.html>
2. Online article: Business letter examples: <https://www.thebalance.com/business-letter-examples-samples-and-writing-tips-2059673>
3. BBC Learning English video: Writing an Email- 18 - English at work:
<https://youtu.be/aO3Det4ir8U>



Marwadi University

Bachelor of Commerce/Business Administration/(Hon.)

Semester II (w.e.f. Jan, 2018)

Subject Code: 04SL0152 - Subject Credits: 02

Subject Name: English for Workplace

4. BBC Article: English for Email:
<https://learnenglish.britishcouncil.org/en/english-emails>
5. Blog: My School: How to write notice and circular: <http://english-cbse.blogspot.in/2011/09/how-to-write-notice-and-circulars.html>
6. Online article: Drafting of Notices, Circulars, Minutes and Resolutions:
<http://www.yourarticlelibrary.com/business/reports/drafting-of-notices-circulars-minutes-and-resolutions/75904/>

Teaching Scheme:

Teaching Scheme (Hours per week)	Evaluation Scheme					Total Marks	
	Theory	ESE	IA	CSE	Viva		Term Work
2 Hours		00	30	20	25	25	100

1. **IA will consist of the following components (30 marks):**
 - a. **Assignments (20 Marks):** Students will prepare assignments as following.
Writing a letter, a circular, a notice and a minute of meeting on the given subjects. (05 Marks each)
 - b. **In-Class Participation (10 Marks)**
2. **CSE (20 marks):**

Term End Simulation: Performing a simulated workplace scene on a given situation and video/audio recording it. (20 Marks)
3. **Viva (25 Marks):** Viva will be conducted at the end of the semester. It will be based on the CSE, Term Work, Assignments and topics covered in the syllabus.
4. **Term Work (25 Marks):**



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Subject Name: **English for Workplace**

Term-End Presentation: Students will make a presentation based on topics provided by the faculty at the end of the semester.

Further Suggested Readings:

1. Cosgrove Anthony, *English at Work*(with audio CD and practical language activities in the UK), Cambridge University, 2011
2. BBC video series on English at Work (45+ videos):
Link:
https://www.youtube.com/playlist?list=PLcetZ6gSk969oGvAI0e4_PgVnlGbm64bp
3. FutureLearn course on English for Workplace:
Link: <https://www.futurelearn.com/courses/workplace-english/2/todo/10069>
4. Video conference on first day of joining: <https://view.vzaar.com/9734063/video>
5. Maheshwari, *English at the workplace*, Laxmi Publication, 2006
6. MuktiSanyal, VarmaPromodini, *English at the Workplace II*, Oxford University Press, 2007
7. HelgesenMarc, Adams Keith, *Workplace English:Office File*, Longman, 1996
8. Schofield, James, *Collins Workplace English*, Harper Collins Publisher, 2012



Marwadi University

Bachelor of Commerce/Business Administration/(Hon.)

Semester II (w.e.f. Jan, 2018)

Subject Code: 04SL0153 - Subject Credits: 02

Subject Name: English through Movies

Course Description

The course offers select English movies as a medium for teaching English language skills. Given that 'context' is a vital aspect for language learning, film as an audio-visual 'text' re-creates reality whilst presenting its viewers with demonstrations of varied linguistic contexts. This course thus aims to create a sense of ease in learning English in a contextual manner. Moreover, the objectives of learning language are fluency and accuracy. These aims can be achieved best by various language contexts (situations) demonstrated in movies. Also, movies present language in a more accessible fashion for the students to easily acquire language skills.

Course Objectives

The course will enable the learners to

1. further enhance their basic language skills;
2. identify and use different language functions in an audio-visual context;
3. learn to use film and its elements as tools for language learning.

Unit 1: Language Functions, Contexts & Movies

In this unit, students will learn, understand, and explore English through clips from various selected movies. They will primarily study a number of language situations, as shown in the clips, in order to understand how English can be used in varying contexts. This unit aims to improve the students' basic language skills LSRW by dealing with varying language activities by focusing on strengthening their vocabulary, interpretation skills, reading non-verbal cues, pronunciations, and also their writing skills. Students would explore the following language activities in this unit:

1. Introducing the course
 - a. Instructors will introduce each film included in the syllabus along with a very brief background of the recommended movies, and



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- b. Students will be asked to list the kinds of movies they prefer and also provide a reason for their preferences
2. Focusing on dialogues and understanding parts of speech
3. Creative Writing: Making a pamphlet (for Continuous Semester Evaluation)
4. Reading nonverbal cues in context
5. Vocabulary building exercises – word meanings, making sentences & finding images and synonyms and antonyms
6. Interpreting dialogues & pronunciation
7. Daily Conversations

Recommended Web-links

1. www.fluentu.com/english/blog/learn-english-movies-film-esl/?lang=en
2. [www.academia.edu/.../The Impact of Using Movies on Learning English language](http://www.academia.edu/.../The_Impact_of_Using_Movies_on_Learning_English_language)
3. <https://speechyard.com/us/video/>
4. <https://www.learnenglish.de/improveenglish/films.html>

Unit 2: Detailed Analyses of the Movies

Students would be asked to watch the selected movies and individual scenes in order to transcribe dialogues, respond to and discuss various issues dealt within the movies, answer questionnaires, and write movie reviews. They will also be asked to interpret the trailers of these movies and discuss them in groups. The following activities will be covered in this unit:

- a. Dialogue and monologue transcription
- b. Interpreting the trailers [Group discussion]
- c. Interpreting the scene(s) [Group discussion in context]
- d. Movie comprehension (a short film and a long scene will be played in class)
- e. Reading and Writing Movie reviews
- f. Describing/Discussing the posters of the movies,
- g. Describing characters & themes (Questionnaire)
- h. Giving feedback/expressing opinions.



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Subject Name: English through Movies

Recommended Web-links

1. <http://www.imdb.com>
2. <https://www.rottentomatoes.com/>
3. warmupsfollowups.blogspot.com/
4. www.learnenglishfeelgood.com/eslvideo/
5. <http://www.esl-galaxy.com/video.htm>

Evaluations and Assessment:

The evaluation and assessment would consciously

Teaching Scheme (Hours per week)	Evaluation Pattern					Total Marks
	ESE	IA (In-Class Participation & Assignments)	CSE	Term-End Presentation	Viva	
Theory						
2	00	30	20	25	25	100

1. IA (Internal Assessment): The IA consists of two components. First being the In-Class participation consisting of 10 marks. The second being three assignments prepared by students and submitted during the semester. It carries 20 marks. The list of three assignments is as follows:

- a. Transcribing a monologue of a major character (5 marks)
- b. Plot description on the basis of a trailer (5 marks)
- c. Comprehension of a short film/ long scene (10m)

2.CSE (Continuous Semester Evaluation): Students will be assigned a particular film(s) for this endeavour. It carries 20 marks. Students will be given the topic by the end of the first fortnight of the semester. The details of the task are as follows:

- a. Preparing a four-page pamphlet on the selected film, describing the production details, film synopsis, and other details.



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Subject Code: 04SL0153 - Subject Credits: 02

Subject Name: English through Movies

3. Term-End Presentation: They will be assigned two movies for the term-work. It carries 25 marks. The students will write two movie reviews. The reviews have to be handwritten. After the submission of the review file, they will be making a presentation of their written submission. The reviews carry 15 marks and the presentation will carry 10 marks.

4. Viva: It carries 25 marks. Viva will include questions on their term work on movie reviews. Out of 25 marks, 10 marks will be allotted for their term-work and 15 marks for their linguistic skills along with their understanding of the course materials.

Selected Movies

1. *Harry Potter and the Philosopher's Stone*. Directed by Chris Columbus, Warner Bros. Pictures, 2001.
2. *Paperman*. Directed by John Kahrs, Walt Disney Animation Studios, 2012.
3. *Steve Jobs*. Directed by Danny Boyle, Universal Pictures, 2015.
4. *The Social Network*. Directed by David Fincher, Columbia Pictures, 2010.
5. *WALL-E*. Directed by Andrew Stanton, Walt Disney Pictures & Pixar Animation Studios, 2008.

PROGRAM	BBA/BBA(Hons)/BBA(FM)
SEMESTER	III
COURSE TITLE	Marketing Management
COURSE CODE	04BB0301
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Comprehend Fundamental Marketing Concepts and marketing environment.
- Apprehend the concepts of Marketing Mix.
- Understand and apply the concepts of Segmenting and Targeting Customers.
- Comprehend various channels of distribution.
- Understand and evaluate various means of marketing communications.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Internal Marks (50%)		End-Semester Examination (50%)			Total Marks
Theory	Tutorial	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	
4	0	0	4	30	20	50	0	0	100

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO MARKETING MANAGEMENT Introduction to marketing management – Need - Definition, Scope, Core Marketing concepts, Understanding – Needs, Wants and Demand, Customer Value & Satisfaction, Functions of marketing, Company Orientation towards Market Place, Marketing environment, Marketing mix, Role of marketing manager – Career Options in Marketing Domain	10
II	CONSUMER BEHAVIOUR & SEGMENTATION Understanding Consumer Behavior, Factors affecting Consumer Buying Decisions, Consumer Buying Process, difference between Consumer buying and Industrial buying. Introduction to Segmenting, Concept, Importance and Bases of segmentation, Targeting & Positioning, Product differentiation.	10
III	PRODUCT AND PRICE	10

	Understanding Product and its importance, Product Levels, Product mix, Product Life Cycle & Strategies at various levels, New Product Development, The Concept of Brand, Brand Associations, Branding Elements - Overview of Packaging - Introduction to Service marketing, SERVQUAL Pricing: Introduction to Pricing, Factors affecting Pricing, Strategies for Pricing.	
IV	DISTRIBUTION Introduction to Distribution – Meaning and Importance, Channels of Distribution, Channel members, Wholesaling and Retailing, Introduction to Logistics.	08
V	PROMOTION Introduction to Promotion – Types, Scope, Tools, Advertising – Roles, 5MS; Personal selling, Public relations, Direct Marketing & sales promotion – concept and characteristics. Brief introduction to Latest trends in marketing (Online Marketing - Green marketing and Rural Marketing)	10

SUGGESTED READINGS:

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Philip Kotler & Kevin Lane Keller	A Framework for Marketing Management	Pearson Education.	Sixth Edition (2016)

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Philip Kotler; Kevin Lane Keller; Abraham Koshy; MithileshwarJha	Marketing Management: A South Asian Perspective	Pearson Education	14 th edition 2013
R-02	Tapan Panda	Marketing Management	Excel Books	2 nd edition 2010
R-03	Rajan Saxena	Marketing Management	TMGH	6 th edition 2020

PROGRAM	BBA/BBA(Hons)/BBA(FM)
SEMESTER	III
COURSE TITLE	Financial Management
COURSE CODE	04BB0305
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understanding of the functions and objectives of financial management.
- Application of concepts of Time Value of Money
- Evaluation of various sources of finance by learning of cost of capital
- Analyze investment projects using various capital budgeting decision
- Evaluate dividend decision in relation to the value of the firm
- Formulation of policies for better working capital management

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Internal Marks (50%)		End-Semester Examination (50%)			Total Marks
Theory	Tutorial	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	
4	0	0	4	30	20	50	0	0	100

Course Contents:

Unit No	Unit / Subunit	Sessions
I	Financial management: Meaning, Nature and Scope. Functions and objectives. Wealth Vs. Profit Maximization; Role of Finance Manager in 21st Century. Time Value of Money: Concept, Compounding, Discounting and Annuity (Numerical).	8
II	Financing Decision: Sources of Financing – Equity, preferred and debt capital. Cost of Capital: Cost of equity, preferred and debt capital, weighted average cost of Capital (WACC). Capital Structure – determinants, theories – NI, NOI & MM Hypothesis. Leverage.	12
III	Investment Decision:	12

	Nature of investment decisions; different types of investment; investment appraisal methods – Non discounting cash flow methods (Payback period, ARR) and discounting.	
IV	Dividend decisions: Types of dividend, dividend distribution practices, Walter's, Gordon's & MM dividend models; principles of dividend policy. Dividend payment practices in corporate India.	6
V	Working Capital Meaning, significance, and classification. Financing & sources of working capital; estimation of working capital requirement, operating cycle period. Basic concepts of cash, receivables, & inventory management (Only theory). New dimensions in management of working capital in the modern era.	10

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Prasanna Chandra	Financial Management	McGraw-Hill	Tenth Edition - 2019

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	I M Pandey	Financial Management	Vikas Publishing House Pvt Ltd	Twelfth Edition - 2019
R-02	M Y Khan & P K Jain	Financial Management	McGraw-Hill	Eighth Edition - 2018

PROGRAM	BBA/BBA(Hons)/BBA(FM)
SEMESTER	III
COURSE TITLE	Indian Financial System
COURSE CODE	04BB0308
COURSE CREDITS	04
COURSE	48 Hrs (48 sessions of 60 minutes)

DURATION	each)
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Course Outcomes

- To understand the fundamentals of financial markets.
- To examine impact factors of Money Market and Capital Market
- To appreciate the Need and Working of Financial Intermediaries.
- To recognize the importance and various functions of Market Regulation
- To Analyze and choose the financial service as per requirements;

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Internal Marks (50%)		End-Semester Examination (50%)			Total Marks
Theory	Tutorial I	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	
4	0	0	4	30	20	50	0	0	100

Course Contents:

Unit No	Unit / Subunit	Sessions
I	Introduction to Indian Financial System Structure of Financial System, Instruments of Financial System, organised and unorganised Financial System; Components: Financial Assets, Financial Intermediaries, Financial Markets (money and capital markets in India) Relevance of various interest/return rates, Regulatory framework.	10
II	Role of Financial Institutions in Indian Financial System Financial Institutions and its meaning, Functions and Role of Financial Institutions; Money market institutions: Meaning, Role of the Central Bank(RBI) in money markets; Commercial banks: Meaning and Functions; Indigenous Financial Agencies: Bankers, Money lenders, Discount houses, Accepting houses(only meaning and features); Capital Market institutions: (Meaning and functions) Merchant Banks, Investment Companies, Development banks, Mutual Funds; Special Financial Institutions: Factors for their growth (need) ; Objectives and functions of: (1) IDBI (2) IFCI (3) SFCs (4) ICICI (5) EXIM Bank of India; Non-Banking Finance Companies: Meaning, Role, Types of NBFC services; Functions SEBI.	10
III	Financial Instruments Financial Instruments Meaning, importance and classification of	10

	Financial instruments; Short-term, Medium-term and Long Term Instruments; Primary and Secondary Securities; Innovative Instruments	
IV	Functions of Financial Markets in India Financial Market in India: Capital Market, Money Market: meaning, function, types.	08
V	Meaning and Importance of Financial services in India Meaning, importance and types of Financial Services; 1. Factoring: Meaning, Types, costs and benefits of factoring 2. Leasing: Meaning, Definition, advantages to lessor and lessee, types of leases (operating, finance, leveraged, sales and lease-back, leveraged and cross-border.) 3. Underwriting: Meaning and benefits 4. Credit Rating Agencies: Meaning and role of such agencies. A brief idea about: CRISIL, CARE ICRA. 5. Others: A brief idea about: NSDL, STCI.	10

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Khan M. Y	Indian Financial System	Tata McGraw Hill	7 th edition 2014
T-02	Vasant Desai	The Indian financial system and Development	Himalaya Publishing House	5 th edition 2017
T-03	Pathak B. V.	Indian Financial System	Pearson	4 th edition 2014

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	Bhole L. M. & Mahakud J	Financial Institutions and Markets: Structure, Growth & Innovations	Tata-McGraw Hill	8 th edition ,2012

R-02	Khan M. Y	Financial Markets and Institutions	Tata McGraw Hill	5 th edition, 2010
R-03	Khan M. Y	Financial Services,	Tata-McGraw Hill	6 th edition, 2011
R-04	C.Sudarsana Reddy	Financial Management - Principles and Practice,	Himalaya Publishing House	1 st edition, 2010

PROGRAM	BBA/BBA(H)/BBA(FM)
SEMESTER	III
COURSE TITLE	Research Methodology
COURSE CODE	04BB1304
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the basics of research, types of research, research process and its ethical dimensions.
- Design the basic framework of research process, research designs, its techniques as well as sampling methods.
- Integrate and Apply knowledge on measurement & scaling techniques associated with framing of questionnaire.
- Formulate different hypothesis and practice its testing methods in business decision making process.
- Appraise various sources of information for literature review and writing reports.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Internal Marks (50%)		End-Semester Examination (50%)			Total Marks
Theory	Tutorial	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	
4	0	0	4	30	20	50	0	0	100

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Business Research Business Research Methods : Introduction, Basic Research, Applied	12

	Research, Scope of Business Research , Managerial value of Business Research, Business Research in a Global context , Ethics and Business Research, Business Research Process Design, Formal Research Proposal and Introducing the Dimensions to the Problem, Identifying and Defining the Key Research Variables, Exploratory Research(Projective Techniques), Descriptive Research (Cross Sectional & Longitudinal Studies) , Causal Research.	
II	Research Process Introduction to Qualitative and Quantitative Research, Sampling Design – Census and Sample survey, Characteristics of good sample design, Sampling Methods – Random sampling (Simple Random Sampling, Stratified Random Sampling, Systematic Sampling , Cluster Sampling)and non-random Sampling(Convenience, Judgmental, Quota Sampling, Snowball), Sampling and non-sampling Errors.	08
III	Data Collection, Measurement and Scaling Data collection methods – Primary and Secondary Data , Measurement in Research, Measurement Scale, Meaning of Scaling, Scaling Techniques and their construction , Questionnaire Design.	10
IV	Testing of Hypothesis Formulation and statement of hypothesis, confidence interval, Type-I error, Type-II error, one-tailed & two tailed tests , Testing of hypothesis(z-test & t-test for single population) Chi-square test for independence of attributes.	12
V	Preparing Reports Technical and Academic Report Writing, Significance of Report writing, Layout of Research Report, Precaution for writing Research Report and Conclusion.	06

TEXT BOOKS:-

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Naval Bajpai	Business Research Methods	Pearson	2/E, 2017
T-02	C.R.Kothari And Gaurav Garg	Research Methodology: Methods And Techniques	New Age International	3/E, 2014

REFERENCE BOOKS:-

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Deepak Chawla &	Research Methodology,	Vikas	2/E,2016

	Neena Sodhi	Concepts And Cases	Publication	
R-02	Cooper And Schindler	Business Research Methods	Mcgraw-Hill Publication	12/E,2014
R-03	D.K. Bhattacharya	Research Methodology	Excel Books	2/E,2006
R-04	J K Sachdeva	Business Research Methodology	HPH	2/E,2011
R-05	Uma Sekaran & Roger Bougie	Research Methods For Business – A Skill Building Approach	Wiley	6/E,2013

PROGRAM	BBA/BBA(Hons)/BBA(FM)
SEMESTER	III
COURSE TITLE	Cost Accounting
COURSE CODE	04BB0309
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand fundamentals of cost accounting;
- Analyse the cost concepts associated with material and labour;
- Evaluate and apply overheads apportionment and distribution;
- Learn to apply job and process costing methods;
- Understand operating costing and its application.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Internal Marks (50%)		End-Semester Examination (50%)			Total Marks
Theory	Tutorial	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	
4	0	0	4	30	20	50	0	0	100

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Fundamentals of Cost accounting Objectives and functions of cost accounting, Meaning of Cost, Methods	8

	of costing, Techniques of costing, Cost ascertainment and cost estimation, Classifications of cost, Special costs for management decision making, Elements of cost, Steps of installation of a costing system, Advantages of cost accounting, Limitations or objections against cost accounting, Essentials of a good cost accounting system	
II	Direct Expense Material Cost: Material Control, Techniques of inventory control; ABC, Stock Levels and Economic order Quantity. Proper storage of Materials. Labour Cost: Meaning, Labour Remuneration: Methods of Remuneration: Time rate system, Piece rate system, Incentive plans, Group bonus plans.	9
III	Overheads: (Apportionment) Meaning of overhead cost, Classification of overhead cost, Segregation of semi-variable cost, overheads distribution, Allocation and apportionment of overheads (primary distribution), Re-apportionment of service department cost (secondary distribution). Methods of costing Unit Costing: output costing, Costing procedure, Treatment of Stocks, Items Excluded from Cost, Treatment of Scrap	11
IV	Methods of costing Job and Batch Costing: Job Costing Procedure, Batch costing, Economic Batch Quantity. Process Costing: Introduction, Essential Characteristics of Process Costing, Process Costing and Job Costing— A Comparison, Costing Procedure, Normal Loss and abnormal loss, Normal Gain and abnormal Gain.	11
V	Methods of Costing Operating Costing: Operating costing, Cost unit, Transport costing, Transport costing procedure, Boiler house and power house costing, Canteen costing.	9

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M. N. Arora	A Textbook on Cost and Management	Vikas Publication	11 th Edition
T-02	Paresh Shah	Cost and Management Accounting	Oxford Publication	2 nd Edition, 2015

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Ravi M kishore	Cost and Management Accounting	Taxmann	8 th Edition,2020
R-02	V Rajshekhar&Lalitha	Cost Accounting	Pearson	1 st Edition
R-03	CharlesT, Horngren, S M	Cost Accounting	Pearson	12 th Edition
R-04	P C Tulsian	Cost Accounting	S Chand	8 th Edition,2016
R-05	Khan and Jain	Management Accounting	TMH	7 th Edition

PROGRAM	BBA/BBA(Hons)/BBA(FM)
SEMESTER	III
COURSE TITLE	Fundamentals of Digital Marketing
COURSE CODE	04BB1307
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the Digital Marketing Environment for business
- Understand Various Digital Marketing Platforms and its applications
- Compare and Analyze various tools of Digital Marketing
- Comprehend the idea SEO & Digital Display Ads
- Evaluate Web-Analytics reports and Developing Appropriate Strategies

Teaching and Examination Scheme

Teaching Scheme (Hours) weekly			Internal Marks (50%)		End-Semester Examination External Marks (50%)			Total Marks
Theory	Tutorial	Practical	CSE	IA	Theory	Practical / Viva	Term work	
4	0	0	20	30	0	25	25	100

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Digital Marketing:	08

	Evolution of Digital Marketing - Role of Internet in Modern Day Business – Understanding the new marketing environment - Traditional V/s Digital Marketing – POEM Framework – Defining Visibility, Engagement, Traffic, Leads, Conversion; Role of Websites for Business - Digital Marketing Plan.	
II	Digital Marketing Platform: Introduction to platforms for digital advertising - Websites – Blogs – Social Media Platforms – Mobile Apps – Audio Based Platforms – Video Based Platforms	10
III	Digital Marketing Tools: Display Marketing - Types of Display Ads – Ad Buying – Ad Evaluation (CPC, CPM, CTR) – Programmable DM; Search Engine Advertising - Types of Search Ads – Payment Mechanism – Ad Ranks – Creating Ad Campaigns;	12
IV	SEO & SEM: Introduction to SEO – How it Works - On Page & Off Page optimization – Keywords – Page Naming – Robots.txt - Crawlers – Backlinks - Page Rank – RSS Feeds – Alexa Integration Introduction to SEM – PPC – CPA – Platforms for Paid Search; Generating SEO Reports	12
V	Analytics: Web Analytics Options – Google Analytics - Mechanism of GA – Cookie Tracking – Understanding Bounce Rate & Exit Rates – Monitoring Traffic Sources and Behaviors	08

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Seema Gupta	Digital Marketing	TMH	2 nd Edition - 2020
T-02	Punit Bhatia	Fundamentals of Digital Marketing	Pearson	2 nd Edition - 2019
T-03	Jeremy Kagan, Siddharth Shekhar Singh	Digital Marketing - Strategy & Tactics	Wiley	2020

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
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R-01	Ryan Deiss, Russ Henneberry	Digital Marketing for Dummies	Wiley	2020
R-02	Guy Kawasaki, Peg Fitzpatrick	The Art of Social Media	Portfolio	2015
R-03	Punit Bhatia	Social Media and Mobile Marketing	Wiley	2019

PROGRAM	BBA/BBA(Hons)
SEMESTER	IV
COURSE TITLE	Basics of French Language
COURSE CODE	
COURSE CREDITS	0
COURSE DURATION	28 hours

COURSE OUTCOMES:

- ⌘ To develop a beginner level proficiency in the language
- ⌘ To be in a position to initiate conversation in French
- ⌘ To express their views using simple sentence structure
- ⌘ To be familiar with common French nuances, vocabulary and expressions
- ⌘ To participate in culture exchange programs
- ⌘ To explore options in French speaking countries for higher studies or for immigration
- ⌘ To understand French tradition and culture
- ⌘ To develop self-learning practices

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	<ul style="list-style-type: none"> ■ Greetings and Salutations ■ Colors ■ Numbers ■ Introduction ■ 1st Group verbs : Manger, aimer, parler, écouter, adorer etc. 	9
II	<ul style="list-style-type: none"> ■ Sentences formation (grammar) ■ Ce/Cet/Ces/Cette (grammar) ■ De/de la/du/des (grammar) ■ Quelques objets ■ Negation 	9
III	<ul style="list-style-type: none"> ■ Passe compose (Etre and Avoir) ■ Passe recent (Venir) ■ Futur proche (Aller) ■ Questions using (Est-ce-que and que-est-que) 	10

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Written Test	50%
B	Quizzes	30%
C	Participation	20%

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Marie-Noelle Cocton	Saison 1	Didier; Methode de Francais	Latest
T-02	J. Girardet, J. Pecheur	Echo	Method of French	Latest

Reference Book:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	Mahitha Rajit and Monica Singh	Apprenons le francais : 3	New Saraswati House	Latest

PROGRAM	BBA/BBA(Hons)/BBA(FM)
SEMESTER	IV
COURSE TITLE	Production & Operations Management
COURSE CODE	04BB0401
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

- Understand the relevance of production and operations management in industry.
- Enable the students to manage the productive resources for the growth and competitiveness of any organization.
- To recognize the production management and planning problems.
- Apply principles and techniques in the design, planning and control of these systems to optimize /make best use of resources in achieving their objectives.
- To recognize the production management and planning problems.

- Apply the techniques of inventory management and quality management.
- To analyse and select the most appropriate methods and tools for the solution of problems related to production planning, shop floor scheduling and inventory control

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Internal Marks (50%)		End-Semester Examination (50%)			Total Marks
Theory	Tutorial	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	
4	0	0	4	30	20	50	0	0	100

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction: Meaning, Nature and Scope of Production and Operation Management, Types of production processes	08
II	Plant location and Lay out: Factors considered in location, Types of Layout, PPC (Only concept)	10
III	Materials Management: Importance of Materials Management, Concept of purchasing, principles of purchasing and process of purchasing. Types of purchasing: Inventory management, its prime importance, Inventory Control Techniques - ABC, FSN, GOLF, VED, SOS (only concepts).	12
IV	Methods Study & Maintenance Management: Methods Study, Work Study and Time Study: (only Concept), Maintenance Management: Need of maintenance management, Types of maintenance management	10
V	Quality Management: lean manufacturing, JIT, Kaizen, ISO series, TQM	08

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
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T-01	K. Aswathappa and K. Shridhara Bhat	Production and Operation Management	Himalaya Publishing House	Second Edition
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Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	S.A.Chunawalla and D.R. Patel	Production and Operation Management	Himalaya Publishing House	Ninth Edition
R-02	Kanishka Bedi	Production and Operation management	Oxford higher education	Second Edition
R-03	Mahadevan B	Operations Management	Pearson Education	Second Edition

PROGRAM	BBA/BBA(Hons)/BBA(FM)
SEMESTER	IV
COURSE TITLE	Income Tax Law And Practice
COURSE CODE	04BB0403
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the residential status and tax incidence based on it;
- Calculate income under all the five heads of Income;
- Gain knowledge regarding the exempt income;
- Gain knowledge regarding the deductions from total income;
- Calculate tax payable on taxable income and understand the concept of tax deduction and tax collected at source.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Internal Marks (50%)		End-Semester Examination (50%)			Total Marks
Theory	Tutorial	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	

4	0	0	4	30	20	50	0	0	100
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Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION, RESIDENTIAL STATUS AND EXEMPT INCOME Levy of income tax - Rates of tax & slab - Important Definitions - Relevance and significance of residential status - Types of residential status and its Determination - Incidence of tax based on residential status - Income which do not form part of total income -Conditions to be satisfied for availing exemptions	05
II	INCOME UNDER THE HEAD SALARY & INCOME FROM HOUSE PROPERTY Definition of Salary – Chargeability - Treatment of various Allowances - Perquisites and their valuation - Deductions from gross Salary - Retirement benefits - Provisions regarding Provident Fund - Computation of taxable salary (Practical Problems) Chargeability of income from house property - Composite rent - Annual value and its determination - Deductions from annual value - Deemed ownership - Computation of taxable income under this head (Practical Problems)	15
III	INCOME UNDER PROFITS AND GAINS OF BUSINESS AND PROFESSION & INCOME FROM CAPITAL GAIN Meaning of Business and Profession – Chargeability of income from profits and gains of business and profession - Allowable expenses – Expressly disallowed expenses - Deemed profits and incomes - Computation of taxable income under this head (Practical Problems) Chargeability of income from capital gain - Capital asset – Transfer - Short term and Long term capital assets - Short term and Long term capital gain - Exemptions from long term capital gain - Computation of capital gains (Practical Problems)	16
IV	INCOME FROM OTHER SOURCES AND DEDUCTIONS FROM GROSS TOTAL INCOME Income taxable under other sources - Deductions allowed - Inadmissible deductions - Computation of taxable income from other sources (Practical Problems) Chapter VI-A deductions from the gross total income [Section 80C to 80U]	08
V	TAX PAYABLE, TAX DEDUCTION AT SOURCE & ADVANCE TAX	04

Calculation of taxable income and tax payable Deduction of tax at source under various sections [only those applicable to individual] – Concept of tax collected at source – Liability for payment of advance tax and due dates	
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Note: Any change in the provisions of Income Tax Act, 1961 as per budget or otherwise, shall be respectively made applicable to the syllabus. The syllabus of an academic year shall be the provisions of the relevant Assessment Year.

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Dr. V. K. Singhania and Dr. Monica Singhania	Students' guide to Income Tax (University Edition)	Taxmann	Latest
T-02	Dr. Girish Ahuja and Dr. Ravi Gupta	Direct Tax Law and Practice	Bharat Publication	Latest
T-03	CA. T. N. Manoharan	Direct Tax Laws	Snow White Publication	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Dr. Girish Ahuja and Dr. Ravi Gupta	Practical Approach to Tax Laws and Practice	Bharat Publication	Latest
R-02	Dr. V. K. Singhania and Dr. Monica Singhania	Students' guide to Income Tax	Taxmann	Latest
R-03	Gaur, V. P. & Narang, B. K.	Income tax Law and practice	Kalyani Publishers, New Delhi	Latest
R-04	Prasad, B.	Income tax Law and practice	New Age Publications	Latest
R-05	B.B. Lal and N. Vashisht	Direct tax	I. K. International Publishing House	Latest

PROGRAM	BBA/BBA(Hons)/BBA(FM)
SEMESTER	IV
COURSE TITLE	Management Accounting
COURSE CODE	04BB0408
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the scope of management accounting.
- Understand the importance of marginal costing in decision making.
- Understand the control mechanism on all the element of cost that affect production.
- Understand the changes in operational and financial position of company.
- Understand the role of Budgetary control in framing financial plan.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Internal Marks (50%)		End-Semester Examination (50%)			Total Marks
Theory	Tutorial	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	
4	0	0	4	30	20	50	0	0	100

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Management Accounting Meaning, Definition, Nature, Scope, Functions and Limitations of Management Accounting. Relationship and difference between Management Accounting to Cost Accounting and Financial Accounting. Description of Tools and Techniques in Management Accounting.	7
II	Analysis of Fund Flow and Cash Flow Statement Fund Flow Statement: Meaning and usage of Fund Flow Statement; preparation of fund flow statement (Basic level). Cash Flow Statement (AS-3); Distinction between Fund Flow Statement and Cash Flow Statement, Classification of Cash Flows, Objective and Usage of Cash Flow Statement, Preparation of Cash Flow statement.	12
III	Marginal and Absorption Costing	11

	Marginal Costing- Meaning, Characteristics, Advantages and Limitations. Difference between Marginal Costing and Absorption Costing; Income determination under Marginal Costing and Absorption Costing; CVP/BEP Analysis; Safety Margin and Key factors that involves decision making.	
IV	Budgeting and Budgetary Control Meaning, Objectives, Advantages and Limitations. Essentials of effective budgeting in management process; Installation of Budget System Budgetary Control: Types of budgets preparation, Zero Base Budgeting; Performance Budgeting	08
V	Standard Costing Meaning, Difference between Standard Costing and Budgetary Control, Merits and Demerits of Standard costing, Prerequisite for establishment of standard costing, Efficiency and Activity Ratios, Material, Labor and Overhead Variance.	10

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
T-01	M. N. Arora	Cost and Management Accounting	Vikas Publishing House	10 th Edition
T-02	P.C. Tulsian	Cost and Management Accounting	S Chand	3 rd Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Jawahar Lal	Cost Accounting	Tata McGraw Hill Publication	5 th Edition
R-02	Paresh Shah	Management Accounting	Oxford Publication	2 nd Edition
R-03	Ravi Kishor	Cost Management Accounting	Taxman	6 th Edition
R-04	Bhattacharya	Management Accounting	Pearson Publication	3 rd Edition
R-05	Hilton, Maher and Selto	Cost Management: Strategies for Business Decision	TMH	4 th Edition

PROGRAM	BBA/BBA(Hons)/BBA(FM)
SEMESTER	IV
COURSE TITLE	Environmental Studies
COURSE CODE	04BB0409
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand and realize the multidisciplinary nature of Environment & its components.
- Know the importance of natural resources for the sustainable development of life.
- Understand the effect of growing population on the Environment.
- Classify the different types of pollution and measure to control pollution
- Learn about the Environmental issues faced globally and various steps taken globally to solve such Environmental issues.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Internal Marks (50%)		End-Semester Examination (50%)			Total Marks
Theory	Tutorials	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	
2	0	0	2	30	20	50	0	0	100

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction and Ecology Introduction to Environment, Ecology, Ecosystem Population and Environment Factors Affecting Human Settlement, Define Over Population & Explain the Cause, Effect on Environment & Control of it, Methods of Population forecasting Governmental bodies for Environmental protection	08
II	Environmental Resources Forest resources, Energy resources, Water Resources and Land Resources	12

	Environmental Pollution Water pollution, Air & Noise Pollution, Environmental sinks, solid and hazardous waste, E-waste & Biomedical waste, Introduction to Green chemistry.	
III	Global Environmental Issues Green house Effect, Global warming, ozone layer depletion, Climate change, Acid Rain, Global Efforts to control issues	04

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Erach Bharucha	Environmental Studies	Universities Press (India) Private Ltd, Hyderabad	2 nd Edition, 2013
T-02	Prof Dr N S Varandani	Basics of Environmental Studies	LAP -Lambert Academic Publishing, Germany	2013
T-03	Deeksha Dave & S S Kateva	Environmental Studies	Cengage Publishers	

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Anindita Basak	Environmental Studies	Dring Kindersley(India)Pvt. Ltd Pearson	2009
R-02	Daniel B Botkin & Edward A Keller	Environmental Sciences	John Wiley & Sons	
R-03	R. Rajagopalan,	Environmental Studies	Oxford University Press	
R-04	Benny Joseph,	Environmental Studies	TMH publishers	
R-05	Dr. Suresh K Dhameja,	Environmental Studies	S K Kataria & Sons New Delhi	2007

PROGRAM	BBA/BBA(Hons)
SEMESTER	IV
COURSE TITLE	Entrepreneurship
COURSE CODE	04BB2405
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Comprehend Fundamental Concepts for starting the business
- Apprehend the concepts of industrial environment and preparing a business plan.
- Understand available sources for raising funds for start-ups.
- Comprehend various challenges and possible solutions for starting business units.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Internal Marks (50%)		End-Semester Examination (50%)			Total Marks
Theory	Tutorial	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	
4	0	0	4	60	0	0	40	0	100

Course Contents:

Sr. No	Unit / Sub Unit	Sessions
1	ENTREPRENEURSHIP - AN INTRODUCTION Meaning & Definition of Entrepreneurship, Common History & Entrepreneurial Process, Role of Entrepreneurship in Economic Development of the Nation, Advantages & Drawbacks of Entrepreneurship	06 Hours
2	Who is an Entrepreneur?	02 Hours
3	Micro Lab and Discussion	02 Hours
4	Important aspects of selection of Business Venture	02 Hours
5	Entrepreneurial Opportunities	02 Hours
6	About Banks	02 Hours
7	Success Stories of Entrepreneurs	02 Hours
8	About District Entrepreneurship centre	02 Hours

9	Who can be contacted for what	02 Hours
10	Market Survey	02 Hours
11	Marketing Management	02 Hours
12	Factory Visit	-
13	Project Report	06 Hours
14	Accounting System	02 Hours
15	General Management	02 Hours
16	Personnel Management	02 Hours
17	Financial Management	02 Hours
18	Fixed and Working Capital	02 Hours
19	Loan Application and Understanding of Lending Procedures	02 Hours
20	Computer in Business	02 Hours
21	Achievement Motivation Training	02 Hours
22	Feedback	

SUGGESTED READINGS:

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	J. Girardet	A1 ECHO Methode de francaise	CLE International	Latest
T - 02	J. Girardet	Cahier Personnel D'apprentissage	CLE International	Latest

PROGRAM	BBA/BBA(Hons)/BBA(FM)
SEMESTER	IV
COURSE TITLE	Management Of Services
COURSE CODE	04BB0406
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand service marketing and utilize them effectively in managing products and people to achieve organizational objectives.
- Apply knowledge of models and theories to promote the effectiveness in workplace
- Provide a framework for analysing consumer behaviour, for offering co-creating value and delivering services.
- Understand and apply the most common quality analysis tools and techniques.
- Understand the opportunities that information technology can have for enhancing service firms competitiveness.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Internal Marks (50%)		End-Semester Examination (50%)			Total Marks
Theory	Tutorial	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	
4	0	0	4	30	20	50	0	0	100

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO SERVICES: Introduction to Services, Nature & Characteristics of Services, Classification of services, Consumer Versus Industrial Services	08
II	SERVICES MARKETING MIX : Introduction to the 7P's of Service Marketing, Product-Service Continuum, Standalone service Products, Service Products bundled with tangible Products	10
III	CUSTOMER SATISFACTION & SERVICE QUALITY Monitoring and measuring customer satisfaction, Order taking and Fulfillment, Service Guarantee – Handling complaints effectively, Defects, failures & Recovery, Service Quality Models – GAPS Model & SERQUAL	12
IV	TECHNOLOGY & SERVICE STRATEGY : Applying Technology to service settings, e- services, Global and Indian Scenario in service sector, Importance of Service marketing, Every business is a service business, Service as a key differentiator	08
V	TYPES OF SERVICES : Introduction to Various Service Sectors : Hospitality; Transportation; Tourism; Information Technology; Banking & Insurance; Telecom ; Entertainment	10

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Rajendra Nargundkar	Services Marketing	McGraw-Hill	3 rd Edition(2010 Publication)
T-02	Zeithaml, Bitner, Gremler & Pandit	Services Marketing	McGraw-Hill	2018
T-03	R. Srinivasan	Services Marketing	Prentice-Hall of India	3 Ed/2010

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	Christopher Lovelock	Services Marketing	Pearson	6 Ed/ 2007
R-02	Rampal & Gupta	Services Marketing	Galgotia	2005

PROGRAM	BBA/BBA(H)/BBA(FM)
SEMESTER	IV
COURSE TITLE	Mathematics for Business
COURSE CODE	04BB0410
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand applications of Basic Mathematics to solve real life problems.
- Evaluate the framework of Matrix Algebra as well as its usefulness for solving linear equations.
- Integrate and apply knowledge on Elementary Calculus of first order and second order derivative.
- Apply rules of Calculus – derivatives and integration in solving business problems.
- Apply various Mathematical computations in Finance.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Internal Marks (50%)		End-Semester Examination (50%)			Total Marks
Theory	Tutorial	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	
4	0	0	4	30	20	50	0	0	100

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Basic Mathematics -Theory of Indices: Definition, types of indices, properties of indices, basic problems on indices. Equations: Types of equations, solving linear simultaneous equations and Quadratic equations with one variable. Permutations and Combinations: Definition, basic problems on permutations and combinations.	10
II	Matrix Algebra - Definition, types of matrices, Scalar Multiplication of Matrix, Equating of Matrices, Matrix operations: Addition, Subtraction and Multiplication; Transpose of Matrix, Determinant of matrix, Inverse of Matrix, Solution of Linear equations using Matrix Inversion method.	10
III	Elementary Calculus - Differentiation: Definition, rules of differentiation, logarithmic differentiation, (First order and Second order derivative).	08
IV	Application of Calculus -Elasticity of demand, Average revenue, Marginal revenue, Average cost, Marginal cost, Total cost, Maximum revenue, Minimum Cost, Maxima & Minima in perfect competition and monopoly. Integration: Definition, some standard rules of integration, integration by substitution, integration by parts.	12
V	Mathematics of Finance - Simple interest, Compound interest, Annuity, Concept of present value and amount of sum types of annuities, present value and amount of an annuity including the cases of continuous compounding, problems relating to sinking fund.	8

Note:

1. Proofs of theorems and derivations of formulae are excluded.
2. Trigonometric functions, Inverse Trigonometric functions are excluded.

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	P. Mariappan	Business Mathematics	Pearson	2 nd edition, 2012

T-02	P. Hazarika	A Textbook of Business Mathematics	S. Chand	3 rd edition, 2014
T-03	D C Sancheti and V K Kapoor	Business Mathematics	Sultan Chand and Sons	3 rd edition, 2010

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	A. Dikshit and J. Jain	Business Mathematics	Himalaya Publishing House	2 nd edition, 2014
R-02	Zamarudeen and Qazi	Business Mathematics	Vikas Publishing	3 rd edition, 2015
R-03	Trivedi Kashyap	Business Mathematics	Pearson Education	2 nd edition, 2016

PROGRAM	BBA/BBA(Hons)/BBA(FM)
SEMESTER	IV
COURSE TITLE	International Business
COURSE CODE	04BB0411
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Study the environmental variables that affect world trade.
- Describe the policies and strategies that can lead to successful global trade.
- Evaluate present and future opportunities and risks for international business activities.
- Develop analytical skills which will help them enhance greater understanding towards world trade.
- Make student understand how the global risks are interconnected.
- Identify and evaluate the complexities of world trade and globalization from home versus host-country, regional, and cultural perspectives.

Teaching and Examination Scheme

Teaching Scheme (Hours)	Credits	Internal Marks (50%)	End-Semester Examination (50%)	Total Marks
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Theory	Tutorial	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	
4	0	0	4	30	20	50	0	0	100

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Overview of Globalization: Drivers, Changing Demographics of the Global Economy, Managing the Global Marketplace, Country Differences Political, Legal, Economic, Social, Technological & Demographics, Micro and Macro business Environment Difference in Cultural Aspects, Values & Norms, Social Structure Language, Education ways to enter Foreign Market, Ethics in international business Dilemmas, Roots of Unethical Behavior, Ethical decision making.	12
II	Global Trade and Investment Environments Trade Theories: -Mercantilism, Absolute & Comparative advantage, Heckscher- Ohlin theory, Porter's Diamond model, Foreign Direct Investments, Benefits of FDI Regional Economic Integrations like European Union, NAFTA, MERCOSUR, CARICOM, Association of Southeast Asian Nation.	10
III	Global Monetary Systems. Foreign Market nature & functions, Exchange Rate Determination, Forecasting & Currency Convertibles, Bretton wood systems, GATT, IMF & WTO, Ways to Enter Market Strategy and Structure, Global Expansion, Profitability & Profit Growth, Organizational Structure & Cultures, Control systems, Incentives & Changes. Basic entry Decisions, & Modes.	12
IV	Business Operations Managing Global Supply Chains, International Logistics Practices, global marketing and R & D, Global Human Resources Management International Labor Relations, Accounting and Financial Issues.	10
V	Global Risk Analysis: - Context base discussion of each issue:- Natural and Man-made disasters, Energy price shocks, Large scale involuntary migrations, Weapons of mass destruction, Terrorists attacks, Failure of national governance, Cyber-attacks.	04

Note: - Unit V should be taught by concern faculty, taking into consideration current happening

at globallevel.

SUGGESTED READINGS:

Text Books: -

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
T-01	Charles W L hill Arun K Jain	International Business	Mc-Graw-Hill Companies	10 th Edition
T-02	Daniels John, D. Lee H. Radebaugh and David P. Sullivan.	Internationa IBusiness	Pearson Education	15 th Edition

Reference books: -

Sr · N o	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Cherunilam, Francis	International Business:	Prentice Hall of IndiaLtd.	5 TH Edition
R-02	Mike Peng and DeepakSrivastava	Global Business	CengagePublications	1 st Edition
R-03	Apte, P.G	International Financial Management	Tata McGraw Hill.	6 th Edition
R-04	Subhash C. J	InternationalMarketing,	CengagePublications	3 rd Edition

Suggested Readings:-

1. UNCTAD Reports.
2. WTO, Annual Report, various issues.
3. RBI. Report on Currency & Finance, various issues.
4. Economic Survey, Govt. of India.
5. Export-import Policy and Other Documents, Govt. of India.
6. <https://www.mckinsey.com/>
7. https://www.youtube.com/watch?v=UNmsz6_EMJM.
8. <http://www.csis.org/gsi> for globalization think tank.

MARWADI UNIVERSITY

Subject Code: 04BB0506

Credits: 4

Guideline

Internship

(BBA/BBA (H)/BBA(FM)- Sem – V



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INTERNSHIP (04BB0506)(BBA/BBA (H)) Content

Components

A project report should contain the following parts in the order shown:

- ☛ Fly page (1 Blank Pages)
- ☛ Title page (please see sample, Annexure I), containing: (1 Page)
 - The project title;
 - The full name of the Candidate/s, enrollment no/s. and Guide name/s;
 - The degree for which the project is submitted;
 - The name of the University, i.e. Marwadi University
 - The month and year of submission
- ☛ Student Declaration (1 Page) (Annexure II)
- ☛ College Certificate (1 Page) (Provided by Guide/Supervisor)
- ☛ Company Certificate (1 Page)
- ☛ Preface (1 Page)
- ☛ Acknowledgement (1 Page)
- ☛ Executive Summary (1 Page)
- ☛ Table of Content (1 Page)
- ☛ Introduction and History of Company (15 to 20 Pages)
- ☛ Vision & Mission of Company (2 Pages)
- ☛ Organization Structure (1 to 2 Pages)
- ☛ Departmental Study (15 to 20 Pages)
 - Marketing Department
 - Finance Department
 - Human Resource Department
 - Production Department
 - Accounting Department
 - R & D Department etc...
- ☛ SWOT Analysis (2 to 4 Pages)
- ☛ Overview of Industry & Major Players (4 to 5 Pages)
- ☛ Porter's Five Force Model Analysis of Industry (2 to 4 Pages)
- ☛ Learning form Internship (1 to 2 Pages)
- ☛ Conclusion (1 Page)
- ☛ Bibliography (1 Page)
- ☛ Annexure (if Any) (1 Page)

Language, Style and Format

- ☛ Language
 - Project should be written in English.
- ☛ Final Version
 - The final version of the project must be free from spelling, grammatical and other errors when submitted.

Specification for Project Report

1	Paper Size	International A4, not less than 75 gsm white paper
2	Margins	Left - 1.5" Right - 0.75" Top and Bottom - 1.0"
3	Line Spacing	10 to 12 characters per inch must be used with 1.5 line spacing.
4	Paragraph Spacing	Double Lines/Vertical space of around 12 points should be left between the section title line and the first paragraph of each section and subsections, start without any indentation, In single column format with full justification.
5	Pagination	At bottom–Center Beginning with the first page of chapter 1 (Introduction) to all pages shall be numbered consecutively using Arabic numerals (i.e. 1,2,3) From the title page to the page before the chapter 1 starting page, shall be lower case Roman numerals (e.g. i, ii, iii etc.) No Page Number on Title Page
6	Chapter(s):	New Chapter on New Page font size of 20 should begin with an additional top margin of 30 mm (total 55 mm) Capitalize the first letter all the words. Use boldface letters and numbers only
7	Sections and Subsections (left aligned)	A vertical space of around 36 point should be left between the chapter heading and the title of the first section of every chapter. For all subsequent sections/subsections, leave a vertical space of around 24 points before the section/subsection headings. For example, say the first and second sections in chapter 5 shall be numbered as 5.1 and 5.2, respectively. Likewise, the third subsections of sections 1 and 2 in a chapter 4 shall be numbered as 4.1.3 and 4.2.3, respectively. Same style as in chapter heading but with font size of 14 and 12 for section and subsections,
8	Font Type	Times New Roman
9	Font Size(FS)	For normal–12
10	Bold/Italic/Underline	Should be used for specific purposes only
11	Alignment	Page Justify

12	Tables/Graphs/Diagrams/figures Equations	All tables, figures, and equations must be numbered sequentially and chapter-wise using Arabic numerals. It must reflect the chapter number also, e.g. 2.1, 6.25 etc. e.g., Figure 2.1, Table 3.2. While a caption (figure number) should be placed below the figure, a caption (table number) should be placed above the table Images, Photographs, etc. must be scanned in resolution at least 600 dpi.
13	Figures and Illustrations	Figures, tables, etc., should be positioned according to the scientific publication conventions of the discipline.
14	Borders	NO
15	Header/Footers	Single Line (as per this page) Footer (as per this page): Left side Marwadi University, Rajkot, Right Side Pg. No “NO header/footer on Title page”
16	Word Breaking	No word Breaking
17	Printing	Single side only
18	Report Binding	Hard Bound Cover–BlackColor Writing–Golden color only
19	Copies of the Report	Hard Bound: Total 2 Copy (one for Student, one for Dept. Records) Soft: 01Copy PDF.

References & Bibliography

All references must be cited in the text by the reference number using superscripts. No links between superscripts in the text and actual references in the Reference Sections may be used. Notes may be used to cite manuscripts in preparation,

Unpublished observations and personal communications. References cited should follow the style given below example:

PAPERS

1. Thiel WJ and Nguyen LT, “Fluidized bed film coating of an ordered powder mixture to produce micro encapsulated ordered units.” *J. Pharm. Pharmacol.* **1984**, *36*, 145-152.
2. Isyumov N, “Criteria for acceptance of wind induced motions of tall buildings”, International Conference on Tall buildings, Rio De Janeiro, CTBUH, 2003.

WEB SITE

1. Boggs, D, “Acceleration and Drift due to Gust forces”, accessed on 10 July 2009, www.cppwind.com/papers/structural/PEAKvsRMS.pdf

BOOKS

1. Pelzar MJ., Chan ECS., and Krieg NR. In Microbiology; 5th Edn; Tata McGraw Hill Publishing Company Limited, New Delhi, 1993, pp 536.

DISSERTATIONS/PROJECTS

1. Vaishnav D.K, PhD Thesis, “.....” Marwadi University, July 2012.
2. Pathak VK. Ph.D. Thesis, “.....” Gujarat University, 1979.

ANNEXURE - I

[SAMPLE TITLE PAGE]

[Project Title]

(5 blank lines)

By

(single line)

[Your name as found in official MU records - your enrollment number]

(two lines)

[Guide name]

(3 blank lines)

A Project Submitted to

Marwadi University in Partial Fulfillment of the Requirements for the [Degree name] in
[Name of Program/Branch]

(3 blank lines)

Month and Year



MARWADI UNIVERSITY

Rajkot-Morbi Road, At & Po. Gauridad,
Rajkot-360003, Gujarat, India.

ANNEXURE - II

STUDENT DECLARATION

I hereby declare that this project Report titled _____
_____ submitted by me to the Faculty of
Liberal Studies, Marwadi University is a bonafide work undertaken by me and it is not
submitted to any other University or Institution for the award of any degree diploma /
certificate or published any time before.

Date: DD/MM/YYYY

Place: Rajkot

Signature of the Student

[Name of Student]

[Enrollment No.]

Evaluation Scheme

Internship consists of 4 Credit, 100 marks and shall be evaluated on two components i) Internal Assessment & ii) Viva.

Particular	Weightage (%)	Conducted By
Internal Assessment (CSE)	50%	Supervisor/ Guide
Viva Voce	50%	Viva Panel

I. **Internal Assessment** shall consist of 50 marks, which will be carried out by supervisor/guide.

II. **Viva Voce** shall carry 50 marks and will be conducted by a Panel of two examiners.

Duration & Time Period

☛ Duration of Internship: Minimum 15 Days and Maximum 30 Days.

☛ Internship must be in between 10th May 2018 to 20th June 2018.

Reporting Schedule

Sr. No.	Review	Particular	Marks
1	First Review (After 10 Days of Commencement of Internship)	<ul style="list-style-type: none"> ☛ Introduction and History of Company (15 to 20 Pages) ☛ Vision & Mission of Company (2 Pages) ☛ Organization Structure (1 to 2 Pages) ☛ Departmental Study (15 to 20 Pages) <ul style="list-style-type: none"> • Marketing Department • Finance Department • Human Resource Department • Production Department • Accounting Department • R & D Department etc... 	15
2	Second Review (within two days after completion of Internship)	<ul style="list-style-type: none"> ☛ SWOT Analysis (2 to 4 Pages) ☛ Overview of Industry & Major Players (4 to 5 Pages) ☛ Porter's Five Force Model Analysis of Industry (2 to 4 Pages) ☛ Learning form Internship (1 to 2 Pages) ☛ Conclusion (1 Page) 	15
3	Third Review (Within 10 Days after Completion of Internship)	Final submission of Internship Report to Supervisor (Soft Copy)	20

PROGRAM	BBA/BBA(H)/BBA(FM)
SEMESTER	V
COURSE TITLE	Operations Research
COURSE CODE	04BB1501
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Develop the skill and ability to translate a given real-life situation into linear programming problem.
- Apply graphical method in solving linear programming problem and understand the concept of duality.
- Apply transportation method in solving business problems.
- Apply assignment method in appropriate situation to resource allocation problems.
- Analyze the problems such as queue management using the tools of queuing theory and Simulation.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Internal Marks (50%)		End-Semester Examination (50%)			Total Marks
Theory	Tutorial	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	
4	0	0	4	30	20	50	0	0	100

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Basics of Operations Research (OR) <ul style="list-style-type: none"> ■ Introduction, Concepts, Definition, Characteristics, Potential Applications ■ Steps in OR Problems, Basic Operations Research Techniques, Role of Computers in OR Linear Programming Problem (LPP) 1 – Formulation: <ul style="list-style-type: none"> ■ Introduction to Linear Programming, Applications of LPP ■ Requirements and Assumptions Underlying LPP ■ Generalized Linear Programming Problems, LPP Model Formulation – Maximization and Minimization Problems (Max 3-Variables and 4-Constraints) 	08
II	Linear Programming Problem (LPP) 2 – Graphical Method: <ul style="list-style-type: none"> ■ Concept of Feasible Region, Solution of LP Problems using Graphical Method ■ Maximization and Minimization Problems (Max 4-Constraints) ■ Special Cases in LPP – Multiple or Alternate Optimum Solutions, Unbounded Solution and Infeasible Solution 	12

	<p>Concept of Duality:</p> <ul style="list-style-type: none"> ■ Introduction to Duality, Relation between Primal Problem and Dual LPP ■ Conversion of Primal Problem to Dual LPP, <p><i>Note: Max 3-Variables and 3-constraints, Mixed-constraints and Unrestricted Variables.</i></p>	
III	<p>Transportation Problem (TP)</p> <ul style="list-style-type: none"> ■ Introduction, Structure of TP ■ Solution of TP – Initial Feasible Solution (IFS) using North West Corner Method (NWCM), Least Cost Method (LCM) and Vogel's Approximation Method (VAM) ■ Finding Optimal Solution using MODI Method ■ Types of Transportation Problem – Balanced and Unbalanced, Minimization and Maximization ■ Case of Degeneracy and Prohibited or Restricted Route, Unique Optimum Solution and Multiple Optimum Solutions <p><i>Note: Max 4X4 Transportation Matrix, MODI Method - Maximum One Iterations after IFS, Degeneracy to be covered at Conceptual Level, Not to be Included in Numerical</i></p>	10
IV	<p>Assignment Problem (AP)</p> <ul style="list-style-type: none"> ■ Introduction, Structure of AP, Solution of AP using Hungarian Method ■ Types of Assignment Problems - Balanced and Unbalanced, Minimization and Maximization ■ Restricted Assignment, Unique Optimum Solution and Multiple Optimum Solutions ■ Travelling Salesman Problem <p><i>Note: Max 5X5 Assignment Matrix, Maximum Two Iterations after Row and Column Minimization</i></p>	08
V	<p>Probabilistic Operations Research Models</p> <p>Waiting Line Models:</p> <ul style="list-style-type: none"> ■ Queuing Models – Concepts, General structure of a queuing system ■ Single-channel queuing model: Poisson-distributed arrivals and exponentially distributed service times with infinite source population. M/M/1 queuing models <p>Digital Simulation:</p> <ul style="list-style-type: none"> ■ Introduction, Areas of Applications ■ Steps involved in Monte Carlo Simulation, Application of Simulation Method, Advantages and Disadvantages of Simulation, Application in Queuing, Inventory, Profitability and Investment problems 	10

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book		Publisher	Edition and Year
		PROGRAM	BBA/BBA(Hons)		
T-01	J K Sharma	SEMESTER	Operations Research	TRINITY Press	3 rd edition, 2014
		COURSE TITLE	Strategic Management		
T-02	Barry Bendorf, Ralph M. Stair, Jr., Michael E. Housh, T N Bhatti	COURSE CODE	Quantitative Analysis for Management	Pearson	3 rd edition, 2012
		COURSE CREDITS	04		
		COURSE	48 Hrs (48 sessions of 60 minutes each)		

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	N D Vohra	Quantitative Techniques in Management	Tata McGrawHill	2 nd edition , 2014
R-02	V K Kapoor	Operations Research	Sultan Chand and Sons	2 nd edition, 2010

COURSE OUTCOMES: This course aims to,

- To understand various perspectives and concepts in the field of Strategic Management
- To demonstrate the knowledge and abilities in formulating strategies and strategic plans
- To analyze the principles of strategy formulation, implementation and control in organizations.
- To analyze the competitive situation and strategic dilemma in dealing with dynamic global business environment in terms of rapidly changing market trends and technological advancement
- Analyze and evaluate critically real-life company situations and develop creative solutions, using a strategic management perspective.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Internal Marks (50%)		End-Semester Examination (50%)			Total Marks
Theory	Tutorial	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	
4	0	0	4	30	20	50	0	0	100

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Strategy: Introduction to Strategy, Levels of Strategy, Difference between Policy, Strategy and Tactics. Vision, Mission & goals (Concept & difference) Strategic Management: Definition, Process of Strategic Management. Case studies	8
I I	Environment Analysis: Concept of Environment, Internal & External. SWOT Analysis, External Environmental Scanning, Internal Environment: Factors & Methods of analysis. Case studies.	10
II I	Strategy Formulation: Business Level Strategy: Generic Business Level Strategy, Cost Leadership, Differentiation & Focus, Business Strategy for different industry conditions. Corporate Level strategy: Concentration, Integration, Diversification, Internalization Strategies, M&A, Joint Venture, Strategic alliance. Digitalization Strategies, Retrenchment & Restructuring (Only concepts). Case studies.	12
I V	Strategy Implementation: Strategy Implementation, Nature & Barrier to strategy implementation, Functional plans for Implementation of strategy, Strategic Leadership: Meaning & Significance of Strategic Leadership, Characteristics of good Leader. Case studies	10
V	Strategic Control: Meaning, Definitions, Strategic Control V/s Operational Control, Techniques of Strategic Evaluation & Control. Corporate social responsibility. Case studies	8

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Azhar Kazmi	Strategic Management and Business Policy	Tata McGraw Hill Publications	3 rd Edition
T -02	Subba Rao	Strategic Management	Himalaya Publication	2 nd Edition
T-03	Hitt, M., Ireland, R. and Hoskisson, R. [H.I.H]	“Strategic Management: Competitiveness and globalization – Concepts”	Southwestern College Publishing	11 th Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of
R-01	John A. Pearce II, Richard B.	Strategic Management	Tata McGraw Hill Publications	8 th Edition
R-02	Adrian Haberberg and Alison Rieple	Strategic Management	Oxford University Press	1 st Edition
R-03	V S Ramaswami, S Namaumari	Strategic Planning & Formulation of	Macmillan, India	1 st Edition

PROGRAM	BBA/BBA(H)
SEMESTER	V
COURSE TITLE	Management of Financial Markets
COURSE CODE	04BB0507
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understanding the fundamentals of financial markets and to analyze various instruments that are traded in such markets.
- Analyze the capital market and to understand its functioning system.
- To measure the importance of various money market instruments.
- Examine the various Debt market instruments and learn about Government securities
- To identify the need and relevance of Repo market and Foreign Exchange market
- To understand the role of regulators in management of financial markets

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Internal Marks (50%)		End-Semester Examination (50%)			Total Marks
Theory	Tutorial	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	
4	0	0	4	30	20	50	0	0	100

Course Contents:

Unit No	Unit / Sub Unit	Sessions
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I	Financial Markets: Meaning, Definition, Functions, Classification, Key players in financial market (Stock Exchange, Brokers, Dealers, Traders, Depositories, Clearing corporation), Security Exchange Board of India.	8
II	Capital Market: Overview, Function of capital market, Primary market reforms, Issues in capital market, secondary market reforms, Capital market scams Primary Market: Mechanism in India, Initial Public Offer (IPO), Methods of IPO (type of IPO), eligibility norms, Book Building Process, Limitations Reverse book building, Green shoe option Secondary Market: Meaning, Function of Secondary, Post reforms stock market scenario, organizational structure of stock exchanges, listing of securities, trading and settlement, Internet trading, Stock Market Indices (Nifty & Sensex)	15
III	Money Market: Meaning, Development Money market in India, Money market instruments, Money market intermediaries	7
IV	Debt Market: Meaning, history and characteristics of debt market, participants in the debt market, private corporate debt market, measures to boost liquidity in the secondary market Government securities market: Introduction, Trading in Government Securities, Evolution, Role, Significance of Government securities markets, Functions, Salient feature of government securities, Forms of Government Securities, Operation in government security market	8
V	Repo-Market: Definition, REPO and Reverse Repo, Repo Instrument, Bank Rate and Repo rate, Usage of Repo Foreign exchange Market: Function, Foreign Exchange Dealers Association of India, Instruments of Credit Traded, Asian Clearing Union, FSLRC, Finance Code	10

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M Y Khan	Financial Services	Mcgraw Hill Education	8 th edition, 2015
T-02	Bharti V. Pathak	The Indian Financial System	Pearson Education India	5 th edition, 2018

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Vasant Desai	Financial Markets & Services	Himalaya Publication	2 nd edition, 2018
R-02	L M Bhole & Jitendra Mahakud	Financial Institutions and Markets: Structure, Growth & Innovations	McGraw-Hill Education	6 th edition, 2017
R-03	Shashi K. Gupta, Nisha Agrawal and Neeti Gupta	Financial Services	Kalyani Publishers	6 th edition, 2018
R-04	K.Sasidharan and Alex K Mathews	Financial Services & System	Tata Mcgraw	8 th edition, 2008
R-05	M Y Khan	Indian Financial Systems	Tata McGraw-Hill Education	11 th edition, 2019

PROGRAM	BBA/BBA(H)
SEMESTER	V
COURSE TITLE	Fundamentals of Banking
COURSE CODE	04BB1508
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- To comprehend role of banks in Indian financial system.
- Analyze the role of central bank as controller of state's currency and interest rates.
- Understand the wider range of functions done by Scheduled commercial banks in India.
- Apply their understanding for procuring loans from bank and the security requirement.
- Apply the Understanding of bank and customer relationship to gather the remedies available in case of breach of duties.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Internal Marks (50%)		End-Semester Examination (50%)			Total Marks
Theory	Tutorial	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	
4	0	0	4	30	20	50	0	0	100

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Overview of Indian Banking System: -Bank: Definition and Characteristics, -Banks Indian Banking System: Evolution - Nationalization of Banks -Structure of Banks in India - Types of Banks - Recent Reforms In Indian Banking - International Security Issues In Banking Systems.	12
II	Central Banking in Indian: -Central Bank: meaning & Definition and - The Principle of Central banking - History of central bank of India – constitution/ organization structure - Functions of central bank - Methods of Credit control: meaning, benefits and limitations of each of the methods of credit control. Monetary Policy: Meaning - Objectives: Price stability or control of inflation, Economic growth, Exchange rate stability –Instruments/ Tools of Monetary policy - Limitations of Monetary Policy.	12
III	Commercial Banking & Licensing of Banking Companies – Functions of commercial bank - Type of Banking - Balance sheet of commercial: liabilities and asset structure - Need for Sound Banking System -Role Of Banks in Economic Development- Various Deposit Schemes – Constitution of Banks - Licensing of Banking Companies; Branch Licensing	10
IV	Loans and Advances Principles of Lending - Different Types of Borrowers - Types of Credit Facilities: Cash Credit, Overdraft, Demand Loans, Term Loans, Bill Finance - Securities for Banker's Loan -Attributes of Good Security (MAST Principle)- Bank Guarantees- Types of Bank Guarantees, - Non Performing Assets : Definition, Classification of Bank Advances on basis of Performance	8
V	Banker- Customer Relationship Customer -Types Of Customers - Classified Of Banker Customer Relationship- Obligations Of A Banker- Garnishee Order And Attachment Order -Rights Of A Banker - 'Know Your Customer' (KYC) Guidelines Of The RBI- Termination Of Banker-Customer Relationship	6

SUGGESTED READINGS:

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M.L.Tannan	Banking Law and Practice	LexisNexis	27 th edition, 2017
T-02	MacMillan Publishers	Principles and Practices of Banking	MacMillan Publishers	5 th edition, 2021
T-03	E. Gordon & K. Natarajan	Banking : Theory, Law & Practice	Himalaya Publishing House	25 th Edition, 2017

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and
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				Year of Publication
R-01	Iyengar, Vijayaragavan	Introduction to Banking	Excel Book	1 st Edition, 2007
R-02	Gordon & Natarajan	Banking Theory, Law and Practice	HPH	3 rd Edition, 2012
R-03	K C Shekhar & Lekshmy Shekhar	Banking Theory and Practice	S.Chand and Company	21 st Edition, 2013
R-04	Macdonald Scott S. Koch, Timothy W.	Management of Banking	Cengage Learning	7 th Edition, 2009
R-05	Nadar E Narayanan	Money and banking	PHI	1stEdition, 2013



PROGRAM	BBA/BBA(H)
SEMESTER	V
COURSE TITLE	Labour Welfare & Social Security
COURSE CODE	04BB1511
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES: This course aims,

- ✦ To understand the features and objectives of Labour welfare.
- ✦ To get knowledge on new development and the judicial setup of Labour Laws in India.
- ✦ To analyses the need for different organized and unorganized Labour groups and legal provisions related to them.
- ✦ To analyses statutory and non-statutory welfare measures in India.
- ✦ To critically evaluate laws relating to Social Security and Working conditions with regards to enquiry in procedural and industrial discipline.
- ✦ To understand contribution of ILO in promoting welfare and social security in India and at Global level.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Internal Marks (50%)		End-Semester Examination (50%)			Total Marks
Theory	Tutorial	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	
4	0	0	4	30	20	50	0	0	100

Course Contents:

Unit	Unit / Sub Unit	Session
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No		S
I	Labour Welfare: Introduction of Labour welfare, Objectives of Labour Welfare, Need and Scope of Labour welfare, Historical Development of Labour Welfare in India, Theories of Labour welfare: The Police Theory, The Religious Theory, Philanthropic Theory, Trusteeship Theory, The Placating Theory, Public Relations Theory, The Functional Theory. Statutory and Non statutory schemes of Labour welfare, Extra Mural and Intra Mural. Welfare Officer: Role, Status and Functions.	10
II	Welfare of Special Categories of Labour: Child Labour, Female Labour, Contract Labour, Construction Labour, Agricultural Labour, Differently abled Labour, BPO & KPO Labour, Agencies of Labour welfare in India (Central govt. , State govt., Employers & Trade Unions)	10
III	Social Security: Introduction, Evolution and institutional growth, definition and objectives of Social security, Essential requirement of Social security, Growth and overview of social security in India. Social Insurance and Social Assistance - Its meaning, significance and differences, Financing of social security, concept of employer's Liability. The code on Social Security, 2020.	10
IV	Social Security Legislation in India The Industrial Relations Code 2020, Overview of Employee's Compensation Act 1923, Employees State Insurance Act, 1948, Maternity Benefit Act, 1961, Factories Act, 1948, Employee's Provident Fund Act of 1952, Payment of Gratuity Act, 1972.	10
V	International Labor organization & Social Security: International norms on social security for Labour: the ILO Conventions and Recommendations on Social Security, Comparison of minimum standards of ILO and standards envisaged in Indian Legislation, Law and Practices in Comparative Perspectives In India, UK and USA.	08

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Ravi Prakash Yadav	Social Security In India	Aaviskar publishers	2014
T-02	Dr. A.M. Sarma, Prof. Pulapa Subba Rao	Employee Welfare and Social Security	Himalaya Publication	2014

T-03	P.K. Padhi	Labour and Industrial Laws	PHI Publications private Limited	4 Ed/2019
T-04	P.R.N.Sinha, S. P.Shekhar / InduBala	Human Resource Management	Cengage	2016

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of
R-01	C.S. Venkata Ratnam	Industrial Relations	Oxford University Press	2017

PROGRAM	BBA/BBA(H)
SEMESTER	V
COURSE TITLE	Compensation Management
COURSE CODE	04BB1512
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES: This course aims to,

- Understand a pay system that is consistent for employees within the organization.
- Analyse the effect of Job Design and Job Evaluation on Compensation.
- To be able to explain the effect of compensation on motivation of employees.
- Identify and describe a variety of reward systems used for various groups in an organisation.
- Implement and administer a compensation system according to the firm's policies and the legal requirements.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Internal Marks (50%)		End-Semester Examination (50%)			Total Marks
Theory	Tutorial	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	
4	0	0	4	30	20	50	0	0	100

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Concept of Compensation Introduction to Compensation Management, Compensation Management: The Indian Context, Employee Compensation and the Labour Market, Economic Theories and Compensation Management.	10
II	Benefits and Relationship of Compensation with Motivation, Job Design and Job Evaluation Employee Benefits, Employee Motivation and Compensation, Compensation Management and Job Design, Compensation Management and Job Evaluation.	10
III	Types of Compensation Financial Rewards, Non-Financial Rewards, Performance-related Compensation, Team-based Compensation, Bonus Schemes	9
IV	Rewarding Special Groups and Strategic Compensation Management Executive Compensation, Sales Compensation Plan, Knowledge Workers Compensation, Rewarding Manual Workers, Compensation for Expatriates and Repatriates	10
V	Managing Rewards and Strategic Compensation Management Managing Rewards, Legal and Taxation Issues on Employee Compensation, Strategic Compensation Management, Quantitative Tools, and Innovation in Compensation	09

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Dipak Kumar Bhattacharyya	Compensation Management	Oxford	2 nd Edition
T-02	B.D.Singh	Compensation & Reward Management	Excel	2 nd Edition
T-03	Micheal Armstrong	Armstrong's Handbook of Reward Management Practice	Kogan Publication	5 th Edition

Reference books

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
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R-01	Terence Jackson	International Human Resources Management a Cross-Cultural Approach	SAGE	2 nd Edition
R-02	MonirTayeb	International Human Resource Management	Oxford	2 nd Edition

PROGRAM	BBA/BBA(H)
SEMESTER	V
COURSE TITLE	Consumer Behavior
COURSE CODE	04BB0509
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Identify the dynamics of human behaviour and the basic factors that influence the consumers decision process
- Demonstrate how concepts may be applied to marketing strategy.
- Evaluate the effectiveness of various advertisement and promotions and their attempts to influence the behaviours of individuals.
- Analyze the trends in consumer behaviour, and apply them to the marketing of an actual product or service.
- Able to evaluate the principal theories of consumer behaviour and critically assess strengths, limitations and applications to the marketing of an actual product or service.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Internal Marks (50%)		End-Semester Examination (50%)			Total Marks
Theory	Tutorial	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	
4	0	0	4	30	20	50	0	0	100

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Consumer Behavior: Introduction, Consumer Behaviour - Definition - Nature and Scope of Consumer Behaviour – STP (Segmentation, Targeting, Positioning) – Customer Based Brand Equity (CBBE) Model.	10

II	Psychographic Factors Affecting Consumer Behavior: Lifestyle, Opinions, Perception, Learning, Attitude, VALS model. Generation Analysis Indian perspective: Gen X , Gen Y & Gen Z.	10
III	Consumer Choice Analysis: Consumer Comparisons - Categories of Consumer Choice processes; Affective based choice, Attribute based choice, Attitude based choice Socio-Cultural Influences On Consumer Behavior Family and Social Class, Family life cycle, Influence of Culture on Consumer Behaviour, Cross-cultural Consumer Behaviour, Diffusion of innovation	10
IV	Consumer Decision Making: Consumer buying process - Impact of technology on consumer behavior Online buyer behavior : Characteristics, Difficulties and Challenges - Post purchase Processes, Customer Satisfaction, and Customer Commitment - The impact of branding on consumer decision making.	10
V	Consumer Protection (Rights of Consumers): Consumer Protection Bill – 2018 , Consumerism, Consumer Forums, FSSAI, Hallmark, UNCTAD (Concepts)	08

SUGGESTED READINGS:

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Loudon and DellaBitta	Consumer Behaviour	Tata McGraw Hill	2011
T02	Schiffman L. Kanuk L.	Consumer Behaviour	Tata McGrawHill	2011

Reference Books

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Blackwell and Engel	Consumer Behaviour	Cengage	10 th Edition
R-02	Majumudar Ramanuj	Consumer Behaviour: Insights from Indian Market	PHI	2010

R-03	Hoyer, MacInnis and Dasgupta	Consumer Behaviour	Biztantra	2008
R-04	Evans	Consumer Behaviour	Wiley	2 nd Edition
R-05	Lingquist Jay D	Consumer Behaviour	Cengage	2010
R-06	Coakes, Steed and Dzidic	SPSS latest for Windows	Wiley	2003
R07	Suja Nair	Consumer Behaviour In Indian Perspective : Text And Cases	HPH	2015

PROGRAM	BBA/BBA(H)/BBA(FM)
SEMESTER	VI
COURSE TITLE	Understanding Corporate Financial Statements
COURSE CODE	04BB0613
COURSE CREDITS	03
COURSE DURATION	36 Hrs (36 sessions of 60 minutes each)

Course Outcomes:

- Gain in-depth Understand & Knowledge about different components in the financial statement and their significance to assess the healthiness of the firm
- Analyse & Interpret different financial activities of the firm between two periods and understand how those activities influence on financial healthiness of the firm
- Analyse various ratios with interpretation.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Internal Marks (50%)		End-Semester Examination (50%)			Total Marks
Theory	Tutorial	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	
3	0	0	3	30	20	50	0	0	100

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Corporate Financial Statements Introduction, Preparation And Presentation Of Financial Statements, Schedule III Of The Companies Act, 2013, General Instructions For The Preparation Of Balance Sheet And Profit And Loss Account, Presentation Of Balance Sheet, Form Of Balance Sheet, Disclosure Requirement: Schedules Forming Part Of Financial Statements/Annual Report, Form Of Statement Of Profit & Loss, General Instructions For Preparation Of Statement Of Profit & Loss, True & Fair View Of Financial Statements.	12
II	Analysis & Interpretation of Financial Statements-I Common size, Comparative and Trend Analysis of Financial statement. Ratio Analysis-meaning, objectives, advantages and limitations, classification of financial ratios. Liquidity and Solvency ratios with case studies.	10

III	Analysis & Interpretation of Financial Statements-II Profitability Ratios, Market Test Ratios, Turnover ratios with case studies.	14
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Suggested Reading:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Khan M.Y & Jain P.K	Management Accounting	Mac-Graw hill publication	4/e
T-02	Maheshwari S N & Maheshwari Suneet K	Company accounts	S. Chand & Company Ltd	5/e 2017

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	Vishal Thakkar	Finance for Non-Finance	TV18 Broad cast Ltd	Revised edition 2014
R-02	Anil Lamba	Romancing Balance sheet for anyone who owns, runs or manages a business	CNBCTV18 Drawbridge Publication,	Revised edition, 2016
R-03	N. Ramachandran and RamkumarKaka kni	Finance made easy Series (Box set)	Mac-Graw hill publication	Second edition 2014

PROGRAM	BBA/BBA(H)/BBA(FM)
SEMESTER	VI
COURSE TITLE	Management Information System
COURSE CODE	04BB0614
COURSE CREDITS	04

COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)
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COURSE OUTCOMES:

- Relate the basic concepts and technologies used in the field of management information systems;
- Comprehend types of MIS applications in organizations
- Deliberate the expansion of management information systems in organizations.
- Critically evaluate security challenges associated with the use of Information system.
- Apply the understanding of how various information systems work together to accomplish the information objectives of an organization.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Internal Marks (50%)		End-Semester Examination (50%)			Total Marks
Theory	Tutorial	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	
4	0	0	4	30	20	50	0	0	100

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Management Information Systems: Meaning of information system, difference between information and data, Role and Importance MIS in modern business. Types of decisions and the use of information system.	10
II	Types of Information system Transaction processing system, Office Automation system, Management Information system, Decision support system, Executive support system, Group decision support system, Geographic Information system	10
III	Enterprise Resource Planning and Enterprise Applications Meaning of ERP- Its role in modern organization, merits and demerits. Enterprise Applications- Customer relationship management systems, supply chain management systems, Knowledge Management system and its role in modern business.	10
IV	Networks and its types Types of Network, LAN, WAN, MAN, CAN, PAN. Its advantages and disadvantages, Topologies, communication medium, wired and wireless networks, Meaning of internet and intranet and the difference between the two.	10

V	Security challenges in India Types of computer crimes, sources of information technology vulnerabilities. Remedies for preventing unauthorised use of information technology Challenges faced by working population-working conditions, individual's health and social issues.	08
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SUGGESTED READINGS:

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Laudon, Kenneth C. and Laudon, Jane P	Management Information Systems: Managing the Digital Firm	Pearson Education	13 th edition 2014

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	Jawadekar, W. S	Management Information Systems	Tata-McGraw Hill	2nd edition ,2002
R-02	O'Brien J.	Management Information Systems – Managing Information Technology in the Business Enterprise	Tata McGraw Hill	11 th edition, 2011
R-03	McLeod, Raymond and Schell, George P	Management Information Systems	Pearson Education	9th edition, 2012

PROGRAM	BBA/BBA(H)/BBA(FM)
SEMESTER	VI
COURSE TITLE	Business Ethics & Corporate Governance
COURSE CODE	04BB1601
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES: This course aims to,

- Understand the dynamics of business ethics.
- Relate the concepts and principles of ethical reasoning to specific ethical issues.
- Identify ethical dilemmas in business & suggest solutions to overcome the problems.
- Develop strategies for identifying and dealing with personal and organisational ethical issues.
- Learn the concept of corporate governance and its relevance to ethical business activity.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Internal Marks (50%)		End-Semester Examination (50%)			Total Marks
Theory	Tutorial	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	
4	0	0	4	30	20	50	0	0	100

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Ethics Meaning and classification of Ethics, Importance of Business Ethics, Nature of ethics as moral value; types of values; Teaching from Scriptures like Gita, Quran, Bible w.r.t. Indian Value Systems in Business. Relevant Case Studies	10
II	Ethical Dilemma and Essence of Decision Making Meaning and structure of Ethical Dilemma in business, Sources of Ethical Problems, Managing Ethical Dilemmas; Understanding Decision making, Model of Cognitive Moral Development, The Process of Making Good Ethical Decision; Dynamics of Ethical Leadership. Relevant Case Studies	10
III	Ethical Issues in Financial Management, IT & Cyber Space Introduction to Ethics in Finance, Ethical issues in Financial Markets, Financial service industry and by Financial people in organizations. Ethical issues in IT & Cyber Space, Professional Ethics, Relevant Case Studies	10
IV	Ethical Issues in Marketing & HRM Role of Marketing, Areas in Marketing Ethics, Truth and Advertising; Functional Areas of HRM, Need for Workplace ethics, HR related ethical issues, Rights, and duties of Employees. Relevant Case Studies	10
V	Introduction to Corporate Governance Definition and attributes of good corporate governance, Corporate governance theories – Agency, Stewardship, Shareholder, stake holder theory, Role of Board of Governors, Factors influencing quality of Corporate Governance. Relevant Case Studies	08

SUGGESTED READINGS:
Textbooks:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	A. C. Fernando	Business Ethics and Corporate Governance	Pearson	2 nd edition, 2012
T-02	Daniel Albuquerque	Business Ethics: Principles and practice	Oxford Uni. Press	2010

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Murthy C.S.V.	Business Ethics and Corporate Governance	Himalaya Publishing	1 st edition, 2017
R-02	S K Mandal	Ethics in Business and Corporate Governance	Tata McGraw Hill	2 nd edition, 2012
R-03	Ferrell, Fraedrich, Ferrell	Business Ethics	Cengage Learning	11 th edition, 2017
R-04	Rupani Riya	Business Ethics and Corporate Governance	Himalaya Publishing	4 th edition, 2015

MARWADI UNIVERSITY

Project (04BB1604)

Credits: 4

Guidelines for the Preparation of



Project Report

BBA/BBA(Hons) /BBA(FM)-Semester – VI



MARWADI UNIVERSITY

Rajkot-Morbi Road, At & Po. Gauridad,

Rajkot-360003, Gujarat, India.

Phone : 0281-2924155 / 56, www.marwadiuniversity.in

Course: BBA/BBA(H)/BBA(FM)

SEMESTER	VI
TITLE OF THE SUBJECT	Research Project
COURSE CODE	04BB1604
COURSE CREDIT	4

Project

Project is a composition of practical research work, involving the analysis of a specific problem in the area of the specialization and evaluation of the results of the analysis that serves as a basis for developing specific proposals and implementing the appropriate solution to the problem.

Objective of the Project

The objectives of the Project for BBA/BBA (H) students are:

- a. To demonstrate the student's knowledge of the literature relating to the problem of study.
- b. To reveal the student's ability to collect, analyze, interpret and synthesize information/data for analyzing various business situations.
- c. To present the results obtained, in a sequential and logical manner.
- d. To display the student's ability to discuss coherently the meaning of the results.

Content of Report

A project report should contain the following parts in the order shown:

- ☛ Fly page (1 Blank Pages)
- ☛ Title page (please see sample, Annexure I)
 - The project title;
 - The full name of the Candidate/s, enrollment no/s. and Guide name/s;
 - The degree for which the project is submitted;
 - The name of the University, i.e. Marwadi University
 - The month and year of submission
- ☛ Student Declaration (Annexure II)
- ☛ College Certificate (Provided by Guide/Supervisor)
- ☛ Company Certificate
- ☛ Preface
- ☛ Acknowledgement

- ☛ Executive Summary
- ☛ Table of Content
- ☛ Introduction to Topic
- ☛ Review of Literature (8 to 10 literature review)
- ☛ Research methodology
 - Introduction
 - Statement of problem
 - Research Objectives
 - Scope of the study
 - Research hypothesis (If any)
 - Research design (Research Type)
 - Data Collection sources (Primary and secondary sources)
 - Data Collection Instrument (for e.g. Questionnaire)
 - Sampling Design
 - ☞ Population of the study
 - ☞ Sample Size
 - ☞ Sampling Method
 - Data Analysis Design (a brief outline of tools and techniques to be used for analysis, statistical tools and tests to be used)
 - Limitations of the Project
- ☛ Data Analysis and Interpretation
 - Tabular representation of data
 - Charts
 - Statistical tests
 - Analysis and Interpretation
- ☛ Findings & Suggestions
- ☛ Conclusion
- ☛ Annexure
- ☛ Annexure - Questionnaire
- ☛ Annexure – Any other document
- ☛ Bibliography

Language, Style and Format

- ☛ Language
 - Project should be written in English.
- ☛ Final Version
 - The final version of the project must be free from spelling, grammatical and other errors when submitted.

Specification for Project Report

1	Paper Size	International A4, not less than 75 gsm white paper
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2	Margins	Left - 1.5" Right - 0.75" Top and Bottom - 1.0"
3	Line Spacing	10 to 12 characters per inch must be used with 1.5 line spacing.
4	Paragraph Spacing	Double Lines/Vertical space of around 12 points should be left between the section title line and the first paragraph of each section and subsections, start without any indentation, In single column format with full justification.
5	Pagination	At bottom–Center Beginning with the first page of chapter 1 (Introduction) to all pages shall be numbered consecutively using Arabic numerals (i.e. 1,2,3) From the title page to the page before the chapter 1 starting page, shall be lower case Roman numerals (e.g. i, ii, iii etc.) No Page Number on Title Page
6	Chapter(s):	New Chapter on New Page font size of 20 should begin with an additional top margin of 30 mm (total 55 mm) Capitalize the first letter all the words. Use boldface letters and numbers only
7	Sections and Subsections (left aligned)	A vertical space of around 36 point should be left between the chapter heading and the title of the first section of every chapter. For all subsequent sections/subsections, leave a vertical space of around 24 points before the section/subsection headings. For example, say the first and second sections in chapter 5 shall be numbered as 5.1 and 5.2, respectively. Likewise, the third subsections of sections 1 and 2 in a chapter 4 shall be numbered as 4.1.3 and 4.2.3, respectively. Same style as in chapter heading but with font size of 14 and 12 for section and subsections,
8	Font Type	Times New Roman
9	Font Size(FS)	For normal–12
10	Bold/Italic/Underline	Should be used for specific purposes only
11	Alignment	Page Justify

12	Tables/Graphs/Diagrams/figures Equations	All tables, figures, and equations must be numbered sequentially and chapter-wise using Arabic numerals. It must reflect the chapter number also, e.g. 2.1, 6.25 etc. e.g., Figure 2.1, Table 3.2. While a caption (figure number) should be placed below the figure, a caption (table number) should be placed above the table Images, Photographs, etc. must be scanned in resolution at least 600 dpi.
13	Figures and Illustrations	Figures, tables, etc., should be positioned according to the scientific publication conventions of the discipline.
14	Borders	NO
15	Header/Footers	Single Line (as per this page) Footer (as per this page): Left side Marwadi University, Rajkot, Right Side Pg. No “NO header/footer on Title page”
16	Word Breaking	No word Breaking
17	Printing	Single side only
18	Report Binding	Hard Bound Cover–BlackColor Writing–Golden color only
19	Copies of the Report	Hard Bound: Total 2 Copy (one for Student, one for Dept. Records) Soft: 01 Copy PDF.

References & Bibliography

All references must be cited in the text by the reference number using superscripts. No links between superscripts in the text and actual references in the Reference Sections may be used. Notes may be used to cite manuscripts in preparation,

Unpublished observations and personal communications. References cited should follow the style given below example:

PAPERS

1. Thiel WJ and Nguyen LT, “Fluidized bed film coating of an ordered powder mixture to produce micro encapsulated ordered units.” *J. Pharm. Pharmacol.* **1984**, *36*, 145-152.
2. Isyumov N, “Criteria for acceptance of wind induced motions of tall buildings”, International Conference on Tall buildings, Rio De Janeiro,

CTBUH, 2003.

WEB SITE

1. Boggs, D, “Acceleration and Drift due to Gust forces”, accessed on 10 July 2009, www.cppwind.com/papers/structural/PEAKvsRMS.pdf

BOOKS

1. Pelzar MJ., Chan ECS., and Krieg NR. In Microbiology; 5th Edn; Tata McGraw Hill Publishing Company Limited, New Delhi, 1993, pp 536.

DISSERTATIONS/PROJECTS

1. Vaishnav D.K, PhD Thesis, “.....” Marwadi University, July 2012.
2. Pathak VK. Ph.D. Thesis, “.....” Gujarat University, 1979.



ANNEXURE - I

[SAMPLE TITLE PAGE]

[Project Title]

(5 blank lines)

By

(single line)

[Your name as found in official MU records - your enrollment number]

(two lines)

[Guide name]

(3 blank lines)

A Project Submitted to

Marwadi University in Partial Fulfillment of the Requirements for the [Degree name] in
[Name of Program/Branch]

(3 blank lines)

Month and Year



MARWADI UNIVERSITY



Rajkot-Morbi Road, At & Po. Gauridad,
Rajkot-360003, Gujarat, India.



ANNEXURE - II

STUDENT DECLARATION

I hereby declare that this Project Report titled _____
_____ submitted by me to the Faculty of
Liberal Studies, Marwadi University is a bonafide work undertaken by me and it is not
submitted to any other University or Institution for the award of any degree diploma /
certificate or published any time before.

Date: DD/MM/YYYY

Place: Rajkot

Signature of the Student

[Name of Student]

[Enrollment No.]

Evaluation Scheme

Internship consists of 4 Credit, 100 marks and shall be evaluated on two components i) Internal Assessment & ii) Viva.

Particular	Weightage (%)	Conducted By
Internal Assessment (CSE)	50%	Supervisor/ Guide
Viva Voce	50%	Viva Panel

- I. **Internal Assessment** shall consist of 100 marks, which will be carried out by supervisor/guide.
- II. **Viva Voce** shall carry 100 marks and will be conducted by a Panel of two examiners.

PROGRAM	BBA/BBA(H)
SEMESTER	VI
COURSE TITLE	Advanced Financial Management
COURSE CODE	04BB1605
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Get acquainted with the basic framework of designing capital structure of a firm.
- Evaluate the risk aspect for analyzing investment decisions.
- Understand the importance of dividend policy and its relevance in the value of a firm.
- Identify and analyze the Credit Management and Credit Policies of the firm.
- Identify and analyze different methods for Financial Inventory Management.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Internal Marks (50%)		End-Semester Examination (50%)			Total Marks
Theory	Tutorial	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	
4	0	0	4	30	20	50	0	0	100

Course Contents:

Unit No	Unit / Sub Unit	Sessions
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I	Capital Structure Decision Capital Structure tradeoff(Equity - Debt, advantages and disadvantages), EBIT-EPS Analysis, ROI-ROE Analysis, Leverage Analysis(indifference point, financial break even point), Ratio Analysis(Interest Coverage ratio, Cash flow ratio, Debt Service Coverage ratio, Asset turnover ratio), Factors determining capital structure.	08
II	Risk Analysis in Capital Budgeting Introduction of Capital Budgeting Methods, Sources of Risk in Project, Statistical Techniques for Risk Analysis-Probability, Variance or Standard Deviation, Coefficient of Variation, Sensitivity Analysis and Scenario Analysis, Break-even Analysis, Simulation Analysis, Decision tree Analysis, Risk Management in Corporates. (Theory & Problems)	10
III	Dividend Policies Introduction, Ploughing Back of Profit, Factors affecting Dividend Decision, Issues in dividend policy, Bonus Share & Stock Splits, Different forms of dividend, Buyback of Shares. Theories of Dividend Policy - Walter's Model, Gordon's Model, The Miller and Modigliani (MM) Hypothesis and the concept of Dividend and Uncertainty - the bird in the hand argument.	10
IV	Credit Management Introduction, Terms of payment, Credit policy Variables, Credit Evaluation, Credit Granting Decision, Control of Accounts Receivables, Credit Management in India.	10
V	Inventory Management Introduction to Inventories, Need for inventory, Ordering Quantity - EOQ Model, Order Point, Costing of Raw Materials and Valuation of Stock, Monitoring and control of Inventories, Inventory Management in India.	10

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Prashna Chandra	Financial Management	Mc Hill	8th Edition 2011

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
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R-01	M. Y Khan and P. K. Jain	Financial Management	Mc Hill	8th Edition, 2013
R-02	I M Pandey	Financial Management	Vikas	11th Edition, 2015

PROGRAM	BBA/BBA(H)
SEMESTER	VI
COURSE TITLE	Change Management
COURSE CODE	04BB1607
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes)

Course Outcomes:

- Understand the objective of managing change in the organizations
- Recognize reactions to change and address the resistance
- Learn the competencies required for effective change management
- Identify and apply intervention techniques to the organizations
- Understand basic change models with relevance to the contemporary organizations

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Internal Marks (50%)		End-Semester Examination (50%)			Total Marks
Theory	Tutorial	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	
4	0	0	4	30	20	50	0	0	100

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Organizational Culture and Change An introduction to Change Management, various definitions, significance and objectives, Business as a domain for change, Environmental Factors leading to Change, Organizational Culture: Sources and types of Culture, Significance of Culture during change, Strengths and weaknesses of Indian Culture.	10

II	Resistance to Change Meaning, Nature & types of Organizational Change, Organizational Barriers to Change, Individual and Group Resistance, Overcoming Resistance to Change, Techniques to manage resistance	8
III	Organizational Change and Change Agents Meaning and Types of Change Agents, Key Roles in Organizational Change, Characteristics of good Change Agent, Strategic Management of Change, Factors in selecting Change Strategy, Formulation and Implementation of Change Strategy.	10
IV	Organizational Diagnosis & Development Meaning of Diagnosis, Introduction to Organizational Diagnosis, Collection of Data, Introduction to OD, OD Intervention and Classification, OD Interventions Techniques, Prerequisites for effective use of OD.	10
V	Learning Organization and Models of Change Meaning and nature of Learning Organization, TQM and Learning Organization, Basic Models of OD: Individualistic Model, Group Oriented Model, Organization-oriented model, Lewin's Three-step Model, McKinsey 7 s Model & Kotter's 8 Step Growth Model Case study on Change Management in any Industry.	10

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Harsh Pathak	Organisational Change	Pearson	1 st edition
T-02	Donald R. Brown, Donald Harvey	An Experiential Approach to Organizational Development	Pearson	8 th edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	Thomas Cummings, Christopher Worli	Theory of Organization Development and Change	Cengage Learning	9 th edition
R-02	Wendell L. French, Cecil Bell, Robert A. Zawacki	Organization Development and Transformation: Managing effective change	McGraw- Hill/Irwin	6 th edition
R-03	S.K. Bhatia	Managing Change and Organization Development	Deep and Deep Publications	1 st edition

PROGRAM	BBA/BBA(H)
SEMESTER	VI
COURSE TITLE	Advertising Management
COURSE CODE	04BB0606
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

Course Outcomes

- Gain an understanding of effectiveness of advertising as an integral marketing tool.
- Analyze and evaluate advertising planning and creative strategy techniques
- Formulate the Advertising Budget using various methods
- Evaluate the available media tools
- Learn the majors of advertising programs of organizations with emphasis on the application of marketing concepts for effective decision making.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Internal Marks (50%)		End-Semester Examination (50%)			Total Marks
Theory	Tutorial	Practical		IA	CSE	Theory	Practical/Viva	Term Work (TW)	
4	0	0	4	30	20	50	0	0	100

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to advertising Introduction to Advertising –Meaning, Definition of advertising, objectives, its role and functions. Types of Advertising: Commercial, Non-commercial, Primary demand and Selective Demand, Classified and Display advertising, Comparative advertising, Co-operative advertising.	10
II	Advertising Planning Advertising planning framework – factors involved in advertising planning and decision making, the communication & persuasion process segmentation strategy.	10
III	Creative Strategy Creative Strategy: meaning of creativity, Creative strategy and tactics, various advertising Appeals, the mode of message and theme.	10
IV	Advertising budget Advertising Budget – Objectives, preparation and methods of advertising budget; Top down and Build up approach, methods of advertising – Affordable method, Arbitrary allocation method, percentage of sales method, competitive parity method, Objective and Task method; and DAGMAR Approaches.	10
V	Advertising Media Decision Concept, Role of Media, Advertising media- Types of Media Print Media (Newspaper & Magazines, Pamphlets, Posters & Brochures), Electronic Media (Radio, Television, Audio Visual Cassettes), Other Media (Direct Mail, Outdoor Media), New Media –Internet and Mobile phones (Characteristics, merits & Demerits of above media, media scenario in Indian Context.).	08

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M.V. Kulkarni	Advertising Management	EPH	Fourth Edition
T-02	Chunawalla and Sethia S.A,	Foundations of Advertising theory and practice	Himalaya Publishing House	Sixth Edition

Reference Books

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-1	Belch & Belch	Advertising & Sales Promotion	TMH	11 th Edition
R-2	Aaker, David A. and Myers John G	Advertising Management	Prentice Hall of India	2 nd Edition



Dean
Faculty of Management Studies
Marwadi University
Rajkot - 360003, Gujarat

Course having focus on
Employability
Entrepreneurship
Skill development
during last five years in
BCom
(2017-2022)

2017-2018

PROGRAM	Bachelors Of Commerce
SEMESTER	I
COURSE TITLE	FINANCIAL ACCOUNTING-I
COURSE CODE	04BC0101
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Implement the accounting process from journal entries to trial balance
- Understand the need for uniformity in accounting
- Prepare financial statements of sole-proprietary business

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	BASICS OF BOOK-KEEPING AND ACCOUNTING Introduction to Book Keeping, Accounting and Accountancy – Process of Accounting – Branches of Accounting- Methods of Accounting – Basis of Accounting – Characteristics of Accounting – Functions of Accounting – Users of Accounting Information – Basic Accounting Terms – Classification of Accounts and its Rules – Accounting Equation – Accounting Principles – Accounting Concepts – Accounting Conventions – Fundamental Accounting Assumptions	08
II	OVERVIEW OF INDIAN ACCOUNTING STANDARDS Background of GAAP and IFRS – Introduction to Indian AS: Background, need, applicability, overview of standards (only theory)	06
III	PROCESS OF ACCOUNTING Meaning of Journal – Format of Journal – Single and compound Journal Entries – Difference between Cash Discount and Trade Discount – Meaning of Ledger – Format of Ledger – Balancing of Ledger – Practical problems on Journal and Ledger – Meaning of Trial Balance – Preparation of Trial Balance – Redrafting of Trial Balance – Types of Errors and their Rectification	16
IV	FINAL ACCOUNTS OF SOLE-PROPERITORSHIP: Types of Expenditure – Types of Income – Types of Profit – Meaning of Deferred Revenue Expenditure – Difference between Trial Balance and Balance sheet – Contingent Asset and Contingent Liability – Classification of Assets and Liabilities under different heading -	10

	Difference between Provisions and Reserves –Types of Reserves - Preparation of Final accounts for sole proprietorship for non manufacturing	
V	DEPRECIATION: Meaning - Methods of calculating depreciation (straight line method and written down value) - Method of recording Depreciation (Charging to Asset Account, Creating provision for Depreciation/ Accumulated Depreciation, Treatment of Disposal of Fixed assets.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	P.C. Tulsian	Financial Accounting	Pearson	Latest
T-02	S.N. Maheshwari, and. S. K. Maheshwari	Financial Accounting	Vikas Publishing House, New Delhi	Latest
T-03	M.C.Shukla, T.S.Grewal and S.C.Gupta	Advanced Accounts. Vol.-I	S. Chand & Co., New Delhi	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	R. L. Gupta and M. Radhaswamy	Advanced Accounts. Vol.-I& II	S. Chand & Co., New Delhi	Latest
R-02	A.Mukharji and M. Hanif	Financial Accounting	Tata McGraw, Hill Publishing Co. Ltd. New	Latest

			Delhi	
R-03	S. P. Jain and K. N. Narang	Advanced Accountancy	Kalyani Publishers, New Delhi	Latest
R-04	T. S. Grewal	Introduction to Accountancy	S. Chand & Co. Pvt. Ltd., New Delhi	Latest
R-05	Monga, J. R.	Financial Accounting : concepts and applications	Mayoor Paper Backs, New Delhi	Latest

Elective

PROGRAM	Bachelors Of Commerce
SEMESTER	I
COURSE TITLE	BUSINESS MATHEMATICS
COURSE CODE	04BC0102
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Solve business problems involving percentage, profit / loss and calculate discount
- Calculate simple and compound interest on investments
- Understand repayments of loan using EMIs
- Structure and solve problems using matrices
- Understand and establish relationship between variables using functions to determine equilibrium

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	RATIO, PROPORTION AND PERCENTAGE Ratio – Definition, Continued ratio, Inverse Ratio Meaning and computation of Percentage and Proportion: Direct proportion, Inverse Proportion and Continued Proportion	08
II	PROFIT AND LOSS, DISCOUNT Profit and Loss – Terms and formulae, percentage profit and percentage loss, Selling price at a profit and loss Discount – Trade discount and Cash discount, Problems involving cost price, selling price and market price	10
III	MATHEMATICS OF FINANCE Introduction, Simple Interest and Compound Interest – Concept and problem solution Future Value (FV) - Annuity: Amount of ordinary annuity, Amount of annuity due Present Value (PV) - ordinary annuity and annuity due Loan Amortization and Equated Monthly Installments (EMIs) - Reducing balance and flat rate of interest	08

	Use of MS Excel	
IV	DETERMINANT AND MATRICES Introduction, Definition, Types of matrices, Algebra of matrices (Addition and Subtraction), Additive Inverse of a matrix, Structure problems in matrix form, Multiplication of matrices (Max 3X3) Determinant of square matrices (2X2 and 3X3), minor of an element, cofactor, adjoint and Inverse of Matrix Solution of system of linear equations using inverse of coefficient matrix Use of MS Excel to calculate determinant and inverse of matrix	14
V	PROGRESSION Progression: Sequence and Series Arithmetic Progression – definition, nth term, sum of n terms, illustrations Geometric Progression - definition, nth term, sum of n terms, illustrations Arithmetic mean and Geometric mean Sum of n-terms and sum of infinite terms in geometric progression	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	P. Hazarika	Business Mathematics	S. Chand and Sons	Latest
T-02	A. Dikshit and J. Jain	Business Mathematics	Himalaya Publishing House	Latest
T-03	D C Sancheti and V K Kapoor	Business Mathematics	Sultan Chand and Sons	Latest

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Zamarudeenand Qazi	Business Mathematics	Vikas Publishing	Latest
R-03	P. Mariappan	Business Mathematics	Pearson Education	Latest
R-02	Trivedi Kashyap	Business Mathematics	Pearson Education	Latest

Course: B.Com

PROGRAM	Bachelors Of Commerce
SEMESTER	I
COURSE TITLE	CAREER READINESS PROGRAM
COURSE CODE	04CR0101
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

Objectives:

- The “*Linguistics for Interpersonal Interaction*” course is designed to make the Learners feel comfortable understanding, thinking and speaking in English.
- Having undergone the training, the Learners will feel confident about his or her own English-speaking skills.

Pre Requisites: None

Course Duration:

- The course duration is of 24 sessions of 60 minutes each.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
Unit I	Phonology: Varieties of Language and Standard English, Phonetics and Phonology - Speech Mechanism and Articulatory Phonetics, English Phonemes. Characterization and Classification of Vowels - Diphthongs and Monophthongs.	6
Unit-II	Syntax and Morphology: Nouns, Pronouns and Determiners - Misconceptions related to usages of noun forms, Using Possessives, Types of Pronouns, General Determiners and Specific Determiners. Verbs and related forms - Types of verbs and their forms, Stative and Dynamic, Lexical and Delexical Adjectives and Adverbs - Word formation, Order of Adjectives, Types of Adverbs Preposition and Phrasal verbs - Preposition of time, Preposition of Movements, Preposition of Place, Phrasal Verbs Conjunctions - Coordinating and Subordinating, Using Conjunctions in formal settings. Present Continuous – Form, Usages, Misconception Present Simple & Simple Past – Form, Usages, Misconception	8
Unit - III	Reading Comprehension: Processing Strategy - Comprehension Strategy, Meta-cognitive Strategy, Prediction and Pre-prediction.	4
Unit - IV	Spoken Discourse: Coherence and Cohesion - Situational	6



	Sociolinguistic interaction, Conversation Practice. Feature of Spoken Discourse - Semantic and Pragmatic Meanings, Conversation Practice (Role Play)	
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Learning Outcomes:

After studying this course, student should be able to:

- Articulate phonetics and phonology, Noun, Pronoun, Verb
- Reading and processing comprehension.

Evaluation:

The students will be evaluated on following evaluation scheme:

		Weight age
A	End-Semester Examination	100% (External Assessment)

PROGRAM	Bachelors Of Commerce
SEMESTER	I
COURSE TITLE	PRINCIPLES OF MANAGEMENT
COURSE CODE	04LS1102
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Demonstrate their knowledge of business and management principles.
- Get acquainted with management process and functions.
- Comprehend the modern management techniques and its relevance in business.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Management Meaning, Nature and Characteristics of Management – Scope of Management - Functional areas - Management as a Science and an Art - Management & Administration – Levels of management & Managerial Skills - Evolution of Management Thoughts - Principles of management - Ethics in Management.	10
II	Planning in Management Need and importance of planning - basic purpose of planning - Planning process, Types of plans - Objectives - Management By Objectives Decision-making Decision making – Nature and importance- types of decisions – process	10
III	Organizing Need for organization - purpose of organization, fundamental principles of organization - Types of organization - Departmentalization, Committees - Centralization Vs decentralization of authority and responsibility Staffing Staffing – Introduction - Need for Staffing - Importance of staffing -Process of staffing	10
IV	Directing Directing – Meaning, nature and importance – Theories of Motivation – Maslow’s, Herzberg’s & McGregor’s Leadership – Introduction - Formal and Informal Leadership – Characteristics – Styles of Leadership - Importance of Communication as a leader	10

	Coordinating Coordination – Introduction - Importance of coordination - Principles of coordination	
V	Controlling Meaning and steps in controlling – Pre-requisites of a strong control system - Methods of establishing control Modern Management Techniques Introduction to various latest management techniques: Business process re-engineering, business outsourcing, benchmarking, kaizen, six sigma, knowledge management, just in time management, total quality management.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	L. M. Prasad	Principles of Management	Sultan Chand and Sons	Ninth Edition - 2015

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	V.S.P. Rao	Management: Text and Cases	Excel Books India	Second edition
R-02	Koontz & O'Donnell	Principles of Management	McGraw Hill	Forth edition

PROGRAM	Bachelors Of Commerce
SEMESTER	I
COURSE TITLE	Microeconomics
COURSE CODE	04LS1103
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Apply economic reasoning to the analysis of selected contemporary economic problems.
- Understand how households (demand) and businesses (supply) interact in various market structures to determine price and quantity of goods and services produced and consumed.
- Use economic problem solving skills to discuss the opportunities and challenges of the increasing globalization of the world economy.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO MICROECONOMICS Meaning and definition of Microeconomics, Nature and scope of Microeconomics, Difference between microeconomics and macroeconomics. Central economic problems of society.	10
II	CONSUMER BEHAVIOUR Utility analysis: Meaning of Cardinal and Ordinal utility. Cardinal Utility: Law of diminishing Marginal utility, Law of Equi-marginal Utility, Ordinal Utility: Indifference curve analysis, properties of indifference curve analysis, Marginal rate of substitution, Budget line and consumer's Equilibrium.	10
III	DEMAND AND SUPPLY ANALYSIS Determinants of demand, law of demand, exceptions to law of demand. Elasticity of demand and its applications: Price elasticity, Income elasticity and cross elasticity. Concept and Law of Supply, Factors Affecting Supply	10
IV	PRODUCTION AND COST ANALYSIS Production Function: Short run and long run production functions, laws of returns, and law of returns to scale. Cost Function: classification of costs, short run and long run cost curves and their interrelationship, Planning curve and envelope curve, internal and external economics of scale,	10

	revenue curves, optimum size of the firm, factors affecting the optimum size	
V	EQUILIBRIUM OF FIRM AND INDUSTRY Perfect competition, monopoly, monopolistic competition, discriminating monopoly, aspects of non-price competition; group equilibrium, excess capacity, selling costs, oligopolistic behavior.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	H. L. Ahuja	Principles of Economics	S. Chand Publishing house	11 th ed. 2015

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	N.GregoryMankiw,	Principles of Micro Economics	Cengage	6 th ed.
R-02	Pindyck, R.S., D. L. Rubinfeld and P. L. Mehta	Microeconomics	Pearson	7 th ed.
R-03	D. Salvatore	Microeconomic Theory	Tata McGraw Hill	5 th ed
R-04	D N Dwivedi	Managerial Economics,	Vikas Publishing House	4 th ed.

PROGRAM	Bachelors Of Commerce
SEMESTER	I
COURSE TITLE	Computer Essentials
COURSE CODE	04LS1107
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Draft Document / Worksheet and Presentation
- Understand the Computer Hardware and Software Fundamentals
- detail some of the problems that are encountered when developing documents and worksheets
- describe briefly some of the technologies that are used to support online applications

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	COMPUTER BASICS Data- Instruction and Information-Characteristics of Computers- Various fields of application of Computers- Input-output Devices (Hardware- Software- Human ware and Firmware)-Advantages and Limitations of Computer- Block Diagram of Computer- Function of Different Units of Computer- Classification of Computers. Data Representation-Different Number System (Decimal- Binary- Octal and hexadecimal) and their Inter Conversion.	10
II	COMPUTER SOFTWARE Types of Software- Application software and system software- Compiler and Interpreter-Generations of languages-Low and High Level Languages-Computer Memory: Primary Memory &Secondary memory. Cache memory-optical memory-Storage Media. Introduction to Operating System-All Directory Manipulation- Creating Directory- Sub Directory- Renaming-Coping and Deleting the Directory File Manipulation-Creating a File-Deleting- Coping- renaming a File Using accessories such as calculator- paint brush- CD player etc.	10
III	INTRODUCTION TO MS- OFFICE (WORD) Introduction to Word Processing- Features - Formatting Documents- Paragraph Formatting- Indents- Page Formatting- Header and Footer- Bullets and Numbering- Tabs- Tables- Formatting the Tables- Finding and Replacing Text-Mail Merging etc..	10

IV	INTRODUCTION TO MS- OFFICE (EXCEL) Introduction to Electronic Spreadsheets - Feature of MS-Excel- Entering Data- Entering Series- Editing Data- Cell Referencing- ranges- Formulae- Functions- Auto Sum- Copying Formula- Formatting Data- Creating Charts- Creating Database- Sorting Data- Filtering etc.	10
V	INTRODUCTION TO MS- OFFICE (POWERPOINT) PowerPoint - Features of MS PowerPoint Clipping- Slide Animation- Slide Transitions- Slide Shows- formatting etc.- Creating formal presentations- inserting different objects- arts- charts- pictures etc. to slide.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	P.K.Sinha	Fundamental of Computers	B.P.B. Publications	

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Curtin, Foley, Sen, Martin,	Information Technology	Information Technology, Tata MCGraw Hill	2007
R-02	Sanjay Saxena	A First Course in computers	Vikas Publication	

List of Journals/Periodicals/ Magazines/ Newspapers etc.



The Students will have to refer to past issues of the following journals in order to get relevant topic/ information pertaining to the subject.

1. Computer and Education – Elsevier
2. Journal of Computers



Elective I: BBA, BBA (Hon.) & B. Com.

Reading and Writing for Business

Subject Code:04SL0102

Credit: 2

Semester: 1

Course Description

The course will inculcate skills of formal reading and writing for business among the students. Good reading skills play a vital role in decision making in response to a proposal or a report. Formal writing, on the other hand, enables one to express one's ideas, plans, aims and objectives on paper. The course will offer a number of classroom activities, assignments and tasks to ensure the inculcation of the aforesaid skills among the students.

Course Objectives

The course will enable the students:

1. to read and interpret formal business writings such as reports, articles and reviews;
2. to know structures of formal business letters and reports;
3. to write formal business letters and reports;
4. to inculcate a taste for reading and writing habits pertaining to the world of business.

Unit 1: Introduction to business world

1. Reading a business case-study – “Tripping Along” by Deep Kalra from *Stay Hungry Stay Foolish*
2. Reading 3 business articles (general in nature) from the newspapers/magazines

- I. "Paytm: the wonder wallet" from Forbes India.
- II. "Millennials: How They Live and Work" from Gallup.
- III. "The Right Culture: Not About Employees Happiness" from Gallup.

Recommended Reading

Arakali, Harichandan. "Paytm: The wonder wallet." Forbes India, 16 Nov. 2016,
<http://www.forbesindia.com/printcontent/44825>

Clifton, Jim. "Millennials: How They Live and Work." Gallup, 11 May 2016,
<http://www.gallup.com/opinion/chairman/191426/millennials-live-work.aspx>

Harter, Jim. "The Right Culture: Not About Employee Happiness." Gallup, 12 April 2017,
http://www.gallup.com/businessjournal/208487/right-culture-not-employeehappiness.aspx?g_source=WORKPLACE&g_medium=topic&g_campaign=tiles

Kalra, Deep. "Tripping Along." *Stay Hungry Stay Foolish*, edited by Rashmi Bansal, IIM Ahmedabad, 2008, pp. 130-143.

Unit 2: Reading and writing for business

1. Reading business letters (of sales, inquiry, order, complaint, and adjustment)
2. Writing business letters (Any two types)
3. Reading a few short business reports
4. Writing a short business report

Teaching Scheme

Teaching Scheme (Hours per week)	Evaluation Scheme					Total Marks	
	Practical	ESE	IA	CSE	Viva		Term Work
2 Hours		00	30	20	25	25	100

1. IA will consist of the following components (30 marks):

- a. **Assignments (20 Marks):** Students will prepare three assignments as following.

- 1) Letter: Write three letters on the given subjects (10 Marks)
- 2) Article: Write a business article on the given theme (05 Marks)
- 3) Report: Write a report on the given subject(05 Marks)

- b. **In-Class Participation (10 Marks)**
- 2. **CSE (20 marks):**
 - a. **(Term Paper):** Students will write a paper on the given topic.
- 3. **Viva (25 Marks):** Viva will be conducted at the end of the semester. It will be based on the CSE, Term Work, Assignments and topics covered in the syllabus.
- 4. **Term Work (25 Marks):**
 - a. **(Term-End Presentation):** Students will make a presentation based on topics provided by the faculty, at the end of the semester.

Further Suggested Readings

1. Raman M. and Singh P., *Business Communication*. 20th ed., Oxford University Press, 2011.
2. Kumar S. and Lata P., *Communication Skills*. 6th ed., Oxford University Press, 2013.
3. Murphy H., Hildebrandt H. and Thomas J., *Effective Business Communication*. Tata MacGraw-Hill, 2008.
4. Sharma R. and Mohan K., *Business Correspondence and Report Writing*. 4th ed., Tata MacGraw-Hill, 1998.
5. Lesikar R., Flatley M., Rentz K., Pande N., *Business Communication*. 11th ed., Tata MacGraw-Hill, 2009.



Elective II: BBA, BBA (Hon.) & B. Com.

Speaking and Presentation Skills

Subject Code: 04SL0103

Credits: 02

Semester: 1

Course Description

The course intends to make students confident in speaking in English with the help of various language functions. It also focuses on developing students' presentation skills.

Course Objectives

The course will enable students

1. to share information on familiar matters/issues in English;
2. to make effective presentations in English;
3. to gain confidence in speaking in English.

Unit 1: Speaking/Interacting in an Academic Context

1. Greetings
2. Introducing self and peers
3. Asking and sharing information
4. Expressing points of view
5. Discussions
6. Facing viva voce
7. Group discussions
8. Facing an interview (interview skills)

Unit 2: Effective Presentation Skills

1. Introduction to effective presentation skills
2. Preparing the presentation (Collection of Data/Information, exploring the topic etc.)

3. Using ICT for the presentation
4. Getting ready for the presentation
5. Effective body language
6. Effective pronunciation
7. Interacting with the audience (Q & A)
8. Practice (with video recording)
9. Feedback and Suggestions

Recommended Readings/ Viewings

- Select TED Talks
- Select INK Talks
- Select Toastmasters Videos
- Select Courtroom Dramas
- Select Videos of speakers like Steve Jobs, Sundar Pichai etc.

Teaching Scheme

Teaching Scheme (Hours per week)	Evaluation Scheme					Total Marks	
	Practical	ESE	IA	CSE	Viva		Term Work
2 Hours		00	30	20	25	25	100

1. **IA will consist of the following components (30 marks):**
 - a. **Assignments (20 Marks):** Students will prepare three oral assignments.
 - b. **In-Class Participation (10 Marks)**
2. **CSE (20 marks):**
 - a. **(Term End Simulation):** Students will carry out simulated tasks at the end of the semester. It would comprise individual and group tasks.
3. **Viva (25 Marks):** Viva will be conducted at the end of the semester. It will be based on the CSE, Term Work, Assignments and topics covered in the syllabus.
4. **Term Work (25 Marks):**
 - a. **(Term-End Presentation):** Students will make a presentation based on topics provided by the faculty, at the end of the semester.

Recommended Readings

“Communication.” themuse. 2017. <https://www.themuse.com/tags/communication>. Accessed 4 July 2017.

Presentation Magazine. 2017. <https://www.presentationmagazine.com/>. Accessed 4 July 2017.

“Presentation Skills.” *SKILLS YOU NEED*. 2017. <https://www.skillsyouneed.com/presentation-skills.html>. Accessed 4 July 2017.

Siddons Suzy. *The Complete Presentation Skills Handbook*. Kogan Page, 2008.

Sprague Jo, and Douglas Stuart. *The Speaker's Handbook*. 8th ed., Thomson Wadsworth, 2008.

PROGRAM	Bachelors Of Commerce
SEMESTER	II
COURSE TITLE	FINANCIAL ACCOUNTING-II
COURSE CODE	04BC0201
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Address advanced accounting issues of partnership firm
- Learn the application of Garner vs. Murray rule
- Understand the difference between hire purchase and installment purchase transactions
- Classify the branches and do the accounting accordingly
- Demonstrate knowledge of the concept of Ex-interest and Cum-interest

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	RECONSTITUTION OF PARTNERSHIP FIRM Accounting issues related to Admission, Retirement and Death of a Partner – Preparation of Revaluation account – Calculation of Goodwill : Average profit method, Super profit method, Annuity method, Capitalisation method	10
II	DISSOLUTION OF PARTNERSHIP FIRM Preparation of Realisation account – Settlement of accounts – Piecemeal distribution: Maximum loss method and Proportionate capital method – Insolvency of partner during piecemeal distribution (Garner vs. Murray rule)	12
III	ACCOUNTING FOR HIRE PURCHASE Meaning – Difference between Hire purchase and Installment purchase – Calculation of missing details when cash price or rate of interest is not given – Accounting for hire purchase transactions –Default and repossession	08
IV	ACCOUNTING FOR BRANCHES Meaning – Classification of Branches –Accounting for dependant branches – Accounting for independent branches	10
V	INVESTMENT ACCOUNTS Meaning – Classification of investments – Calculation of purchase price – Disposal of investments – Preparation of Investments account – Calculation of ex-interest and cum-interest	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	P.C. Tulsian	Financial Accounting	Pearson	Latest
T-02	S.N. Maheshwari, and. S. K. Maheshwari	Financial Accounting	Vikas Publishing House, New Delhi	Latest
T-03	M.C.Shukla, T.S.Grewal and S.C.Gupta	Advanced Accounts. Vol.-I	S. Chand & Co., New Delhi	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	R. L. Gupta and M. Radhaswamy	Advanced Accounts. Vol.-I& II	S. Chand & Co., New Delhi	Latest
R-02	A.Mukharji and M. Hanif	Financial Accounting	Tata McGraw, Hill Publishing Co. Ltd. New Delhi	Latest
R-03	S. P. Jain and K. N. Narang	Advanced Accountancy	Kalyani Publishers, New Delhi	Latest
R-04	T. S. Grewal	Introduction to Accountancy	S. Chand & Co. Pvt. Ltd., New Delhi	Latest
R-05	Monga, J. R.	Financial Accounting : concepts and applications	Mayoor Paper Backs, New Delhi	Latest

PROGRAM	Bachelors Of Commerce
SEMESTER	II
COURSE TITLE	Business Statistics
COURSE CODE	04BC0205
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Address advanced accounting issues of partnership firm
- Learn the application of Garner vs. Murray rule
- Understand the difference between hire purchase and installment purchase transactions
- Classify the branches and do the accounting accordingly
- Demonstrate knowledge of the concept of Ex-interest and Cum-interest

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Basic Concepts Basics of Statistics Introduction. Definition of Statistics, Application of Statistics in Business, Economics and Industry. Presentation of Data Data collection methods (Primary Vs Secondary, Population Vs Sample), Classification and Tabulation of Quantitative Data , Frequency distribution and Cumulative frequency distribution, Graphical Presentation of data - Histogram, Polygon and Ogive , (Use of MS-Excel to create Frequency Distribution and Graphs)	08
II	Univariate Analysis Descriptive Measures (Central Tendencies and Variation) Meaning of Central Tendency. Central tendencies – Arithmetic mean, Mode, Median and Percentiles, Variation – Range, Variance and Standard Deviation of ungrouped and grouped data. Coefficient of Variation (CV), Choice of good measures. (Use of MS Excel Statistical function to find descriptive	12
III	Theory of Probability Counting rule($m*n$ rule), Permutation and Combination (Use of MS Excel to compute permutation and combination)	08

	Definition, Basic terminology of Probability, Three approaches of assigning probability (Classical, Relative Frequency and Subjective approach), Rules of probability- Addition rule and Multiplication rule for independent and dependent events.	
IV	Probability Distribution Random variable, probability distribution and mathematical expectation Discrete Probability Distribution: Binomial distribution, Poisson distribution Continuous probability Distribution: Normal Distribution – Properties and Applications (Use of MS Excel Statistical function to compute Binomial, Poisson and Normal probability)	10
V	Bivariate Analysis Correlation and Regression Analysis Meaning of correlation, types of correlation, method of correlation – Karl Pearson’s coefficient of correlation, Meaning of Regression, regression coefficients and two lines of regression, use of regression in prediction. (Use of MS Excel Statistical Function to compute correlation and regression)	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	J K Sharma	Fundamentals of Business Statistics	Vikas Publication	Latest Edition
T-02	N D Vohra	Business Statistics	McGraw Hill Education	Latest Edition
T-03	D P Apte	Statistical Tools for Managers Using MS EXCEL	Excel Books	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Lewin and Rubin	Statistics for Management	Prentice-Hall of India	Latest
R-02	Sancheti D.C. and Kapoor V.K	Statistics: Theory, Methods & Application	Sultan Chand & Sons	Latest
R-03	S.C. Gupta	Fundamentals of Statistics	Himalaya Publishing House	Latest
R-04	S P Gupta	Statistical Methods	Sultan Chand	Latest
R-05	R. P. Hooda	Introduction to Statistics	Macmillan	Latest
R-06	S.C. Aggarwal & R.K Rana	Basic Statistics for Economists	V.K. India.	Latest
R-07	Beri, G.C	Business Statistics	TMH	Latest
R-08	Chandan J S	Statistics for Business and Economics	Vikas Publications	Latest

PROGRAM	Bachelors Of Commerce
SEMESTER	II
COURSE TITLE	Business Environment
COURSE CODE	04BC0208
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the meaning and relationship of environment and business
- Know the characteristics of modern business
- Explain the competitive structure of an industry

Course Contents:

Unit No.	Unit / Sub Unit	Sessions
I	INTRODUCTION TO BUSINESS ENVIRONMENT Introduction to Business environment - salient features – importance - types of business environment-SWOT Analysis- Firm Specific-environment scanning: features - process & techniques, Business Environment with reference to global integration	08
II	ECONOMIC ENVIRONMENT & POLITICAL ENVIRONMENT Political structure: Legislature institutions – executive institutions – judiciary institutions - Economic systems: capitalism, socialism; mixed economy, LPG - Liberalization, Privatization & Globalization and its impacts –Highlights of New industrial policy & its implication in India –Fundamentals of fiscal policy.	12
III	LEGAL FRAMEWORK ISO standards- Bureau Of Indian Standards–Important features of Intellectual property rights – Trademarks –The Competition Act 2002: Basics of Foreign Exchange Management Act 1999 (FEMA): Features – objectives - application of the Act - FEMA Vs FERA.	10
IV	TECHNOLOGICAL ENVIRONMENT Innovations, technological leadership and followership- Technology and competitive advantage - sources of technological dynamics - management of technology - transfer of technology – its forms, methods and features - time lags in technology – status of technology in India and its impact on Business –Overview of Technological Policies in India	10
V	SOCIAL ENVIRONMENT Business and Society, Changing Concepts and objectives of Business, Interdependence of business and society, technological development and	8

	social change, Consumers' rights & consumerism, Consumer protection Act; corporate governance.	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
1	Francis Cherunilam	Environment For Business	Himalaya Publishing House	2 nd edition 2011

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
1	Mishra, S.K. and Puri V.K	Economic Environment of Business	Himalaya Publishing House	1 st - 2011
2	Paul Justin	Business Environment- Text and Cases	TATA McGraw Hill Publishing	3 rd - 2010
3	Vivek Mittal	Business Environment	Excel Books	2 nd - 2010
4	Raj Agarwal	Business Environment	Excel Books	5 th - 2002
5	Francis Cherunilam	Business Environment, Text & Cases	Himalaya Publishing House	25 th - 2016
6	Aswathappa K	Essentials of Business Environment	Himalaya Publishing House	13 th - 2016
7	Morrison J	The International Business Environment	Palgrave	2 nd - 2006
8	Richard G. Lipsey	An Introduction to Positive Economics	ELBS, Oxford	7 th - 1989

List of Journals /Periodicals/ Magazines/ Newspapers etc.



1. International Journal of Business Environment
2. International Journal of Entrepreneurship & Business Environment Perspectives
3. Journal of World Business
4. Economic & Political Weekly
5. Intellectual Property Rights
6. Corporate Governance
7. Business India / Business World
8. Banking & Finance
9. Industrial Economist
10. Fortune, Global Business Review,
11. Economic Survey- GOI
12. World Development Report
13. India Development Report (Latest Edition)
14. RBI Annual Report, etc

PROGRAM	Bachelors Of Commerce
SEMESTER	II
COURSE TITLE	Applications Of Spreadsheet
COURSE CODE	04LS0212
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

COURSE OUTCOMES:

- Able to perform routine organizational tasks using Spreadsheets.
- Can be able to understand about pivot tables and how to use it for routine purpose.
- Able to manage spreadsheet and be able to compare data in to different spreadsheet.
- Create a dynamic spreadsheet.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Manage Worksheet Data, Reorder and Summarize Data Understanding software for spreadsheet, learning basic menu items, Basic operations like create, open and save a file, worksheets and workbooks, Renaming Inserting Data in proper tabular format, Basic formatting like changing fonts, size, merging and splitting cells, Coloring cells, conditional formatting	06
II	Functions & Formulas Basic Arithmetic Functions , Conditional Functions, Lookup Functions, Sorting and Filtering Data, Paste Special, Data Validation, Converting Text to Table, Working with multiple sheets	09
III	Data Analysis and Printing Analyze data dynamically by using PivotTables , Filter, show, and hide PivotTable data, Edit PivotTables, Format PivotTables, Create PivotTables from external data, create dynamic charts by using Pivot Charts, Page Setup and Printing	09

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Cox et al	Step by Step 2007 Microsoft Office System	PHI Learning Private Limited	Second Edition, 2009

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Curtis Frye	Microsoft Excel 2016 Step by Step	Microsoft Press	Latest

PROGRAM	Bachelors Of Commerce
SEMESTER	II
COURSE TITLE	Macroeconomics
COURSE CODE	04LS1203
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Comprehend why household, business, government and global behavior determine the aggregate demand for goods and services.
- Understand the basics of national income accounting.
- Apply economic reasoning to understand the operation of an economy.

Course Contents:

Unit No	Unit/Sub-unit	Sessions
I	Introduction to Macroeconomics & National Income Nature and Scope of Macroeconomics, Circular Flow of Income and National Income Accounting, Concepts of GDP and NDP - Sectoral Composition of National Income - GDP measured at Factor Price and Constant Prices- Concept of GNP and NNP, Factor Cost and National Income-Per Capita income, Disposable Income and Personal Disposable Income- Measurement of National Income – Difficulties in measuring National Income	10
II	Keynesian Economic Theory Say's Law of Market and its criticism by Keynes. Simple Keynes Model of Income Determination. Concepts of Consumption Function, Saving Function and Investment Function. Average Propensity to consume, Marginal Propensity to Consume, Investment Multiplier–Marginal Efficiency of Capital and factors affecting MEC.	10
III	Money Supply and Central Bank Meaning and Evolution of Money- Definition of Money- Functions of Money – Demand for Money - Quantity Theory of Money- Fisher's Equation of	10

	Exchange-Cambridge Theory. Supply of Money – Determinants of Money Supply- Components of Money Supply- RBI’s Approach-M1, M2, M3, M4.	
IV	Business Cycle & Inflation Concepts of Business cycle – Four phases of Business Cycle – Interest rate – Loanable fund Theory and Liquidity preference theory- Motives for liquidity preference--Transaction Motive, Precaution Motive, Speculative Motive. Factors affecting interest Rate, Inflation-Meaning, Types, Causes, Effects- Inflation and Investment.	10
V	Open Economy Macroeconomics Balance of Payments –Meaning and assessment, Balance of payment and disequilibrium causes and remedies. Introduction to Foreign Exchange Rates- Fixed V/s Flexible foreign exchange rates. Exchange rate determination.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	H.L.Ahuja	Macro Ecoomics	S.Chand	20 th ,2015

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	D.M.Mithani and Prof. Nayak	Macroeconomics II	Himalaya Publication	1 st edition
R-02	D. N. Dwivedi	Macroeconomics Theory and policy	Tata Mcgraw Hill	4 th edition
R-03	Mankiw	Macroeconomics- Indian edition	Cengage	1st

PROGRAM	Bachelors Of Commerce
SEMESTER	II
COURSE TITLE	Fundamentals of Human Resource Management
COURSE CODE	04LS1209
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the various functions of the HR management and a range of practices employed by organizations.
- Develop appropriate methods for attracting, retaining, developing and engaging talent for the organization.
- Identify employment related challenges faced by the organization

Course Contents:

Unit No.	Unit / Sub Unit	Sessions
I	INTRODUCTION TO HUMAN RESOURCE MANAGEMENT Introduction – Meaning - Objectives of Human Resource Management- Importance of HRM – Functions and Process of HRM- HR Manager - Duties and Responsibilities – Recent trends in HRM	10
II	PROCUREMENT OF HUMAN RESOURCE Human Resource Planning – Significance and Process, Job Analysis - Process- Job Description & Job Specification, Recruitment –Sources– Methods of Recruitment, Selection – Steps in Selection Process – Placement and Induction	12
III	TRAINING AND HUMAN RESOURCE DEVELOPMENT Training- Significance of training - identification of training needs - methods of training – Difference between Training & Development- Design of Training Programme- Evaluation of Training Effectiveness	07
IV	COMPENSATION AND MAINTAINENCE Job Evaluation – Concept, Process and Significance- Components of Employee Remuneration – Base and Supplementary- types of employee benefits and services; Performance Appraisal – Concept and Objectives- Traditional and Modern Methods	09
V	INTRODCUTION TO INDUSTRIAL RELATIONS Industrial Relation – Objectives – Approaches of Industrial Relations – Collective Bargaining – Grievance Process	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Pravin Durai	HumanResource Management	Pearson Publication	Second Edition
T-02	Gary Dessler and Biju Varkkery	Human Resources Management	Pearson Publication	Thirteenth Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	V. S. P. Rao	Human Resource Management– Text and Cases	Excel Books	Third Edition
R-02	K. Aswasthapa	Human Resource	Tata Mc Graw Hill	Sixth Edition
R-03	P. Subba Rao	Essential of Human Resource Management and Industrial relations	Himalaya Publishing House	Fifth Edition
R-04	Sinha, Sinha and Shekhar .	Industrial Relations, Trade unions and Labour Legislations	Pearson Education	Second Edition

PROGRAM	Bachelors Of Commerce
SEMESTER	III
COURSE TITLE	Cost Accounting - I
COURSE CODE	04BC0301
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Students will understand how to bifurcate the cost based on different classification
- Students will acquaint with various methods involved in cost ascertainment.
- Interpret the impact of the selected costs method
- Identify the specifics of different costing methods

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO COST ACCOUNTING Understanding of Cost, Costing, Cost Accounting and Cost Accountancy – Difference between Cost, Expense and Loss – Objectives of Cost Accounting– Elements of Cost – Fundamental understanding of Cost Unit, Cost Center, Cost Object, Cost Ascertainment & Cost Estimation – Methods and Techniques of Cost accounting – Advantage and Limitations of Cost Accounting – Classification of cost – Comparison between Financial Accounting and Cost Accounting	10
II	ELEMENTS OF COST (DIRECT EXPENSE) MATERIAL Meaning of Material (Direct & Indirect) – Material Control (Inventory Control) – Techniques of Inventory Control – EOQ – ABC Analysis – Setting Stock Levels – Treatment of Material losses – Normal loss and Abnormal loss – Accounting treatment for waste, scrap, spoilage & defectives	10
III	LABOUR Meaning & Types of Labour (Direct & Indirect) – Timekeeping – Time booking - Idle Time – Overtime – Labour Turn Over. Methods of Remuneration - Time Rate System – Piece Rate System – Incentive – Halsey plan – Rowan Plan- Taylor's differential Piece Rate System and Merrick's Differential Piece Rate System –	10

	Gantt's task and bonus plan – Emerson's Efficiency plan	
IV	ELEMENTS OF COST (INDIRECT EXPENSE) Meaning Definition and Classification of Overheads — Allocation of Overheads – Apportionment of Overheads – Primary & Secondary Overhead Distribution Summary – Repeated Distribution Method – Simultaneous Equations Method – Absorption of Overheads – Under & Over Absorption – Methods of Absorption – Treatment of Absorption – Machine Hour Rate	10
V	Unit Costing Meaning of Unit Costing – Preparation of Cost Sheet - Estimated Cost Sheet – Treatment of Raw- Material, Work in Progress and Closing Stock in Cost Sheet – Treatment of scrap	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M. N. Arora	Cost and Management Accounting	Vikas Publication	10/e

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	P.C.Tulsian	Cost Accounting	S Chad	8e
R-02	S.N.Maheswari	Cost & Management Accounting	Sultan Chand & Sons	14/e
R-03	M.Y.Khan	Cost Accounting	Tata McGraw Hill	2/e

PROGRAM	Bachelors Of Commerce
SEMESTER	III
COURSE TITLE	E COMMERCE
COURSE CODE	04BC0302
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

- detail what is meant by the term 'e-commerce'
- examine some typical electronic commerce applications
- detail some of the problems that are encountered when developing e commerce applications
- describe briefly some of the technologies that are used to support online applications
- show how some of the technologies detailed in the course are used in concert to realise a typical commercial system

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO E COMMERCE Introduction to E-Commerce – History of E-commerce, types of E-Commerce - Comparison of traditional commerce and e-commerce. Business models under E-Commerce – Business to Business (B2B) - Business to Customer model (B2C), Consumer-to-Consumer (C2C) - Consumer-to-Business (C2B) model - Peer to-Peer (P2P) model – emerging trends - Advantages and Disadvantages of e-commerce - web auctions, virtual communities - portals - e-business revenue generation models.	10
II	HOW TO SET UP E COMMERCE BUSINESS Why do I want to set up an E-Commerce enterprise? competition, global research, customer service, value edition, operations oriented process, 'pettish' products; What do I want to do on the net? Web development and maintenance, static web pages, integration with operational database, dynamic web site, customer transaction, transaction processing/ payment, merchant account, transaction processing, online credit card frauds, full E-Commerce.	10
III	PAYMENTS IN E – BUSINESS	10

	E-payment systems – An introduction - B to C payments - B to B payments - Types of E- payment system – Credit card - debit cards - accumulating balance - online stored value payment systems - Secure Electronic Transaction (SET) protocol - payment gateways - digital cash - digital wallets - agile wallet - smart cards and digital cheques.	
IV	SECURITY OPERATIONS FOR E-BUSINESS Possible Security threats – implementation of E-commerce security – encryption – Decryption - protecting client computers - E-Commerce Communication channels and web servers Encryption - SSL protocol – Firewalls - Cryptography methods – VPNs - protecting networks - policies and procedures	10
V	MARKETING OF E-BUSINESS E-Commerce and marketing - B to B and B to C marketing and branding strategies - Web transaction logs – cookies - shopping cart database – DBMS – SQL - data mining - CRM (customer relationship Management) system – permission marketing - affiliate marketing - viral marketing.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	K. Bajaj & D. Nag	E-Commerce: The cutting edge of business	McGraw Hill Education (India) Private Limited	2005

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Becker, S. Ann (ed.),	Electronic Commerce: Concepts, Methodologies, Tools and Applications		2007

PROGRAM	Bachelors Of Commerce
SEMESTER	III
COURSE TITLE	Financial Management -I
COURSE CODE	04BC0303
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Get acquainted with basic understanding of financing, investing, dividend and working capital decisions of an enterprise.
- Compute the cost of capital.
- Identify various techniques of capital budgeting.
- Understand dividend and its models

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Financial Management: Meaning & definition, nature, scope and functions; profit vs. wealth maximization, Finance function in an organization and role of finance manager. Time Value of Money - present value and future value, annuity, Loan Amortization, real and nominal value.	8
II	Financing Decision & Cost of Capital: Sources of Financing: Equity, Preferred, Debt and other sources, Cost of Capital - cost of equity capital, preferred capital, debt capital and retained earnings and overall cost of capital (WACC). An overview of equity & debt financing pattern in corporate India.	12
III	Investment Decisions: Importance of capital budgeting decision, Estimation of cash flows, Capital Budgeting appraisal method – payback period, Average rate of return, NPV, IRR and profitability index. Investment appraisal methods in practice by corporate world.	12
IV	Dividend Decision: Meaning and forms of dividend, factors affecting dividend decision, Models of	8

	dividend: Walter's Model, Gordon's Model and MM Hypothesis.	
V	Liquidity Decision: Meaning, concept, components, determinants and need of working capital; types of working capital, estimation of working capital requirement, operating cycle period.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Prasanna Chandra	Financial Management – Theory & Practices	New Delhi, TMH	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	I.M. Pandey	Financial Management	Vikas Publication	Latest Edition
R-02	M.Y. Khan and P.K. Jain	Financial Management – Text, Problems & cases	New Delhi, TMH	Latest Edition
R-03	Rajiv Srivastava and Anil Sharma	Financial Management	Oxford University Press	Latest Edition
R-04	Horne, James C Van.	Financial Management And Policy	Phi Learning Pvt Ltd	Latest Edition



PROGRAM	Bachelors Of Commerce
SEMESTER	III
COURSE TITLE	Principles of Marketing
COURSE CODE	04BC0304
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand Fundamental Marketing Concepts and marketing environment.
- Understand the concepts of Basic 4Ps of Marketing.
- Understand and apply the concepts of Segmenting and Targeting Customers.
- Comprehend various channels of distribution and various means of promotion.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO MARKETING MANAGEMENT Nature, Scope & Importance of Marketing, Concepts of Marketing, Marketing Mix, Environmental Factors Affecting Marketing, Wants, Demands, Customer Value, Satisfaction - Marketing post LPG	08
II	CONSUMER BEHAVIOUR & SEGMENTATION Overview of Consumer Behavior, Factors affecting Consumer Buying Decisions, Consumer Buying Process Market segmentation: Concept, Importance and Bases; Target market selection; Positioning concept, importance and bases; differentiation strategies - an overview	10
III	PRODUCT AND PRICING Product: Product Mix, Product Life Cycle, New Product Development, Overview of Brand Pricing: Significance, Factors affecting price of a product, Pricing policies and strategies.	10
IV	PLACE AND PROMOTION Distribution: meaning and importance, Types of distribution channels; Wholesaling and retailing (Only Overview), Factors affecting choice of distribution channel, Logistics-Overview & Importance	12

	Promotion: Nature and importance, Promotion Tools: advertising, 5 Ms of Advertising, personal selling, public relations, Direct Marketing & sales promotion – concept and characteristics, Communication process, Promotion mix	
V	CONTEMPORARY ISSUES IN MARKETING Overview of Social Media Marketing; Online Marketing, Overview of Services Marketing and Additions Ps of Marketing, Overview of Green Marketing, Overview of Rural Marketing.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Philip Kotler & Kevin Lane Keller	A Framework for Marketing Management	Pearson Education.	Sixth Edition (2016)

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Philip Kotler; Kevin Lane Keller; Abraham Koshy; MithileshwarJha	Marketing Management: A South Asian Perspective	Pearson Education	Latest Edition
R-02	Karunakaran	Marketing Management (Text and Cases in Indian Context)	Himalaya Publishing House	Latest Edition
R-03	Rajan Saxena	Marketing Management	TMGH	Fourth Edition



PROGRAM	Bachelors Of Commerce
SEMESTER	III
COURSE TITLE	LEGAL ASPECTS OF BUSINESS
COURSE CODE	04BC0305
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the legal provisions in India related to Business.
- Understand provisions regarding Indemnity, Guarantee and others.
- Gain in-depth knowledge about sale and agreement to sell
- Examine the features of partnerships and registrations process of the partnership
- Understand various provisions related to Negotiable Instruments in Business
- Apply theoretical and practical learning to problems related to legal matters in their business.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INDIAN CONTRACT ACT, 1872: GENERAL PRINCIPLE OF LAW OF CONTRACT Introduction, Agreement, Object of the Law of Contract, Nature of Contract, Essential fundamentals of a Valid Contract, Classification of Contract, and Kinds of Contracts, including E-contract, Distinguish between Agreement and Contract. Tender (Offer or Proposal), Acceptance, Promise, Revocation. Capacity to Contract, Free Consent, Consideration, Void Agreements, (Conditional Contract) Contingent Contract, Quasi Contract, Performance of Contract, Discharge of Contract, Remedies for breach of Contract,	12
II	INDIAN CONTRACT ACT, 1872: SPECIAL CONTRACTS A. Indemnity and Guarantee: Introduction, Essential Features, difference between Indemnity and Guarantee, Extent of Surety's liability, Kinds of Guarantee, Rights of Surety, Discharge of Surety	12

	<p>B. Bailment :Introduction, Classification of Bailment, Duties and Rights of Bailor and Bailee - Law relating to Lien, Rights of bailor and bailee against wrong doer, Finder of loss goods, Termination of bailment</p> <p>C. Pledge:Introduction, Difference between bailment and pledge, rights and duties of pawnor and pawnee, pledge by non-owners</p> <p>D. Contract of Agency:Introduction, Essentials of agency, Rules of agency, who can employ an agent?, who may be an agent?, Agent and servant, Agent and independent contractor, Test of agency, Creation of agency, Classification of agent, Relations of principals and agent, Duties and rights of principal, Delegation of authority, Relations of principal with third parties, Liabilities, Termination of agency</p>	
III	<p>SALE OF GOODS ACT, 1930</p> <p>Introductory Concepts, kinds of Goods, (Development) Formation of Contract of Sale, Difference between sale and agreement to sell, Sale and hire purchaser agreement, Subject matter of contract of sale, Effects of destruction as to time</p> <p>Condition and warranties, caveat emptor, transfer of property, performance of contracts, rights and duties of buyer and seller, rights of an unpaid seller, remedies for breach of contract of sale, Auction sale.</p>	08
IV	<p>INDIAN PARTNERSHIP ACT, 1932,</p> <p>Introduction, Salient features of partnership, formation of partnership, test of partnership, registration of partnership, relations of partners to third parties, types of partners, dissolution of firm, Amendments of 2008, 2011, 2013</p>	06
V	<p>NEGOTIABLE INSTRUMENTS ACT, 1881</p> <p>Introduction, Characteristics of Negotiable Instrument, Types of Negotiable Instrument, Classification of Negotiable Instrument, parties to a Negotiable Instrument, holder and holder in due course, liability of parties, Negotiation, presentation of Negotiable Instrument, Dishonor of Negotiable Instrument, Discharge of Negotiable Instrument, penalties and procedure, Amendments in 2015</p>	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:**Text Books:**

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M.C. Kuchhal & Vivek Kuchhal	Mercantile Laws	Vikas Publication	6 th Edition 2016
T-02	N.D.Kappor	Elements of Mercantile Laws	Sultan Chand and Sons.	Latest Edition

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	S.S. Gulshan	Business Law	New Age International Publishers	Latest Edition
R-02	Avtar Singh	Principles of Mercantile Laws	Eastern Book Co,	Latest Edition
R-03	Dr.G.K. Kappor	Companies Law and practice	Taxman	Edition 21 st , July 2016
R-04	Shushma Arora	Business Law	Taxman	Edition in Nov, 2015

PROGRAM	Bachelors Of Commerce
SEMESTER	III
COURSE TITLE	Indian Financial System
COURSE CODE	04BC0306
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Describe the financial system, Define and illustrate key financial terms
- Explain the key roles played in a modern society by the financial products, markets and institutions and describe the relative standing of the major financial centers;
- Discuss the changes that have taken place in the way financial services are provided;

Course Contents:

Unit No	Unit / Sub Unit	Sessions
Unit I	An Introduction to the financial system Overview of financial system: Formal and Informal- Difference, Advantages and Disadvantages. Formal financial system: its Constituents and inter-relationships among the components. Functions of a financial system. Role of Financial System in Economic Development Financial regulation and regulatory Agencies (Primarily RBI, SEBI & IRDA): Meaning, features and their kinds (tabular representation of the various regulators, the markets they regulate). Role and functions of RBI, SEBI and IRDA as regulator.	10
Unit II	Financial Institutions Meaning, classification and types of financial institutions: Intermediary financial institutions and non-intermediary financial institutions ; banking and non- banking. Features, Role/ functions Structure, participants and	10

	importance of each kind of institution.	
Unit III	Financial Markets Meaning and Classification of financial markets (multiple ways to classify)-, Money market, Capital Market- Primary And Secondary Market, Forex Market, Debt Market . Features, Importance, Role/functions, structure and participants of each market. Recent Development in Indian Money Market and Capital Market. Interlink between Money Market and Capital Market Overview of Debt Market in India ,Stock holding Corporation of India and Major stock exchange: NSE, BSE, OTCEI,	10
Unit IV	Financial Instruments Meaning , classification and types of financial instruments : Money market instruments, capital market instruments and hybrid instruments - Call money market, T- Bills, Commercial bills, Commercial papers and Certificates of deposits, Government (Gilt- Edged) securities and Industrial securities); Characteristics of financial instruments; New financial instruments; Evaluation of financial instruments (risk return trade-off)	10
Unit V	Financial services Concept of financial services, difference between financial and non financial services, features and importance of financial services; Role/ functions of financial services; Kinds of financial services: fund based and fee based.	08

Learning Outcomes

After studying this course, student should be able to:

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

		Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Pathak Bharati	The Indian Financial System –Markets, Institutions, and Services,	Pearson Education, New Delhi.	4 th Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Bhole L. M	Financial Institutions and Markets, Growth and Innovation,	Tata McGraw-Hill, New Delhi	5 th Edition.
R-02	Khan M. Y	Financial Services,	Tata McGraw Hill	7 th Edition
R-03	Anil Agashe	Financial Services, Markets and Regulations,	Himalaya	1 st Edition
R-04	H.R. Machiraju	Indian Financial System,	Vikas,	4 th Edition.
R-05	Clifford Gomez	Financial Markets, Institutions and financial Services,	PHI,	6 th Edition
R-06	Meir Kohn	Financial Institutions and Markets,.	Tata McGraw Hill,	2 nd Edition
R-07	A Datta	Indian Financial System,	Excel Books	(2012)
R-08	P N Varshney& D K Mittal	Indian Financial System,	Sulthan Chand & Sons.	11 th Edition
R-09	E Gardon& K Natarajan	Financial Markets & Services,	HPH,	10 th Edition.

PROGRAM	Bachelours Of Commerce
SEMESTER	III
COURSE TITLE	Understanding Financial Statements
COURSE CODE	04BC0307
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

OBJECTIVES

- To provide basic understanding of financial statements.
- To explain use of financial information to Value and Analyse firms.
- To enhance understanding and analytical skills for representation of findings and conclusions of Financial Statements.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
Unit I	Introduction of Financial statements & Income Statement: Financial Statements, Importance, Various users of Financial Statements, Presentation of Financial Statements. Interrelation between Income Statement and Balance Sheet Income Statement: manufacturing vs. Trade organizations. Vertical Vs Horizontal form, Components – Sales (Top line), Income from other sources, cost of goods sold, gross margin, EBITDA, EBITA, EBIT, EBT, EAT, Provisions, Earnings available to owners (Bottom Line).	8
Unit II	Statement of Financial Position: Meaning, Definition and purpose, horizontal vs. vertical form. Assets - Fixed, tangible, Intangible assets. Current Assets – Cash, Debtors, Bills receivables, deferred payments, Bank balance, Stock/ Inventory, Tangible & Intangible Assets, Gross block, Net Block, Investments. Current assets: accounts receivables, Inventory, Loans and advances and others. Shareholders ‘funds, Long term Loans. Current liabilities. Understand organisations internal perspective and external perspective, comparative study between two organizations, (Report), Owners v/s lenders perspective,	8

	Comparison between two years of same organizations. Common size, Comparative and Trend Analysis of Financial statement with a simple case study	
Unit III	<p>Cash flow statement: Meaning Definition, Analysis and Applications.</p> <ol style="list-style-type: none"> 1. Cash flow from Operations – Production, Sales, and Delivery of products, collecting payments from customers. 2. Cash flow from investment activities - Purchase/ sales of assets, Loan made to suppliers and received from customers, Payments related to merger & acquisition. 3. Cash Flow from financing activities – Inflow of cash from Investors, banks and Shareholders. 	8

Learning Outcomes

After studying this course, student should be able to:

- Understand purpose of different financial statements
- Gain in-depth Knowledge about different components in the financial statement and their significance to assess the healthiness of the firm
- Examine different financial activities of the firm between two periods and understand how those activities influence on financial healthiness of the firm
- Compare financial statement of different firms through Cash flow Analysis.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Evaluation Criteria	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	N. Ramachandran and RamkumarKakakni	Finance made easy Series (Box set)	Mac-Graw hill publication	Second edition 2014

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition& Year of Publication
R-01	Vishal Thakkar	Finance for Non-Finance	TV18 Broad cast Ltd	Revised edition 2014
R-02	Anil Lamba	Romancing Balance sheet for anyone who owns, runs or manages a business	CNBCTV18 Drawbridge Publication,	Revised edition, 2016



PROGRAM	Bachelors Of Commerce
SEMESTER	IV
COURSE TITLE	Cost Accounting - II
COURSE CODE	04BC0401
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Learn the important cost concepts.
- Understand Application and implementation of costing methods

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Methods of Costing: Job and Batch Costing: Job Costing Procedure, Batch costing ,Economic Batch Quantity Contract Costing: Basics of Contract Costing, Procedure, Special Points in Contract Costing, Cost plus Contract.	10
II	Methods of costing Process Costing: Introduction, Essential Characteristics of Process Costing, Process Costing and Job Costing— A Comparison, Costing Procedure, Normal Loss and abnormal loss, Normal Gain and abnormal Gain, When Output is Partly Sold and Partly Transferred to the Next Process, equivalent production, Inter-process profits	11
III	Methods of costing Operating Costing: Cost unit, Transport costing, Transport costing procedure, Boiler house and power house costing ,Canteen costing	9
IV	Methods of costing Activity Based Costing: Basis Of ABC, Benefits Of ABC Over Absorption Costing, Other Concepts Related To ABC Joint and By-Product Costing; Accounting for joint products ,By- products ,Accounting for by-products, Limitations of joint cost analysis	11
V	Cost Audit and Cost Accounting Standard Cost Audit, Features, Functional Cost Audits, Cost Accounting Standards in	7

	India.	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M. N. Arora	A Textbook on Cost and Management	Vikas Publication	Latest Edition
T-02	Paresh Shah	Cost and Management Accounting	Oxford Publication	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Ravi M kishore	Cost and Management Accounting	Taxmann	Latest
R-02	V Rajshekharn & Lalitha	Cost Accounting	Pearson	Latest
R-03	CharlesT, Horngren, S M	Cost Accounting	Pearson	Latest
R-04	P C Tulsyani	Cost Accounting	S Chand	Latest
R-05	Khan and Jain	Management Accounting	TMH	Latest

PROGRAM	Bachelors Of Commerce
SEMESTER	IV
COURSE TITLE	Entrepreneurship
COURSE CODE	04BC0402
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Comprehend fundamental concepts for starting the business.
- Apprehend the concept of industrial environment and preparing basic plan.
- Understand available sources for raising funds for start- ups.
- Comprehend various challenges and possible solution for starting a business unit.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	ENTREPRENEURSHIP - AN INTRODUCTION: Meaning & Definition of Entrepreneurship, Common Entrepreneurial Characteristics, Required skills of an Entrepreneurs, Entrepreneurial Process, Role of Entrepreneurship in Economic Development of the Nation, Advantages & Drawbacks of Entrepreneurship, Introduction to Intrapreneurship	10
II	UNDERSTANDING INDUSTRIAL ENVIRONMENT: Industry - Large Scale - Small Scale - Tiny - Ancillary - Cottage, Challenges for Small Scale Industries, Registration process of SME, Definition & Symptoms of industrial sickness and suggested remedies for sick units, Domestic & International Entrepreneurship Options	12
III	PREPARING BUSINESS PLAN: Generation of Project Ideas, Sources of Business Ideas, Methods to generate business ideas, Feasibility Analysis: Economic, Managerial competency. Marketing, Financial & Technical, Environmental Scanning and SWOT analysis. Structure of a business plan, Importance of Business Plan, process of Preparation of Business Plan.	08
IV	SOURCES OF FINANCE FOR BUDDING ENTREPRENEURS Debt V/S Equity, Internal V/s External Funds, Options for Borrowing Funds,	08

	Various Financial Institutions Supporting entrepreneurial activities, Introduction to Venture Capital Funding, Managing Growth	
V	SUCCESS & FAILURE STORIES OF ENTREPRENEURSHIP: Discussions of various business stories & Cases of Successful Businesses, Lessons to be learnt from various organizational failures	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Kumar Arya,	Entrepreneurship,	Pearson,	Latest Edition
T-02	Desai Vasant,	The Dynamics of Entrepreneurial Development & Management	Himalaya Publishing House, Delhi	Latest Edition
T-02	Robert D. Hisrich, Michael P Peters and Dean A Shepherd,	Entrepreneurship	TMH	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
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R-01	Poornima M. Charnatimath, ,	Entrepreneurship Development And Small Business Enterprises	Pearson,	Second Edition
R-02	K Ramchandran,	Entrepreneurship – Indian Cases on Change Agents	TMGH	Latest Edition
R-03	Satish Taneja, S.L.Gupta	Entrepreneurship Development New Venture Creation	Galgotia Publishing Company	Latest Edition
R-04	Rashmi Bansal	Stay Hungry Stay Foolish	IIM Ahmedabad CIIE publication	Latest Edition
R-05	Longenecker, Moore, Petty and Palich,	Managing Small Business	Cengage Learning, India Edition	Latest Edition



PROGRAM	Bachelors Of Commerce
SEMESTER	IV
COURSE TITLE	Financial Management –II
COURSE CODE	04BC0403
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Students get acquainted with advance understanding of financial management, valuation concepts, advance capital budgeting and working capital policies.
- Evaluate the valuation of securities
- Understand the concepts of business valuations.
- Analyze theories of capital structure

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Financial Management and Valuation Concepts: Financial decisions in firm, Building blocks of modern finance, Financial System, Financial Planning. Valuation of Bonds and stocks – Bond valuation, YTM, YTC, valuation of preference and equity stocks. Concept of risk & return.	08
II	Capital Structure Decision and its determinants: Capital Structure theories and methods – NI Approach, NOI Approach, MM Approach, EPIT-EPS Analysis. Leverage Analysis – Operating, financing and combined leverage, and point of indifference.	10
III	Advanced Issues in Capital Budgeting: Capital Rationing, Comparison between IRR & NPV, MIRR, Risk analysis in capital budgeting (Certainty Equivalent method, Probability and sensitivity Analysis).	10
IV	Corporate Valuation: Business Valuation – Concept and approaches of valuation. Basic concept of Corporate restructuring, mergers & acquisition, EVA and MVA.	10

V	Working Capital Management and Policy: Cash Management - Meaning, Motives of holding cash, objectives of cash management, Cash budget. Receivables Management – Objectives, Credit policy, credit term and collection policies. Inventory Management - Meaning, Objectives, Factors affecting inventory, Techniques of inventory management: EOQ, ABC Analysis, Reorder point. Working Capital Financing.	10
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Prasanna Chandra	Financial Management – Theory & Practices	New Delhi, TMH	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	I.M. Pandey	Financial Management	Vikas Publication	Latest Edition
R-02	M.Y. Khan and P.K. Jain	Financial Management – Text, Problems & cases	New Delhi, TMH	Latest Edition
R-03	Rajiv Srivastava and Anil Sharma	Financial Management	Oxford University Press	Latest Edition
R-04	Horne, James C Van.	Financial Management And Policy	Phi Learning Pvt Ltd	Latest Edition



PROGRAM	Bachelors Of Commerce
SEMESTER	IV
COURSE TITLE	Auditing
COURSE CODE	04BC0404
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Trace the Evolution, Meaning, Features, Objectives, Principal aspects, Benefits and Limitations of Auditing.
- Audit Process, Audit Engagement Terms, Audit Planning,
- External Confirmation, Verification of Assets, Verification of Liabilities.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Auditing Meaning – Objects –Classification of Audit – Continuous Audit – Periodical or Final Audit – Internal Control – Internal Check – Auditors duty with regards to Internal Check – Difference between Auditing and Investigation	8
II	Procedure of Auditing Meaning of Vouching – Points to be noted in Voucher – Internal check with regards to Cash Transactions and Trading Transactions – Audit of impersonal ledger – Verification and Valuation of Assets and Liabilities	11
III	Audit of Limited Companies: Company Auditor: Qualifications and disqualifications – Appointment – Removal – Remuneration – Rights – Duties – Liabilities of an Auditor: Civil Liability and Criminal Liability of Auditor – Audit Committee – Audit of Banking Companies – Audit of Insurance companies	9
IV	Auditor's Report Content of Auditor's Report – Emphasis on Companies Auditor's Report Order, 2016 (CARO – 2016) – Applicability – Companies not	

	covered in CARO 2016 – Summary of all 16 Clauses.	11
V	Recent Trends in Auditing Cost Audit – Tax Audit – Management Audit – Audit of Computerized Accounts – Consideration of Audit in EDP Environment – Relevant Auditing and Assurance Standards	9

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Gupta, Kamal and Ashok Arora	Fundamentals of Auditing	Tata Mc-Graw Hill Publishing Co. Ltd., New Delhi	Latest Edition
T-02	Tandon, B. N., S. Sudharsanam and S. Sundharabahu	A Handbook of Practical Auditing	S. Chand and Co. Ltd., New Delhi	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Strawser R., Jerry. and Robert R Strawser	Auditing	Thomson Learning	Latest
R-02	Michael Chris Knapp	Contemporary Auditing: Real Issues and Cases	Thomson Learning	Latest
R-03	Alvin, S.A. Arens and K. Loebbecke James	Auditing: An Integrated Approach	Prentice Hall	Latest



PROGRAM	Bachelors Of Commerce
SEMESTER	IV
COURSE TITLE	Income Tax- Law and Practice-I
COURSE CODE	04BC0405
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the basic provisions of Income Tax Law in India
- Calculate income under the head of Income from Salary
- Calculate income under the head of Income from House Property.
- Calculate income under the head of Income from Profits and Gains of Business and Profession

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION : History – Background - Levy of income tax - Rates of tax & slab – Important Definitions - Agricultural income RESIDENTIAL STATUS : Relevance and significance of residential status - Types of residential status and its Determination - Incidence of tax based on residential status EXEMPT INCOME: Income which do not form part of total income -Conditions to be satisfied for availing exemptions	08
II	INCOME UNDER THE HEAD SALARY Definition of Salary – Chargeability - Treatment of various Allowances - Perquisites and their valuation - Retirement benefits - Provisions regarding Provident Fund - Deductions from gross Salary - Computation of taxable salary (Practical Problems)	10
III	INCOME FROM HOUSE PROPERTY Chargeability of income from house property - Deemed ownership - Composite rent - Annual value and its determination - Deductions from annual value - Computation of taxable income under this head (Practical Problems)	10

IV	COMPUTATION OF ALLOWABLE DEPRECIATION Concept – Conditions to be satisfied – Computation of depreciation allowance	06
V	INCOME UNDER PROFITS AND GAINS OF BUSINESS AND PROFESSION Meaning of Business and Profession – Chargeability of income from profits and gains of business and profession - Allowable expenses – Expressly disallowed expenses - Deemed profits and incomes - Computation of taxable income under this head (Practical Problems)	14

Note: Any change in the provisions of Income Tax Act, 1961 as per budget or otherwise, shall be respectively made applicable to the syllabus. The syllabus of an academic year shall be the provisions of the relevant Assessment Year.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Dr. V. K. Singhania and Dr. Monica Singhania	Students' guide to Income Tax (University Edition)	Taxmann	Latest
T-02	Dr. Girish Ahuja and Dr. Ravi Gupta	Direct Tax Law and Practice	Bharat Publication	Latest
T-03	CA. T. N. Manoharan	Direct Tax Laws	Snow White Publication	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Dr. Girish Ahuja and Dr. Ravi Gupta	Practical Approach to Tax Laws and Practice	Bharat Publication	Latest
R-02	Dr. V. K. Singhanian and Dr. Monica Singhanian	Students' guide to Income Tax	Taxmann	Latest
R-03	Gaur, V. P. & Narang, B. K.	Income tax Law and practice	Kalyani Publishers, New Delhi	Latest
R-04	Prasad, B.	Income tax Law and practice	New Age Publications	Latest
R-05	B.B. Lal and N. Vashisht	Direct tax	I. K. International Publishing House	Latest

PROGRAM	Bachelors Of Commerce
SEMESTER	IV
COURSE TITLE	Trade Theories & Practices
COURSE CODE	04BC0406
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Students should be able to analyze changes and problems in light of trade theories and policies.
- Discuss the changes that have taken place in the composition of the trade in India over the time

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION Trade: Meaning and its types. Why do countries trade: Difference between internal and international trade. Characteristic of International Trade and domestic trade. Inter-regional and international Trade. Need and importance of Foreign Trade .Problems and Prospects in International Trade. International Trade Theories: Mercantilism, Absolute Cost Advantage, Comparative Cost Advantage, Heckscher-Ohlin Theory, Factor Endowment Theory, The Product Life-Cycle Theory, New Trade Theory- Theory of External Economies, National Competitive Advantage Porter's Diamond. Terms of Trade - Concept, Measurement, Types, Factors affecting Terms of Trade: Coastal trade prospects and Challenges: India's Internal Trade- Characteristics and Problems. Terminology and abbreviations in Trade practices	12
II	TRADE POLICY : Free Trade - concept and its merits and demerits; Protection - concept, Merits and Demerits, Methods of Protection. Tariffs barriers - Meaning, Types of Tariffs. Effects of Tariffs on International Trade. Non- Tariff Barriers -Import Quotas, Dumping, etc., Concepts of Trade Sanctions, Trade Barriers and Fair trade.	08
III	FORIEGN TRADE: INSTITUTIONAL ASSISTANCE IN INDIA	8

	Foreign Trade of India – Brief history & Recent trends. Composition of Imports and Exports – An overview of pattern of foreign trade in different five year plan periods. Direction of India’s Foreign Trade. Major trading partners. Recent Developments in India’s Trade. The Role of EXIM BANK, ECGC, STC, MMTC.	
IV	BALANCE OF PAYMENTS : Balance of Trade and Balance of Payments, Equilibrium and Disequilibrium in Balance of Payments, India’s Balance of Payments during Planning Period and Trends: Problems of BOT, BOP and corrective measures. Trade Policy in India – General Developments during planning period. Import substitution and Export promotion. Recent changes in trade policy, Trade agreements: GATT & WTO, UNCTAD	10
V	Regional Blocs and International Institutions: Regional Economic Groupings: EU, SAARC, OPEC, ASEAN. International Institutions : IBRD, IMF, ADB, NDB	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Anil Arora	International Trade: Theories and Current trends in the Globalised world	Deep and Deep publications	Latest
T-01	Francis Cherunilam	international trade and export management	Himalaya Publishing House	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Haberler G	Theory of International Trade	Augustus M Kelley Pubs	Latest
R-02	Salvi P.G	New Directions on India's Trade policy	The university of Michigan Press	Latest
R-03	Plaekar	Trade of India	The University of Michigan Press	Latest
R-04	Jacob Viner	Studies in Theory of International Trade	Routledge Library Edition	Latest

Online Resources:

WTO: <http://www.wto.org>

UNCTAD: <http://www.unctad.org>

OECD: <http://www.oecd.org>

International Center for Trade and Sustainable Development: <http://www.ictsd.org>

The World Bank: <http://www.worldbank.org>

PROGRAM	Bachelors Of Commerce
SEMESTER	IV
COURSE TITLE	Fundamentals of Investments
COURSE CODE	04BC0407
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

COURSE OUTCOMES:

- The students should be familiar with different investment alternatives,
- Should be familiar with the framework of their analysis and highlight the role of investor protection.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Investment Environment & Avenues: Meaning and Concept, Saving V/S Investment, Traders, Speculators, Gambler, Investors, Investment Avenues: Deposits – Bank and Post office; Government Saving Schemes – PPF, NSC, SCSS, Recent Govt. Securities Schemes; Bond and Debentures; Equity Share Market; Mutual Fund – Various Schemes, Insurance Product; Retirement Product; Money Market Instrument – T- bills, CP,COD,CBLO, Repos ; Real Estate ; Precious Assets Market; Financial Derivatives Instruments; New Investment Avenues – ETFs, TIPS, STRIPS,Souvenir Gold Scheme	8
II	Stock Market & Indices Participants in Securities market, Primary and Secondary equity market, Buying and Selling of Share in Market, payment Settlement System, Indian Stock Exchanges, Foreign Stock Exchanges, Stock Indices in India and abroad-Composition of Stocks in Stock indices (Nifty, BSE, Sector Specific), Computation of Indices (BSE And NSE), Factors affecting Change in Stock Indices, Role of SEBI and stock exchanges in investor protection; Investor grievances and their redressal system, insider trading, investors' awareness and activism.	8
III	Security Analysis – Risk and Return	8

	The Concepts of Risk and Return, The Components of Return, Measurement of Rate of Return, Measuring historical return, Sources of Risk, Measuring Historical Risk, Risk in a Portfolio Context, Diversification, Diversifiable and Non-diversifiable Risk, The Relation between Risk and Expected Rate of Return Measuring Expected Risk and Return, Measurement of Non-diversifiable Risk, Practice Study of Calculation of Risk and Return of Securities from Nifty and BSE in Microsoft Excel.	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Sanjay Matai	Your Guide to Finance and Investments	CNBC 18	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Prasanna Chandra	Investment Analysis and Portfolio Management	McGrow-Hill Publication	Fourth Edition
R-02	Shalini Amarnani	Everything You Wanted to Know About Investing (A New Perspective)	CNBC 18	Latest

PROGRAM	Bachelors Of Commerce
SEMESTER	V
COURSE TITLE	Research Methodology
COURSE CODE	04BC0501
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- To gain basic knowledge on research methods.
- To make decisions based on actual business conditions using statistical method.
- To demonstrate knowledge in different types of research methods and techniques.
- To perform statistical analysis and compile structured reports that reflect appropriate decision making.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Business Research Business Research Methods : Introduction, Basic Research, Applied Research, Business Research Methods, Business Research Process Design(10-Steps)	12
II	Research Process Introduction to Qualitative and Quantitative Research, Sampling Design – Census and Sample survey, Characteristics of good sample design, Sampling Methods – Random sampling and non-random Sampling, Sampling and non-sampling Errors.	06
III	Data Collection, Measurement and Scaling Data collection methods – Primary and Secondary Data , Measurement in Research, Measurement Scale, Meaning of Scaling, Scaling Techniques and their construction , Questionnaire Design.	12
IV	Analysis of Data and Hypothesis Testing Excel for Data Preparation and Analysis, Formulation and statement of hypothesis, confidence interval, Type-I error, Type-II error, one-tailed & two tailed tests , Testing of hypothesis(z-test & t-test for single population)	12
V	Preparing Reports Technical and Academic Report Writing, Significance of Report writing, Layout of Research Report, Precaution for writing Research Report and Conclusion.	06

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
TEXT BOOKS:-

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Naval Bajpai	Business Research Methods	Pearson	2/e, 2017
T-02	C.R.Kothari And Gaurav Garg	Research Methodology: Methods And Techniques	New Age International	3/e, 2014

REFERENCE BOOKS:-

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Deepak Chawla & Neena Sodhi	Research Methodology, Concepts And Cases	Vikas Publication	2/e,2016
R-02	Cooper And Schindler	Business Research Methods	Mcgraw-Hill Publication	12/e,2014
R-03	D.K. Bhattacharya	Research Methodology	Excel Books	2/e,2006
R-04	J K Sachdeva	Business Research Methodology	HPH	2/e,2011
R-05	Uma Sekaran & Roger Bougie	Research Methods For Business – A Skill Building Approach	Wiley	6/e,2013
R-06	Naresh K Malhotra	Marketing Research	Pearson Education	5/e,2007

PROGRAM	Bachelors Of Commerce
SEMESTER	V
COURSE TITLE	GST And Its Practices
COURSE CODE	04BC0502
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the Constitutional provisions relating to Indirect Taxation in India;
- Understand the taxable event for levy of GST;
- Understand Supplies covered by Negative List and Exemptions from GST;
- Make Valuation of Taxable Supply and understand about Time of Supply;
- Understand about various returns to be filed by GST Dealer and Modes of Payment of GST;
- Basic understandings of GST portal.

COURSE CONTENTS:-

Unit No	Unit / Sub Unit	Sessions
I	Introduction Of GST Introduction of Indirect Tax - Basics of GST – Brief History of GST - Constitutional provisions on GST- Central and State Government Powers on Taxing GST – GST Council – Advantages and Disadvantages of GST	4
II	Supply Taxable event in case of GST- Importance of Supply in the context of GST- Definitions of Goods and Service - Meaning and Definition of Supply- Scope of Supply - Inclusions and Exclusions from Supply- Important elements of Supply.	10
III	Non Taxable Supply - Negative List And Exemptions Overview of Supplies covered by Negative list- Overview of Supplies covered by Exemptions.	12
IV	Valuation And Time Of Supply Valuation of Supply by Transaction Value Method- Overview of Time of Supply	10
V	Returns Filings And Payments In GST Returns under GST- GST Portal - Frequency and general content of Returns- Due dates for filing GST Returns - Payment of GST.	12

NOTE:-Provisions of the GST Act as amended from time to time shall be the part of syllabus.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

TEXT BOOKS:-

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	V.S.Datey	GST	Taxman	2018

REFERENCE BOOKS:-

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Prakhar Jain	The Simplified Indian Gst Law	White Falcon Publishing	2018
R-02	Board Of Study- Icai	Study Material Of Gst	Bos-Icai	2018

PROGRAM	Bachelors Of Commerce
SEMESTER	V
COURSE TITLE	Corporate Accounting
COURSE CODE	04BC0503
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Account for the transactions related to equity shares of a company
- Account for the transactions related to preference shares of a company
- Account for the transactions related to debentures
- Prepare financial statements of company
- Calculate the value of shares of a company

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Accounting For Equity Share Capital Journal entries for issue of equity shares at par, at premium and at discount, Calls in arrears, Calls in advance, Pro-rata allotment of shares, Forfeiture of shares, Re-issue of forfeited shares, Buy back of shares	08
II	Accounting For Preference Share Capital Journal entries for issue of preference shares at par, at premium and at discount, Meaning of redemption, Conditions for redemption, Journal entries for redemption, Creation of Capital Redemption Reserve Account	10
III	Accounting For Debentures Journal entries for issue of debentures at par, at premium and at discount, Redemption of debentures by installment, by purchase from open market, by conversion, Accounting for Debenture Redemption Fund/ Sinking Fund	08
IV	Corporate Final Accounts Corporate Profit and Loss A/c, Corporate Balance Sheet (as per Vertical Format of Schedule III of Companies Act, 2013); along with all the schedules.	14
V	Valuation Of Shares Need of valuation of Shares, Practical sums for valuation of shares: Net	08

	Assets Method, Yield Method and Fair Value Method	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	S.N. Maheshwari and S.K. Maheshwari	Advanced Accountancy Volume II	Vikas Publication	2015
T-02	P. C. Tulsian and Bharat Tulsian	Corporate Accounting	S. Chand	2017

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Mukherjee and Hanif	Corporate Accounting	Tata McGraw Hill	2005
R-02	J. R. Monga	Basic Corporate Accounting	Mayur Paperbacks	2014
R-03	Ashok Sehgal and Deepak Sehgal	Advanced Accounting Volume II	Taxman	6 th edition, 2008

PROGRAM	Bachelors Of Commerce
SEMESTER	V
COURSE TITLE	Business Ethics & Corporate Governance
COURSE CODE	04BC0504
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the dynamics of business ethics.
- Identify ethical dilemmas in business & suggest solutions to overcome the problems.
- Learn the concept of corporate governance and its relevance to ethical business activity.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Ethics and Values Meaning and classification of Ethics, Ethical Deficit and Erosion, Concern about Ethics: Personal Ethics and Integrity, Definition of Ethics, Relevance of Ethics in Business, Arguments for and against Business Ethics, Ethical Principles in Business, Ethics, Morality, Law, Religion. Values Concept and Types: Model based on Rokeach Value Survey, Ethics and Values, Nature of ethics as moral value; types of value.	09
II	History Of Indian And Western Ethics: Brief History of Indian (Vedas, Ramayana and Gita) and Western Ethos(Bible, Aristotle and Plato) : Areas of Convergence and Divergence Contributions of Rabindranath Tagore, Swami Vivekananda, Mahatma Gandhi, Sri Aurobindo in Indian Ethos.	10
III	Ethical Dilemma and Essence of Decision Making Ethic Meaning and structure of Ethical Dilemma in business, Sources of	10

	Ethical Problems, Managing Ethical Dilemmas; Understanding Decision making, Model of Cognitive Moral Development, The Process of Making Good Ethical Decision; Dynamics of Ethical Leadership.	
IV	Ethical Issues in Financial Management, Marketing & HRM Introduction to Ethics in Finance, Ethical issues in Financial Markets, Financial service industry and by Financial people in organizations . Case study on Strategic failure of Satyam Computer Service. Role of Marketing, Areas in Marketing Ethics, Truth and Advertising; Functional Areas of HRM, Need for Workplace ethics, HR related ethical issues, Rights and duties of Employees .	11
V	Introduction to Corporate Governance Concept, Need for Governance in Business, Objectives of Corporate Governance, Definition and attributes of good corporate governance, Corporate governance theories – Agency, Stewardship, Shareholder, stake holder theory , Role of Board of Governors, Factors influencing quality of Corporate Governance. Indian Committees and Guidelines on Corporate Governance	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	A. C. Fernando	Business Ethics and Corporate Governance	Pearson	2 nd edition, 2012

T-02	Daniel Albuquerque	Business Ethics: Principles and practice	Oxford Uni. Press	2010
T-03	Andrew Crane, Dirk Matten	Business Ethics	Oxford Uni. Press	2010

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	S.K.Chakraborty	Management by Values	Oxford University Press	1991
R-02	Murthy C.S.V.	Business Ethics and Corporate Governance	Himalaya Publishing	1 st edition, 2017
R-03	S K Mandal	Ethics in Business and Corporate Governance	Tata McGraw Hill	2 nd edition, 2012
R-04	Ferrell, Fraedrich, Ferrell	Business Ethics	Cengage Learning	11 th edition, 2017
R-05	Rupani Riya	Business Ethics and Corporate Governance	Himalaya Publishing	4 th edition, 2015

PROGRAM	Bachelors Of Commerce
SEMESTER	V
COURSE TITLE	Income Tax Law and Practice – II
COURSE CODE	04BC0505
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Compute income under the head Capital Gains;
- Compute income under the head Income From Other Sources;
- Compute deductions available to Individuals and HUFs from Gross Total Income and understand the provisions of setoff and carry forward of losses and Clubbing of Income;
- Compute Tax Payable by Individual, HUF and Firm and understand the applicability of TDS, TCS and Advance tax;
- Understand the provisions relating to Filing of Return of Income and Self-Assessment.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Capital Gains Chargeability- Types of Capital Assets-Transfer of Capital Asset- Rates of Capital Gain Tax- Overview of Exemptions available from Capital Gains- Computation of income chargeable under the head Capital Gains.	12
II	Income From Other Sources Chargeability- Incomes covered under other sources- Principle of Grossing Up- Deductions allowed- Inadmissible deductions - Computation of Income from other sources.	6
III	A) Set Off And Carry Forward Of Losses& Clubbing Of Income B) Deductions Available From Gross Total Income Setoff and Carry Forward of Losses – Clubbing of Income - Basics of Deductions- Difference between deduction and exemption- Various deductions available to Individuals and HUFs from Gross Total Income.	10
IV	Tax Payable, TDS, TCS And Advance Tax Computation of Total Income and Tax Payable by Individual, HUF and Firm [excluding LLP & Chapter XIIB of the Income Tax Act,1961) – Tax Deduction at Source- Concept of Tax Collection at Source - Persons liable to pay Advance Tax- Due dates of various installments of advance tax.	12
V	Filing Of Return Of Income& Self-Assessment Persons required to file return of income- Due dates of Filing Return of	8

	Income- Overview of Revised Return and Belated Return- Signing of Return and Self-Assessment. (including filing returns online/ e- returns)	
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Note: Any change in the provisions of the Income Tax Act, 1961 as per budget or otherwise, shall be respectively made applicable to the syllabus. The syllabus of an academic year shall be the provisions of the relevant Assessment Year.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

TEXT BOOKS:-

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Dr. Vinod K Singhania	Income Tax Law and Practice	Taxmann	Latest
T-02	Dr.Girish Ahuja	Systematic Approach to Income Tax	Bharat Prakashan	Latest

REFERENCE BOOKS:-

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	CA. T. N. Manoharan	Direct Tax Laws	Snow White Publication	Latest
R-02	Gaur, V. P. & Narang, B. K.	Income tax Law and practice	Kalyani Publishers, New Delhi	Latest
R-03	Prasad, B.	Income tax Law and practice	New Age Publications	Latest
R-04	B.B. Lal and N. Vashisht	Direct tax	I. K. International Publishing House	Latest

PROGRAM	Bachelors Of Commerce
SEMESTER	V
COURSE TITLE	Company Law
COURSE CODE	04BC0506
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Demonstrate knowledge of the theories, concepts and principles related to the structure and regulation of company organizations.
- Analyze the likely impact of these trends and developments on the major topics in Company Law.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction: Joint stock Company –Meaning- definition - Nature and characteristics of a company- kinds of a company- advantages and disadvantages. History Of Company Law (1956 ACT IN BRIEF). Conversion private company to public ltd company and vice- versa. -lifting of corporate veil - formation of a company [meaning duties and liabilities of promoters]. - Administration of Company Law [including National Company Law Tribunal (NCLT), Appellate Tribunal (NCLAT)-limited liability of partnership -Comparison with partnerships and limited liability partnership	10
II	Documents: Memorandum of Association(MOA): meaning- content -doctrine of ultra-virus- doctrine of constructive notice-doctrine of indoor management-alteration in memorandum of association – Article of Association (AOA)- meaning- content -difference between MOA & AOA. Prospectus- definition- object- conditions for the issue of the prospectus-statement in lieu of prospectus –Types of Prospectus (Abridged prospectus, Shelf Prospectus, Red Herring Prospectus and Deemed prospectus) -misrepresentation and penalties in case of	10

	misrepresentation in prospectus.	
III	<p>Shares Capital</p> <p>Shares: Definition- share Vs stock- Classification- kinds of share capital- alteration of share capital-Reduction of share capital- guidelines for issue of fresh capital- public issue- private placement- underwriting of shares capital- bonus issues-right issues- employees stock action plans- buyback- public share at par, premium and discount- forfeiture, rules for valid forfeiture- transfer& transmission- buy back.</p> <p>Share allotment & share certificate Share allotment- meaning- statutory provisions- irregular allotment- consequences of irregular allotment- rules regarding issue of share certificates- distinction between share certificate and share warrants</p>	10
IV	<p>Management and Meetings</p> <p>Directors Directors: meaning- position- classification, additional, alternate and adhoc director; women directors, independent director, small shareholders' director; director identity number (DIN) - who can appoint a director, qualification & disqualification- appointment of directors- rights, powers, duties and liabilities of a director- number of director & directorship- vacation of office of directors- removal of a director- resignation of a director- interested directors- managing directors</p> <p>Meetings Meetings of shareholders and board; types of meeting, convening and conduct of meetings, requisites of a valid meeting; postal ballot, meeting through video conferencing, e-voting; —Statutory, Annual general meeting and Extra-ordinary General meeting. Company Meetings (Directors) : —Requisites of valid Board Meeting- notice, quorum, Chairman, resolutions, minutes. —Procedure of convening & conducting a Board meeting.</p>	10
V	<p>Winding up of companies</p> <p>Concept - modes of winding up – who can apply for winding-up - effects of winding upon antecedent and other transactions-appointment of liquidators - winding up of unregistered companies</p>	8

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	G.K. Kapoor Sanjay Dhamija	Company Law	Taxmann's University Edition.	20th Edition 2017

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Bare Act	Companies Act 2013	Bharat Law House Pvt. Ltd.	26 th Edition
R-02	G.K. Kapoor Sanjay Dhamija	Company Law and Practice (Paperback): A Comprehensive Text Book on Companies Act 2013	Taxman	22nd Edition 2017

w.e.f 2019

PROGRAM	Bachelors Of Commerce
SEMESTER	V
COURSE TITLE	Tally ERP 9.0
COURSE CODE	04BC1507
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

Course Outcomes:

- Gain complete knowledge of Tally software, theoretically as well as practically.
- Generate various reports and statements using Tally.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	<p>Computerized Accounting Systems using Tally ERP 9</p> <p>Fundamentals of Tally ERP 9 Need of Computerized Accounting – Components of Gateway of Tally – Keyboard Conventions – Closing Tally ERP 9 – Creation of a company – Selection of a Company – Shut a Company – Alteration of Company Details in Tally ERP 9 – Highlights of Features and Configurations in Tally ERP 9.</p> <p>Inventory Management in Tally ERP 9 Meaning of Inventory and Inventory Management – Inventory Master Creation in Tally ERP 9: Creation of Stock Group, Stock Item, Godown and Unit of Measurement – Defining stock opening balance in Tally ERP 9</p> <p>Maintaining Chart of Accounts in Tally ERP 9 Creation of Accounting Ledgers and Groups – Altering, Displaying and Deleting Ledgers and Groups – Defining Ledger opening balance in Tally ERP 9</p> <p>Recording of Day to Day Transactions in Tally ERP 9 Meaning of Source Document or Voucher – Accounting Vouchers: Contra Voucher, Payment Voucher, Receipt Voucher, Purchase Voucher, Sales Voucher, Credit Note Voucher, Debit Note Voucher, and Journal Voucher</p>	14
II	<p>Getting started with GST in Tally ERP 9 Introduction – Enabling GST and Defining Tax Details – Accounting of Supply of Goods: Intrastate Inward and Outward Supply of Goods, Interstate Inward and Outward Supply of Goods, Purchase and Sales Return of Goods – Accounting of Supply of Services: Intrastate Inward and Outward Supply of Services and Interstate Inward and Outward Supply of Services.</p>	08

III	Generating Reports in Tally ERP 9 MIS Reports - <ul style="list-style-type: none"> • Accounting Reports - Statements - Trial Balance, Profit and Loss Account, Balance Sheet , Cash Flow Statement and Fund Flow Statement -Books and Registers - Day Book, Receipts and Payments , Bills Receivable, Bills Payable , Purchase Register and Sales Register • Inventory Reports Stock Summary ,Stock Transfer , Movement Analysis: Stock group and Stock Item Analysis 	02
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

		Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment(Practical)	30% (I.A.)
C	End-Semester Examination(Practical and VIVA with 50% Weightage for each)	50% (External Assessment)

SUGGESTED READINGS:
Text Book:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Tally Education Pvt Ltd, Bengaluru	Official Guide to Financial Accounting using Tally.ERP 9 with GST	BPB Publications	4 th Revised & Updated Edition 2018

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Shraddha Singh	Tally ERP 9 (Power of Simplicity): Software for Business and Accounts	Comprehensive Computer Learning	2014
R-02	Rajesh Chheda	Learn Tally.ERP 9 with GST	Ane's Student Edition	2 nd Edition-2017

PROGRAM	Bachelors Of Commerce
SEMESTER	VI
COURSE TITLE	Management Accounting
COURSE CODE	04BC0601
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the scope of management accounting
- Understand the importance of marginal costing in decision making.
- Apply the control mechanism on all the element of cost that affect production.
- Understand the role of Budgetary control in framing the financial plan.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Management Accounting Meaning, Definition, Nature, Scope, Functions and Limitations of Management Accounting. Relationship and difference between Management Accounting to Cost Accounting and Financial Accounting. Description of Tools and Techniques in Management Accounting.	8
II	Marginal and Absorption Costing Marginal Costing- Meaning, Characteristics, Advantages and Limitations, Difference between Marginal Costing and Absorption Costing. Income determination under Marginal Costing and Absorption Costing. CVP/BEP Analysis, Safety Margin and Key factors that involves decision making.	12
III	Budgeting and Budgetary Control Meaning, Objectives, Advantages and Limitations, Essentials of effective budgeting in management process, Installation of Budget System Budgetary Control: Types of budgets preparation, Zero Base Budgeting; Performance Budgeting.	10
IV	Standard Costing Meaning, Difference between Standard Costing and Budgetary Control; Merits and Demerits of Standard costing, Prerequisite for establishment of standard costing, Efficiency and Activity Ratios, Material, Labour and Overhead Variance Analysis and Control.	10

V	Short Term Decision Making Meaning, Importance of relevant cost, Role of managerial costing in short-term decision making, Role of differential cost analysis, cost a non-cost factor in decision making.	08
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
T-01	M. N. Arora	Cost and Management Accounting	Vikas Publishing House	10 th Edition
T-02	P.C. Tulsian	Cost and Management Accounting	S Chand	3 rd Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Jawahar Lal	Cost Accounting	Tata McGraw Hill Publication	5 th Edition
R-02	Paresh Shah	Management Accounting	Oxford Publication	2 nd Edition
R-03	Ravi Kishor	Cost Management Accounting	Taxman	6 th Edition
R-04	Bhattacharya	Management Accounting	Pearson Publication	3 rd Edition
R-05	Hilton, Maher and Selto	Cost Management: Strategies for Business Decision	TMH	4 th Edition

PROGRAM	Bachelors Of Commerce
SEMESTER	VI
COURSE TITLE	International Business
COURSE CODE	04BC0602
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the problems in the implementation of dispute settlement mechanism.
- Correlate the culture, religion and language and its importance in the world market.
- Understand the tools for selecting the countries for doing business.
- Examine the trade invoicing process, implications on exporters, importers and trade.
- Learn and compare the established theories of international business.
- To integrate and apply frameworks, models, tools, and concepts from various perspectives to a real world global setting.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Overview of Globalization: - Frame work for International Business Globalization: Concept and Factors Affecting globalization and related issues, Globalization a Boon or Bane, Different dimensions of international business.	10
II	International Business Environment: Legal aspects, Cultural Differences and Cross-cultural factors, International trade theories policy framework and INDIA's trade policy, Regional trade blocks. Foreign Direct Investment, Country Evaluations and Sections.	10
III	Global Financial Markets and Strategy: - Global monetary systems, foreign exchange market, currency crisis Choice of strategy, global market entry strategies, types & forms of international marketing & Human resources.	10
IV	International Trade Operations and WTO: - Export Import Trends, Documents, Pre-&Post shipment documents Letter of Credit & Its types, Types of Economic Zones, Reforms for the growth of Foreign Trade, Agreements, Challenges & Opportunities, WTO Intellectual Property Rights, and Industrial Sectors, WTO&GATTs, Business sectors wise	10

	analysis.	
V	International Structure: - International Marketing Planning, Organizing and Control, International Marketing through Internet; Environmental affairs.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Book:-

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Justin Paul	International Business	PHI learning Private Limited	6 th Edition
T-02	Charles W. L. Hill and Arun Kumar Jain	International Business	Tata McGraw-Hill	10 th Edition

References Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	Daniels John, D. Lee H. Radebaugh and David P.	International Business	PearsonEducation	16 th Edition

	Sullivan.			
R-02	Cherunilam, Francis	International Business:	Prentice Hall of India Ltd.	5 th Edition
R-03	Mike Peng and Deepak Srivastava	GlobalBusiness	Cengage Publications	1 st Edition
R-04	Rakesh Mohan Joshi	International Business	Oxford University	1th Edition
R-05	Sundaram, Anant K. and Black, J. S	The International Business Environment	Prentice Hall.	1 st Edition.

Suggested Reading: -

1. Economic Survey, Govt. of India.
2. Export-import Policy and Other Documents, Govt. Of India.
3. Hazari, R. Bharat, Micro Economic Foundations of International Trade, Croom
4. Helm, London and Sydney.
5. Terpstra, V. and R. Sarathy, International Marketing, 8 th ed., Harcourt Asia PTE Ltd., Singapore, 2005.
6. Customs and Excise Law, various issues. 2.
7. Excise Law Times, various issues. 3.
8. IIFT, various publications. 4.
9. IMPEX Times, various issues. 5.
10. Ministry of Commerce, Export import Policy, Government of India, New Delhi.
11. Ministry of Commerce, Handbook of Procedures, Volumes I and II, Government of India, New Delhi.
12. Apte, P. G., Multinational Financial Management, Tata -McGraw Hill, New Delhi, 1998. Baker, J.C., International Finance: Management, Markets and Institutions, Prentice Hall, Englewood Cliffs, 1998. 2. Eitemean, David K., Arthur Stone -hill.

PROGRAM	Bachelors Of Commerce
SEMESTER	VI
COURSE TITLE	Insurance and Risk Management
COURSE CODE	04BC0603
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the basic aspects of Insurance sector.
- Understand the Role of IRDA.
- Know about Risk Management techniques in Insurance sector.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Insurance Sector: Meaning, Definition and Types of Insurance, The Evolution of Insurance, Insurance contract, Principles of Insurance. Regulatory Framework of Insurance: Role, IRDA: Power, Functions and IRDA Act, 1999.	10
II	Insurance Markets and Strategies: The evolving Markets and Strategies, Opportunities, Challenges and Marketing Strategies of Insurance, Liability and Payment Protection Insurance, PPI Claims, Insurance Law and Patents, Industry Standard Form, Omnibus Clause, Insurance Fraud: Causes, Types of Fraud, Annuity and New Reforms in Insurance Sector in India.	12
III	Insurance Techniques: Life Insurance Techniques: Applications- Life insurance with Benefits Linked to Investment Performance, Pension Funds and Occupational Pension Schemes. Non-life Insurance Techniques: The Basics- Actuarial Model for Calculation of Premium Rates, Risk Classification.	10
IV	Mitigating Risk Via Insurance: Meaning, Objectives and Tools of Risk Management, Risk Management Process, Risk Adjusted Performance Measures, Fraud and Abuse, Portfolio Evaluation tools Risks and Solvency.	8
V	Financial Aspects of Insurance Management: Insurance Companies and functions, Mutual Funds, Housing Finance. Important Life Insurance Products and General Insurance Products Determination of Premiums, Bonuses and Various Distribution Channels, Current case study in the market.	8

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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	O.P. Agrawal	Banking & Insurance	Himalaya Publishing House	2012
T-02	P. K. Gupta	Insurance and Risk Management	Himalaya Publishing House	2017
T-03	M. N. Mishra	Principles and Practices of Insurance	S. Chand and Sons	2016

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Neelam C Gulati,	Principles of Insurance Management	Excel	2012
R-02	Dr. Dhiresk Kulshrestha	Indian Insurance Sector in Globalised Era	A. K Publication	2014
R-03	Emmett J. Vaughan and Therese Vaughan	Fundamentals of Risk and Insurance	Wiley	2013
R-04	D.C. Shrivastava Shashank	Indian Insurance Industry Transition & Prospects	New Century Publications, Delhi	2013

PROGRAM	Bachelors Of Commerce
SEMESTER	VI
COURSE TITLE	Financial Markets and Services
COURSE CODE	04BC0604
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand procedures of raising capital from primary market and awareness about various legal aspects in Public Issue Management.
- Have knowledge of functionality of secondary market operations and the role of different players in the market
- Capture essence of various fund based and fee based financial services
- Understand legal and regulatory aspects of financial services in India

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction Financial Markets: Introduction, Functions Classification, Role of Financial Market in Economic Development, Capital Market, Money Market, Introduction, Concept, Role, Importance, Evolution process in India, Financial Services: Meaning, importance, Types of financial services, Financial services and economic environment.	10
II	Primary Market Meaning, Functions, Different Participants, Public Issue, IPO, FPO, Right Issue, Private Placement, Offer for sale, IPO Mechanism, Pricing of IPO, Fixed pricing, Book Building and Auctions.	9
III	Secondary Market Stock Exchange, Functions, Listing Norms, Trading&settlement systems, key participants – brokers, Dealers, Clearing houses, Depositories, Role of SEBI for Investors protection.	9
IV	Fee based Financial Services Merchant Banking, underwriting, Loan Syndication, Stock Broking Services – Meaning, Functions and Mechanism of Services. Credit Rating: Credit rating Agencies, Rating process and Methodology, Rating Symbols and grades. Regulatory frame work.	10
V	Fund Based Financial Services:	10

	Leasing: Concept, Classification, and Mechanism. Hire Purchase: Conceptual Framework, Mechanism, difference between Hire Purchase and Leasing. Factoring and forfeiting: Introduction, theoretical Frame work, factoring in India, Mutual fund: introduction, Products/Schemes. Venture Capital: Introduction, theoretical frame work, Indian Venture Capital Scenario, Private Equity.	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M Y Khan	Financial Services	Tata McGraw Hill	Fifth Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	Vasant Desai	The Indian financial system and Development	Himalaya Publishing House	5 th edition 2017
R-02	BhartiPathak	Indian Financial System	Pearson	4 th Edition
R-03	Vijay dhawan,	Merchant Banking &Financial services	McGraw Hill,	2 nd Edition
R-04	Tripathy, NalinePrava,.	Financial Services,	PHI Learning,	1 st Edition
R-05	Agrawal, O.P.,	Management of Financial services,	Himalaya Publishing House.	1 st Edition

PROGRAM	Bachelors Of Commerce
SEMESTER	VI
COURSE TITLE	Production And Operations Management
COURSE CODE	04BC0605
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the relevance of Production and Operations Management
- Apply the techniques of material management and quality management in an organization.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction Meaning, Nature and Scope of Production and Operation Management, Importance of Production Function, Types of production processes, Difference between Manufacturing and Service Operations	08
II	Plant location and Lay out Factors considered in location, Methods to decide location, Layout: Meaning, factors affecting facility layout, principles of layout, Types of Layout.	10
III	Materials Management Importance of Materials Management, Concept of Purchasing, Principles and Process of Purchasing. Types of purchasing, Inventory management, Objectives and Importance of Inventory management, Inventory costs, EOQ- models	10
IV	Methods Study Work Study – Method study and work measurement, objectives of work study, method analysis, motion study, productivity and productivity measurement	10
V	Quality Management Lean Manufacturing, JIT, Kaizen, ISO series, TQM (Only concepts)	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	K. Aswathappa and K. Shridhara Bhat	Production and Operation Management	Himalaya Publishing House	Second Edition,2008

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	S.A.Chunawalla and D.R. Patel	Production and Operation Management	Himalaya Publishing House	Ninth Edition,2016
R-02	Kanishka Bedi	Production and Operation management	Oxford higher education	Third Edition,2013

2018-2019

PROGRAM	Bachelors Of Commerce
SEMESTER	I
COURSE TITLE	FINANCIAL ACCOUNTING-I
COURSE CODE	04BC0101
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Implement the accounting process from journal entries to trial balance
- Understand the need for uniformity in accounting
- Prepare financial statements of sole-proprietary business

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	BASICS OF BOOK-KEEPING AND ACCOUNTING Introduction to Book Keeping, Accounting and Accountancy – Process of Accounting – Branches of Accounting- Methods of Accounting – Basis of Accounting – Characteristics of Accounting – Functions of Accounting – Users of Accounting Information – Basic Accounting Terms – Classification of Accounts and its Rules – Accounting Equation – Accounting Principles – Accounting Concepts – Accounting Conventions – Fundamental Accounting Assumptions	08
II	OVERVIEW OF INDIAN ACCOUNTING STANDARDS Background of GAAP and IFRS – Introduction to Indian AS: Background, need, applicability, overview of standards (only theory)	06
III	PROCESS OF ACCOUNTING Meaning of Journal – Format of Journal – Single and compound Journal Entries – Difference between Cash Discount and Trade Discount – Meaning of Ledger – Format of Ledger – Balancing of Ledger – Practical problems on Journal and Ledger – Meaning of Trial Balance – Preparation of Trial Balance – Redrafting of Trial Balance – Types of Errors and their Rectification	16
IV	FINAL ACCOUNTS OF SOLE-PROPERITORSHIP: Types of Expenditure – Types of Income – Types of Profit – Meaning of Deferred Revenue Expenditure – Difference between Trial Balance and Balance sheet – Contingent Asset and Contingent Liability – Classification of Assets and Liabilities under different heading -	10

	Difference between Provisions and Reserves –Types of Reserves - Preparation of Final accounts for sole proprietorship for non manufacturing	
V	DEPRECIATION: Meaning - Methods of calculating depreciation (straight line method and written down value) - Method of recording Depreciation (Charging to Asset Account, Creating provision for Depreciation/ Accumulated Depreciation, Treatment of Disposal of Fixed assets.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	P.C. Tulsian	Financial Accounting	Pearson	Latest
T-02	S.N. Maheshwari, and. S. K. Maheshwari	Financial Accounting	Vikas Publishing House, New Delhi	Latest
T-03	M.C.Shukla, T.S.Grewal and S.C.Gupta	Advanced Accounts. Vol.-I	S. Chand & Co., New Delhi	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	R. L. Gupta and M. Radhaswamy	Advanced Accounts. Vol.-I& II	S. Chand & Co., New Delhi	Latest
R-02	A.Mukharji and M. Hanif	Financial Accounting	Tata McGraw, Hill Publishing Co. Ltd. New	Latest

			Delhi	
R-03	S. P. Jain and K. N. Narang	Advanced Accountancy	Kalyani Publishers, New Delhi	Latest
R-04	T. S. Grewal	Introduction to Accountancy	S. Chand & Co. Pvt. Ltd., New Delhi	Latest
R-05	Monga, J. R.	Financial Accounting : concepts and applications	Mayoor Paper Backs, New Delhi	Latest

Elective

PROGRAM	Bachelors Of Commerce
SEMESTER	I
COURSE TITLE	BUSINESS MATHEMATICS
COURSE CODE	04BC0102
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Solve business problems involving percentage, profit / loss and calculate discount
- Calculate simple and compound interest on investments
- Understand repayments of loan using EMIs
- Structure and solve problems using matrices
- Understand and establish relationship between variables using functions to determine equilibrium

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	RATIO, PROPORTION AND PERCENTAGE Ratio – Definition, Continued ratio, Inverse Ratio Meaning and computation of Percentage and Proportion: Direct proportion, Inverse Proportion and Continued Proportion	08
II	PROFIT AND LOSS, DISCOUNT Profit and Loss – Terms and formulae, percentage profit and percentage loss, Selling price at a profit and loss Discount – Trade discount and Cash discount, Problems involving cost price, selling price and market price	10
III	MATHEMATICS OF FINANCE Introduction, Simple Interest and Compound Interest – Concept and problem solution Future Value (FV) - Annuity: Amount of ordinary annuity, Amount of annuity due Present Value (PV) - ordinary annuity and annuity due Loan Amortization and Equated Monthly Installments (EMIs) - Reducing balance and flat rate of interest	08

	Use of MS Excel	
IV	DETERMINANT AND MATRICES Introduction, Definition, Types of matrices, Algebra of matrices (Addition and Subtraction), Additive Inverse of a matrix, Structure problems in matrix form, Multiplication of matrices (Max 3X3) Determinant of square matrices (2X2 and 3X3), minor of an element, cofactor, adjoint and Inverse of Matrix Solution of system of linear equations using inverse of coefficient matrix Use of MS Excel to calculate determinant and inverse of matrix	14
V	PROGRESSION Progression: Sequence and Series Arithmetic Progression – definition, nth term, sum of n terms, illustrations Geometric Progression - definition, nth term, sum of n terms, illustrations Arithmetic mean and Geometric mean Sum of n-terms and sum of infinite terms in geometric progression	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	P. Hazarika	Business Mathematics	S. Chand and Sons	Latest
T-02	A. Dikshit and J. Jain	Business Mathematics	Himalaya Publishing House	Latest
T-03	D C Sancheti and V K Kapoor	Business Mathematics	Sultan Chand and Sons	Latest

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Zamarudeenand Qazi	Business Mathematics	Vikas Publishing	Latest
R-03	P. Mariappan	Business Mathematics	Pearson Education	Latest
R-02	Trivedi Kashyap	Business Mathematics	Pearson Education	Latest

Course: B.Com

PROGRAM	Bachelors Of Commerce
SEMESTER	I
COURSE TITLE	CAREER READINESS PROGRAM
COURSE CODE	04CR0101
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

Objectives:

- The “*Linguistics for Interpersonal Interaction*” course is designed to make the Learners feel comfortable understanding, thinking and speaking in English.
- Having undergone the training, the Learners will feel confident about his or her own English-speaking skills.

Pre Requisites: None

Course Duration:

- The course duration is of 24 sessions of 60 minutes each.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
Unit I	Phonology: Varieties of Language and Standard English, Phonetics and Phonology - Speech Mechanism and Articulatory Phonetics, English Phonemes. Characterization and Classification of Vowels - Diphthongs and Monophthongs.	6
Unit-II	Syntax and Morphology: Nouns, Pronouns and Determiners - Misconceptions related to usages of noun forms, Using Possessives, Types of Pronouns, General Determiners and Specific Determiners. Verbs and related forms - Types of verbs and their forms, Stative and Dynamic, Lexical and Delexical Adjectives and Adverbs - Word formation, Order of Adjectives, Types of Adverbs Preposition and Phrasal verbs - Preposition of time, Preposition of Movements, Preposition of Place, Phrasal Verbs Conjunctions - Coordinating and Subordinating, Using Conjunctions in formal settings. Present Continuous – Form, Usages, Misconception Present Simple & Simple Past – Form, Usages, Misconception	8
Unit - III	Reading Comprehension: Processing Strategy - Comprehension Strategy, Meta-cognitive Strategy, Prediction and Pre-prediction.	4
Unit - IV	Spoken Discourse: Coherence and Cohesion - Situational	6



	Sociolinguistic interaction, Conversation Practice. Feature of Spoken Discourse - Semantic and Pragmatic Meanings, Conversation Practice (Role Play)	
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Learning Outcomes:

After studying this course, student should be able to:

- Articulate phonetics and phonology, Noun, Pronoun, Verb
- Reading and processing comprehension.

Evaluation:

The students will be evaluated on following evaluation scheme:

		Weight age
A	End-Semester Examination	100% (External Assessment)

PROGRAM	Bachelors Of Commerce
SEMESTER	I
COURSE TITLE	PRINCIPLES OF MANAGEMENT
COURSE CODE	04LS1102
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Demonstrate their knowledge of business and management principles.
- Get acquainted with management process and functions.
- Comprehend the modern management techniques and its relevance in business.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Management Meaning, Nature and Characteristics of Management – Scope of Management - Functional areas - Management as a Science and an Art - Management & Administration – Levels of management & Managerial Skills - Evolution of Management Thoughts - Principles of management - Ethics in Management.	10
II	Planning in Management Need and importance of planning - basic purpose of planning - Planning process, Types of plans - Objectives - Management By Objectives Decision-making Decision making – Nature and importance- types of decisions – process	10
III	Organizing Need for organization - purpose of organization, fundamental principles of organization - Types of organization - Departmentalization, Committees - Centralization Vs decentralization of authority and responsibility Staffing Staffing – Introduction - Need for Staffing - Importance of staffing -Process of staffing	10
IV	Directing Directing – Meaning, nature and importance – Theories of Motivation – Maslow’s, Herzberg’s & McGregor’s Leadership – Introduction - Formal and Informal Leadership – Characteristics – Styles of Leadership - Importance of Communication as a leader	10

	Coordinating Coordination – Introduction - Importance of coordination - Principles of coordination	
V	Controlling Meaning and steps in controlling – Pre-requisites of a strong control system - Methods of establishing control Modern Management Techniques Introduction to various latest management techniques: Business process re-engineering, business outsourcing, benchmarking, kaizen, six sigma, knowledge management, just in time management, total quality management.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	L. M. Prasad	Principles of Management	Sultan Chand and Sons	Ninth Edition - 2015

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	V.S.P. Rao	Management: Text and Cases	Excel Books India	Second edition
R-02	Koontz & O'Donnell	Principles of Management	McGraw Hill	Forth edition

PROGRAM	Bachelors Of Commerce
SEMESTER	I
COURSE TITLE	Microeconomics
COURSE CODE	04LS1103
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Apply economic reasoning to the analysis of selected contemporary economic problems.
- Understand how households (demand) and businesses (supply) interact in various market structures to determine price and quantity of goods and services produced and consumed.
- Use economic problem solving skills to discuss the opportunities and challenges of the increasing globalization of the world economy.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO MICROECONOMICS Meaning and definition of Microeconomics, Nature and scope of Microeconomics, Difference between microeconomics and macroeconomics. Central economic problems of society.	10
II	CONSUMER BEHAVIOUR Utility analysis: Meaning of Cardinal and Ordinal utility. Cardinal Utility: Law of diminishing Marginal utility, Law of Equi-marginal Utility, Ordinal Utility: Indifference curve analysis, properties of indifference curve analysis, Marginal rate of substitution, Budget line and consumer's Equilibrium.	10
III	DEMAND AND SUPPLY ANALYSIS Determinants of demand, law of demand, exceptions to law of demand. Elasticity of demand and its applications: Price elasticity, Income elasticity and cross elasticity. Concept and Law of Supply, Factors Affecting Supply	10
IV	PRODUCTION AND COST ANALYSIS Production Function: Short run and long run production functions, laws of returns, and law of returns to scale. Cost Function: classification of costs, short run and long run cost curves and their interrelationship, Planning curve and envelope curve, internal and external economics of scale,	10

	revenue curves, optimum size of the firm, factors affecting the optimum size	
V	EQUILIBRIUM OF FIRM AND INDUSTRY Perfect competition, monopoly, monopolistic competition, discriminating monopoly, aspects of non-price competition; group equilibrium, excess capacity, selling costs, oligopolistic behavior.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	H. L. Ahuja	Principles of Economics	S. Chand Publishing house	11 th ed. 2015

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	N.GregoryMankiw,	Principles of Micro Economics	Cengage	6 th ed.
R-02	Pindyck, R.S., D. L. Rubinfeld and P. L. Mehta	Microeconomics	Pearson	7 th ed.
R-03	D. Salvatore	Microeconomic Theory	Tata McGraw Hill	5 th ed
R-04	D N Dwivedi	Managerial Economics,	Vikas Publishing House	4 th ed.

PROGRAM	Bachelors Of Commerce
SEMESTER	I
COURSE TITLE	Computer Essentials
COURSE CODE	04LS1107
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Draft Document / Worksheet and Presentation
- Understand the Computer Hardware and Software Fundamentals
- detail some of the problems that are encountered when developing documents and worksheets
- describe briefly some of the technologies that are used to support online applications

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	COMPUTER BASICS Data- Instruction and Information-Characteristics of Computers- Various fields of application of Computers- Input-output Devices (Hardware- Software- Human ware and Firmware)-Advantages and Limitations of Computer- Block Diagram of Computer- Function of Different Units of Computer- Classification of Computers. Data Representation-Different Number System (Decimal- Binary- Octal and hexadecimal) and their Inter Conversion.	10
II	COMPUTER SOFTWARE Types of Software- Application software and system software- Compiler and Interpreter-Generations of languages-Low and High Level Languages-Computer Memory: Primary Memory &Secondary memory. Cache memory-optical memory-Storage Media. Introduction to Operating System-All Directory Manipulation- Creating Directory- Sub Directory- Renaming-Coping and Deleting the Directory File Manipulation-Creating a File-Deleting- Coping- renaming a File Using accessories such as calculator- paint brush- CD player etc.	10
III	INTRODUCTION TO MS- OFFICE (WORD) Introduction to Word Processing- Features - Formatting Documents- Paragraph Formatting- Indents- Page Formatting- Header and Footer- Bullets and Numbering- Tabs- Tables- Formatting the Tables- Finding and Replacing Text-Mail Merging etc..	10

IV	INTRODUCTION TO MS- OFFICE (EXCEL) Introduction to Electronic Spreadsheets - Feature of MS-Excel- Entering Data- Entering Series- Editing Data- Cell Referencing- ranges- Formulae- Functions- Auto Sum- Copying Formula- Formatting Data- Creating Charts- Creating Database- Sorting Data- Filtering etc.	10
V	INTRODUCTION TO MS- OFFICE (POWERPOINT) PowerPoint - Features of MS PowerPoint Clipping- Slide Animation- Slide Transitions- Slide Shows- formatting etc.- Creating formal presentations- inserting different objects- arts- charts- pictures etc. to slide.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	P.K.Sinha	Fundamental of Computers	B.P.B. Publications	

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Curtin, Foley, Sen, Martin,	Information Technology	Information Technology, Tata MCGraw Hill	2007
R-02	Sanjay Saxena	A First Course in computers	Vikas Publication	

List of Journals/Periodicals/ Magazines/ Newspapers etc.



The Students will have to refer to past issues of the following journals in order to get relevant topic/ information pertaining to the subject.

1. Computer and Education – Elsevier
2. Journal of Computers



Elective I: BBA, BBA (Hon.) & B. Com. Reading and Writing for Business

Subject Code:04SL0102

Credit: 2

Semester: 1

Course Description

The course will inculcate skills of formal reading and writing for business among the students. Good reading skills play a vital role in decision making in response to a proposal or a report. Formal writing, on the other hand, enables one to express one's ideas, plans, aims and objectives on paper. The course will offer a number of classroom activities, assignments and tasks to ensure the inculcation of the aforesaid skills among the students.

Course Objectives

The course will enable the students:

1. to read and interpret formal business writings such as reports, articles and reviews;
2. to know structures of formal business letters and reports;
3. to write formal business letters and reports;
4. to inculcate a taste for reading and writing habits pertaining to the world of business.

Unit 1: Introduction to business world

1. Reading a business case-study – “Tripping Along” by Deep Kalra from *Stay Hungry Stay Foolish*
2. Reading 3 business articles (general in nature) from the newspapers/magazines

- I. "Paytm: the wonder wallet" from Forbes India.
- II. "Millennials: How They Live and Work" from Gallup.
- III. "The Right Culture: Not About Employees Happiness" from Gallup.

Recommended Reading

Arakali, Harichandan. "Paytm: The wonder wallet." Forbes India, 16 Nov. 2016,
<http://www.forbesindia.com/printcontent/44825>

Clifton, Jim. "Millennials: How They Live and Work." Gallup, 11 May 2016,
<http://www.gallup.com/opinion/chairman/191426/millennials-live-work.aspx>

Harter, Jim. "The Right Culture: Not About Employee Happiness." Gallup, 12 April 2017,
http://www.gallup.com/businessjournal/208487/right-culture-not-employeehappiness.aspx?g_source=WORKPLACE&g_medium=topic&g_campaign=tiles

Kalra, Deep. "Tripping Along." *Stay Hungry Stay Foolish*, edited by Rashmi Bansal, IIM Ahmedabad, 2008, pp. 130-143.

Unit 2: Reading and writing for business

1. Reading business letters (of sales, inquiry, order, complaint, and adjustment)
2. Writing business letters (Any two types)
3. Reading a few short business reports
4. Writing a short business report

Teaching Scheme

Teaching Scheme (Hours per week)	Evaluation Scheme					Total Marks
	ESE	IA	CSE	Viva	Term Work	
Practical 2 Hours	00	30	20	25	25	100

1. IA will consist of the following components (30 marks):

- a. **Assignments (20 Marks):** Students will prepare three assignments as following.

- 1) Letter: Write three letters on the given subjects (10 Marks)
- 2) Article: Write a business article on the given theme (05 Marks)
- 3) Report: Write a report on the given subject (05 Marks)

- b. **In-Class Participation (10 Marks)**
- 2. **CSE (20 marks):**
 - a. **(Term Paper):** Students will write a paper on the given topic.
- 3. **Viva (25 Marks):** Viva will be conducted at the end of the semester. It will be based on the CSE, Term Work, Assignments and topics covered in the syllabus.
- 4. **Term Work (25 Marks):**
 - a. **(Term-End Presentation):** Students will make a presentation based on topics provided by the faculty, at the end of the semester.

Further Suggested Readings

1. Raman M. and Singh P., *Business Communication*. 20th ed., Oxford University Press, 2011.
2. Kumar S. and Lata P., *Communication Skills*. 6th ed., Oxford University Press, 2013.
3. Murphy H., Hildebrandt H. and Thomas J., *Effective Business Communication*. Tata MacGraw-Hill, 2008.
4. Sharma R. and Mohan K., *Business Correspondence and Report Writing*. 4th ed., Tata MacGraw-Hill, 1998.
5. Lesikar R., Flatley M., Rentz K., Pande N., *Business Communication*. 11th ed., Tata MacGraw-Hill, 2009.



Elective II: BBA, BBA (Hon.) & B. Com.

Speaking and Presentation Skills

Subject Code: 04SL0103

Credits: 02

Semester: 1

Course Description

The course intends to make students confident in speaking in English with the help of various language functions. It also focuses on developing students' presentation skills.

Course Objectives

The course will enable students

1. to share information on familiar matters/issues in English;
2. to make effective presentations in English;
3. to gain confidence in speaking in English.

Unit 1: Speaking/Interacting in an Academic Context

1. Greetings
2. Introducing self and peers
3. Asking and sharing information
4. Expressing points of view
5. Discussions
6. Facing viva voce
7. Group discussions
8. Facing an interview (interview skills)

Unit 2: Effective Presentation Skills

1. Introduction to effective presentation skills
2. Preparing the presentation (Collection of Data/Information, exploring the topic etc.)

3. Using ICT for the presentation
4. Getting ready for the presentation
5. Effective body language
6. Effective pronunciation
7. Interacting with the audience (Q & A)
8. Practice (with video recording)
9. Feedback and Suggestions

Recommended Readings/ Viewings

- Select TED Talks
- Select INK Talks
- Select Toastmasters Videos
- Select Courtroom Dramas
- Select Videos of speakers like Steve Jobs, Sundar Pichai etc.

Teaching Scheme

Teaching Scheme (Hours per week)	Evaluation Scheme					Total Marks	
	Practical	ESE	IA	CSE	Viva		Term Work
2 Hours		00	30	20	25	25	100

1. **IA will consist of the following components (30 marks):**
 - a. **Assignments (20 Marks):** Students will prepare three oral assignments.
 - b. **In-Class Participation (10 Marks)**
2. **CSE (20 marks):**
 - a. **(Term End Simulation):** Students will carry out simulated tasks at the end of the semester. It would comprise individual and group tasks.
3. **Viva (25 Marks):** Viva will be conducted at the end of the semester. It will be based on the CSE, Term Work, Assignments and topics covered in the syllabus.
4. **Term Work (25 Marks):**
 - a. **(Term-End Presentation):** Students will make a presentation based on topics provided by the faculty, at the end of the semester.

Recommended Readings

“Communication.” themuse. 2017. <https://www.themuse.com/tags/communication>. Accessed 4 July 2017.

Presentation Magazine. 2017. <https://www.presentationmagazine.com/>. Accessed 4 July 2017.

“Presentation Skills.” *SKILLS YOU NEED.* 2017. <https://www.skillsyouneed.com/presentation-skills.html>. Accessed 4 July 2017.

Siddons Suzy. *The Complete Presentation Skills Handbook*. Kogan Page, 2008.

Sprague Jo, and Douglas Stuart. *The Speaker's Handbook*. 8th ed., Thomson Wadsworth, 2008.

PROGRAM	Bachelors Of Commerce
SEMESTER	II
COURSE TITLE	FINANCIAL ACCOUNTING-II
COURSE CODE	04BC0201
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Address advanced accounting issues of partnership firm
- Learn the application of Garner vs. Murray rule
- Understand the difference between hire purchase and installment purchase transactions
- Classify the branches and do the accounting accordingly
- Demonstrate knowledge of the concept of Ex-interest and Cum-interest

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	RECONSTITUTION OF PARTNERSHIP FIRM Accounting issues related to Admission, Retirement and Death of a Partner – Preparation of Revaluation account – Calculation of Goodwill : Average profit method, Super profit method, Annuity method, Capitalisation method	10
II	DISSOLUTION OF PARTNERSHIP FIRM Preparation of Realisation account – Settlement of accounts – Piecemeal distribution: Maximum loss method and Proportionate capital method – Insolvency of partner during piecemeal distribution (Garner vs. Murray rule)	12
III	ACCOUNTING FOR HIRE PURCHASE Meaning – Difference between Hire purchase and Installment purchase – Calculation of missing details when cash price or rate of interest is not given – Accounting for hire purchase transactions –Default and repossession	08
IV	ACCOUNTING FOR BRANCHES Meaning – Classification of Branches –Accounting for dependant branches – Accounting for independent branches	10
V	INVESTMENT ACCOUNTS Meaning – Classification of investments – Calculation of purchase price – Disposal of investments – Preparation of Investments account – Calculation of ex-interest and cum-interest	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	P.C. Tulsian	Financial Accounting	Pearson	Latest
T-02	S.N. Maheshwari, and. S. K. Maheshwari	Financial Accounting	Vikas Publishing House, New Delhi	Latest
T-03	M.C.Shukla, T.S.Grewal and S.C.Gupta	Advanced Accounts. Vol.-I	S. Chand & Co., New Delhi	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	R. L. Gupta and M. Radhaswamy	Advanced Accounts. Vol.-I& II	S. Chand & Co., New Delhi	Latest
R-02	A.Mukharji and M. Hanif	Financial Accounting	Tata McGraw, Hill Publishing Co. Ltd. New Delhi	Latest
R-03	S. P. Jain and K. N. Narang	Advanced Accountancy	Kalyani Publishers, New Delhi	Latest
R-04	T. S. Grewal	Introduction to Accountancy	S. Chand & Co. Pvt. Ltd., New Delhi	Latest
R-05	Monga, J. R.	Financial Accounting : concepts and applications	Mayoor Paper Backs, New Delhi	Latest

PROGRAM	Bachelors Of Commerce
SEMESTER	II
COURSE TITLE	Business Statistics
COURSE CODE	04BC0205
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Address advanced accounting issues of partnership firm
- Learn the application of Garner vs. Murray rule
- Understand the difference between hire purchase and installment purchase transactions
- Classify the branches and do the accounting accordingly
- Demonstrate knowledge of the concept of Ex-interest and Cum-interest

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Basic Concepts Basics of Statistics Introduction. Definition of Statistics, Application of Statistics in Business, Economics and Industry. Presentation of Data Data collection methods (Primary Vs Secondary, Population Vs Sample), Classification and Tabulation of Quantitative Data , Frequency distribution and Cumulative frequency distribution, Graphical Presentation of data - Histogram, Polygon and Ogive , (Use of MS-Excel to create Frequency Distribution and Graphs)	08
II	Univariate Analysis Descriptive Measures (Central Tendencies and Variation) Meaning of Central Tendency. Central tendencies – Arithmetic mean, Mode, Median and Percentiles, Variation – Range, Variance and Standard Deviation of ungrouped and grouped data. Coefficient of Variation (CV), Choice of good measures. (Use of MS Excel Statistical function to find descriptive	12
III	Theory of Probability Counting rule($m*n$ rule), Permutation and Combination (Use of MS Excel to compute permutation and combination)	08

	Definition, Basic terminology of Probability, Three approaches of assigning probability (Classical, Relative Frequency and Subjective approach), Rules of probability- Addition rule and Multiplication rule for independent and dependent events.	
IV	Probability Distribution Random variable, probability distribution and mathematical expectation Discrete Probability Distribution: Binomial distribution, Poisson distribution Continuous probability Distribution: Normal Distribution – Properties and Applications (Use of MS Excel Statistical function to compute Binomial, Poisson and Normal probability)	10
V	Bivariate Analysis Correlation and Regression Analysis Meaning of correlation, types of correlation, method of correlation – Karl Pearson’s coefficient of correlation, Meaning of Regression, regression coefficients and two lines of regression, use of regression in prediction. (Use of MS Excel Statistical Function to compute correlation and regression)	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	J K Sharma	Fundamentals of Business Statistics	Vikas Publication	Latest Edition
T-02	N D Vohra	Business Statistics	McGraw Hill Education	Latest Edition
T-03	D P Apte	Statistical Tools for Managers Using MS EXCEL	Excel Books	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Lewin and Rubin	Statistics for Management	Prentice-Hall of India	Latest
R-02	Sancheti D.C. and Kapoor V.K	Statistics: Theory, Methods & Application	Sultan Chand & Sons	Latest
R-03	S.C. Gupta	Fundamentals of Statistics	Himalaya Publishing House	Latest
R-04	S P Gupta	Statistical Methods	Sultan Chand	Latest
R-05	R. P. Hooda	Introduction to Statistics	Macmillan	Latest
R-06	S.C. Aggarwal & R.K Rana	Basic Statistics for Economists	V.K. India.	Latest
R-07	Beri, G.C	Business Statistics	TMH	Latest
R-08	Chandan J S	Statistics for Business and Economics	Vikas Publications	Latest

PROGRAM	Bachelors Of Commerce
SEMESTER	II
COURSE TITLE	Business Environment
COURSE CODE	04BC0208
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the meaning and relationship of environment and business
- Know the characteristics of modern business
- Explain the competitive structure of an industry

Course Contents:

Unit No.	Unit / Sub Unit	Sessions
I	INTRODUCTION TO BUSINESS ENVIRONMENT Introduction to Business environment - salient features – importance - types of business environment-SWOT Analysis- Firm Specific-environment scanning: features - process & techniques, Business Environment with reference to global integration	08
II	ECONOMIC ENVIRONMENT & POLITICAL ENVIRONMENT Political structure: Legislature institutions – executive institutions – judiciary institutions - Economic systems: capitalism, socialism; mixed economy, LPG - Liberalization, Privatization & Globalization and its impacts –Highlights of New industrial policy & its implication in India –Fundamentals of fiscal policy.	12
III	LEGAL FRAMEWORK ISO standards- Bureau Of Indian Standards–Important features of Intellectual property rights – Trademarks –The Competition Act 2002: Basics of Foreign Exchange Management Act 1999 (FEMA): Features – objectives - application of the Act - FEMA Vs FERA.	10
IV	TECHNOLOGICAL ENVIRONMENT Innovations, technological leadership and followership- Technology and competitive advantage - sources of technological dynamics - management of technology - transfer of technology – its forms, methods and features - time lags in technology – status of technology in India and its impact on Business –Overview of Technological Policies in India	10
V	SOCIAL ENVIRONMENT Business and Society, Changing Concepts and objectives of Business, Interdependence of business and society, technological development and	8

	social change, Consumers' rights & consumerism, Consumer protection Act; corporate governance.	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
1	Francis Cherunilam	Environment For Business	Himalaya Publishing House	2 nd edition 2011

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
1	Mishra, S.K. and Puri V.K	Economic Environment of Business	Himalaya Publishing House	1 st - 2011
2	Paul Justin	Business Environment- Text and Cases	TATA McGraw Hill Publishing	3 rd - 2010
3	Vivek Mittal	Business Environment	Excel Books	2 nd - 2010
4	Raj Agarwal	Business Environment	Excel Books	5 th - 2002
5	Francis Cherunilam	Business Environment, Text & Cases	Himalaya Publishing House	25 th - 2016
6	Aswathappa K	Essentials of Business Environment	Himalaya Publishing House	13 th - 2016
7	Morrison J	The International Business Environment	Palgrave	2 nd - 2006
8	Richard G. Lipsey	An Introduction to Positive Economics	ELBS, Oxford	7 th - 1989

List of Journals /Periodicals/ Magazines/ Newspapers etc.



1. International Journal of Business Environment
2. International Journal of Entrepreneurship & Business Environment Perspectives
3. Journal of World Business
4. Economic & Political Weekly
5. Intellectual Property Rights
6. Corporate Governance
7. Business India / Business World
8. Banking & Finance
9. Industrial Economist
10. Fortune, Global Business Review,
11. Economic Survey- GOI
12. World Development Report
13. India Development Report (Latest Edition)
14. RBI Annual Report, etc

PROGRAM	Bachelors Of Commerce
SEMESTER	II
COURSE TITLE	Applications Of Spreadsheet
COURSE CODE	04LS0212
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

COURSE OUTCOMES:

- Able to perform routine organizational tasks using Spreadsheets.
- Can be able to understand about pivot tables and how to use it for routine purpose.
- Able to manage spreadsheet and be able to compare data in to different spreadsheet.
- Create a dynamic spreadsheet.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Manage Worksheet Data, Reorder and Summarize Data Understanding software for spreadsheet, learning basic menu items, Basic operations like create, open and save a file, worksheets and workbooks, Renaming Inserting Data in proper tabular format, Basic formatting like changing fonts, size, merging and splitting cells, Coloring cells, conditional formatting	06
II	Functions & Formulas Basic Arithmetic Functions , Conditional Functions, Lookup Functions, Sorting and Filtering Data, Paste Special, Data Validation, Converting Text to Table, Working with multiple sheets	09
III	Data Analysis and Printing Analyze data dynamically by using PivotTables , Filter, show, and hide PivotTable data, Edit PivotTables, Format PivotTables, Create PivotTables from external data, create dynamic charts by using Pivot Charts, Page Setup and Printing	09

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Cox et al	Step by Step 2007 Microsoft Office System	PHI Learning Private Limited	Second Edition, 2009

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Curtis Frye	Microsoft Excel 2016 Step by Step	Microsoft Press	Latest

PROGRAM	Bachelors Of Commerce
SEMESTER	II
COURSE TITLE	Macroeconomics
COURSE CODE	04LS1203
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Comprehend why household, business, government and global behavior determine the aggregate demand for goods and services.
- Understand the basics of national income accounting.
- Apply economic reasoning to understand the operation of an economy.

Course Contents:

Unit No	Unit/Sub-unit	Sessions
I	Introduction to Macroeconomics & National Income Nature and Scope of Macroeconomics, Circular Flow of Income and National Income Accounting, Concepts of GDP and NDP - Sectoral Composition of National Income - GDP measured at Factor Price and Constant Prices- Concept of GNP and NNP, Factor Cost and National Income-Per Capita income, Disposable Income and Personal Disposable Income- Measurement of National Income – Difficulties in measuring National Income	10
II	Keynesian Economic Theory Say's Law of Market and its criticism by Keynes. Simple Keynes Model of Income Determination. Concepts of Consumption Function, Saving Function and Investment Function. Average Propensity to consume, Marginal Propensity to Consume, Investment Multiplier–Marginal Efficiency of Capital and factors affecting MEC.	10
III	Money Supply and Central Bank Meaning and Evolution of Money- Definition of Money- Functions of Money – Demand for Money - Quantity Theory of Money- Fisher's Equation of	10

	Exchange-Cambridge Theory. Supply of Money – Determinants of Money Supply- Components of Money Supply- RBI’s Approach-M1, M2, M3, M4.	
IV	Business Cycle & Inflation Concepts of Business cycle – Four phases of Business Cycle – Interest rate – Loanable fund Theory and Liquidity preference theory- Motives for liquidity preference--Transaction Motive, Precaution Motive, Speculative Motive. Factors affecting interest Rate, Inflation-Meaning, Types, Causes, Effects- Inflation and Investment.	10
V	Open Economy Macroeconomics Balance of Payments –Meaning and assessment, Balance of payment and disequilibrium causes and remedies. Introduction to Foreign Exchange Rates- Fixed V/s Flexible foreign exchange rates. Exchange rate determination.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	H.L.Ahuja	Macro Ecoomics	S.Chand	20 th ,2015

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	D.M.Mithani and Prof. Nayak	Macroeconomics II	Himalaya Publication	1 st edition
R-02	D. N. Dwivedi	Macroeconomics Theory and policy	Tata Mcgraw Hill	4 th edition
R-03	Mankiw	Macroeconomics- Indian edition	Cengage	1st

PROGRAM	Bachelors Of Commerce
SEMESTER	II
COURSE TITLE	Fundamentals of Human Resource Management
COURSE CODE	04LS1209
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the various functions of the HR management and a range of practices employed by organizations.
- Develop appropriate methods for attracting, retaining, developing and engaging talent for the organization.
- Identify employment related challenges faced by the organization

Course Contents:

Unit No.	Unit / Sub Unit	Sessions
I	INTRODUCTION TO HUMAN RESOURCE MANAGEMENT Introduction – Meaning - Objectives of Human Resource Management- Importance of HRM – Functions and Process of HRM- HR Manager - Duties and Responsibilities – Recent trends in HRM	10
II	PROCUREMENT OF HUMAN RESOURCE Human Resource Planning – Significance and Process, Job Analysis - Process- Job Description & Job Specification, Recruitment –Sources– Methods of Recruitment, Selection – Steps in Selection Process – Placement and Induction	12
III	TRAINING AND HUMAN RESOURCE DEVELOPMENT Training- Significance of training - identification of training needs - methods of training – Difference between Training & Development- Design of Training Programme- Evaluation of Training Effectiveness	07
IV	COMPENSATION AND MAINTAINENCE Job Evaluation – Concept, Process and Significance- Components of Employee Remuneration – Base and Supplementary- types of employee benefits and services; Performance Appraisal – Concept and Objectives- Traditional and Modern Methods	09
V	INTRODCUTION TO INDUSTRIAL RELATIONS Industrial Relation – Objectives – Approaches of Industrial Relations – Collective Bargaining – Grievance Process	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Pravin Durai	HumanResource Management	Pearson Publication	Second Edition
T-02	Gary Dessler and Biju Varkkery	Human Resources Management	Pearson Publication	Thirteenth Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	V. S. P. Rao	Human Resource Management– Text and Cases	Excel Books	Third Edition
R-02	K. Aswasthapa	Human Resource	Tata Mc Graw Hill	Sixth Edition
R-03	P. Subba Rao	Essential of Human Resource Management and Industrial relations	Himalaya Publishing House	Fifth Edition
R-04	Sinha, Sinha and Shekhar .	Industrial Relations, Trade unions and Labour Legislations	Pearson Education	Second Edition

PROGRAM	Bachelors Of Commerce
SEMESTER	III
COURSE TITLE	Cost Accounting - I
COURSE CODE	04BC0301
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Students will understand how to bifurcate the cost based on different classification
- Students will acquaint with various methods involved in cost ascertainment.
- Interpret the impact of the selected costs method
- Identify the specifics of different costing methods

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO COST ACCOUNTING Understanding of Cost, Costing, Cost Accounting and Cost Accountancy – Difference between Cost, Expense and Loss – Objectives of Cost Accounting– Elements of Cost – Fundamental understanding of Cost Unit, Cost Center, Cost Object, Cost Ascertainment & Cost Estimation – Methods and Techniques of Cost accounting – Advantage and Limitations of Cost Accounting – Classification of cost – Comparison between Financial Accounting and Cost Accounting	10
II	ELEMENTS OF COST (DIRECT EXPENSE) MATERIAL Meaning of Material (Direct & Indirect) – Material Control (Inventory Control) – Techniques of Inventory Control – EOQ – ABC Analysis – Setting Stock Levels – Treatment of Material losses – Normal loss and Abnormal loss – Accounting treatment for waste, scrap, spoilage & defectives	10
III	LABOUR Meaning & Types of Labour (Direct & Indirect) – Timekeeping – Time booking - Idle Time – Overtime – Labour Turn Over. Methods of Remuneration - Time Rate System – Piece Rate System – Incentive – Halsey plan – Rowan Plan- Taylor's differential Piece Rate System and Merrick's Differential Piece Rate System –	10

	Gantt's task and bonus plan – Emerson's Efficiency plan	
IV	ELEMENTS OF COST (INDIRECT EXPENSE) Meaning Definition and Classification of Overheads — Allocation of Overheads – Apportionment of Overheads – Primary & Secondary Overhead Distribution Summary – Repeated Distribution Method – Simultaneous Equations Method – Absorption of Overheads – Under & Over Absorption – Methods of Absorption – Treatment of Absorption – Machine Hour Rate	10
V	Unit Costing Meaning of Unit Costing – Preparation of Cost Sheet - Estimated Cost Sheet – Treatment of Raw- Material, Work in Progress and Closing Stock in Cost Sheet – Treatment of scrap	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M. N. Arora	Cost and Management Accounting	Vikas Publication	10/e

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	P.C.Tulsian	Cost Accounting	S Chad	8e
R-02	S.N.Maheswari	Cost & Management Accounting	Sultan Chand & Sons	14/e
R-03	M.Y.Khan	Cost Accounting	Tata McGraw Hill	2/e

PROGRAM	Bachelors Of Commerce
SEMESTER	III
COURSE TITLE	E COMMERCE
COURSE CODE	04BC0302
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

- detail what is meant by the term 'e-commerce'
- examine some typical electronic commerce applications
- detail some of the problems that are encountered when developing e commerce applications
- describe briefly some of the technologies that are used to support online applications
- show how some of the technologies detailed in the course are used in concert to realise a typical commercial system

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO E COMMERCE Introduction to E-Commerce – History of E-commerce, types of E-Commerce - Comparison of traditional commerce and e-commerce. Business models under E-Commerce – Business to Business (B2B) - Business to Customer model (B2C), Consumer-to-Consumer (C2C) - Consumer-to-Business (C2B) model - Peer to-Peer (P2P) model – emerging trends - Advantages and Disadvantages of e-commerce - web auctions, virtual communities - portals - e-business revenue generation models.	10
II	HOW TO SET UP E COMMERCE BUSINESS Why do I want to set up an E-Commerce enterprise? competition, global research, customer service, value edition, operations oriented process, 'pettish' products; What do I want to do on the net? Web development and maintenance, static web pages, integration with operational database, dynamic web site, customer transaction, transaction processing/ payment, merchant account, transaction processing, online credit card frauds, full E-Commerce.	10
III	PAYMENTS IN E – BUSINESS	10

	E-payment systems – An introduction - B to C payments - B to B payments - Types of E- payment system – Credit card - debit cards - accumulating balance - online stored value payment systems - Secure Electronic Transaction (SET) protocol - payment gateways - digital cash - digital wallets - agile wallet - smart cards and digital cheques.	
IV	SECURITY OPERATIONS FOR E-BUSINESS Possible Security threats – implementation of E-commerce security – encryption – Decryption - protecting client computers - E-Commerce Communication channels and web servers Encryption - SSL protocol – Firewalls - Cryptography methods – VPNs - protecting networks - policies and procedures	10
V	MARKETING OF E-BUSINESS E-Commerce and marketing - B to B and B to C marketing and branding strategies - Web transaction logs – cookies - shopping cart database – DBMS – SQL - data mining - CRM (customer relationship Management) system – permission marketing - affiliate marketing - viral marketing.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	K. Bajaj & D. Nag	E-Commerce: The cutting edge of business	McGraw Hill Education (India) Private Limited	2005

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Becker, S. Ann (ed.),	Electronic Commerce: Concepts, Methodologies, Tools and Applications		2007

PROGRAM	Bachelors Of Commerce
SEMESTER	III
COURSE TITLE	Financial Management -I
COURSE CODE	04BC0303
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Get acquainted with basic understanding of financing, investing, dividend and working capital decisions of an enterprise.
- Compute the cost of capital.
- Identify various techniques of capital budgeting.
- Understand dividend and its models

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Financial Management: Meaning & definition, nature, scope and functions; profit vs. wealth maximization, Finance function in an organization and role of finance manager. Time Value of Money - present value and future value, annuity, Loan Amortization, real and nominal value.	8
II	Financing Decision & Cost of Capital: Sources of Financing: Equity, Preferred, Debt and other sources, Cost of Capital - cost of equity capital, preferred capital, debt capital and retained earnings and overall cost of capital (WACC). An overview of equity & debt financing pattern in corporate India.	12
III	Investment Decisions: Importance of capital budgeting decision, Estimation of cash flows, Capital Budgeting appraisal method – payback period, Average rate of return, NPV, IRR and profitability index. Investment appraisal methods in practice by corporate world.	12
IV	Dividend Decision: Meaning and forms of dividend, factors affecting dividend decision, Models of	8

	dividend: Walter's Model, Gordon's Model and MM Hypothesis.	
V	Liquidity Decision: Meaning, concept, components, determinants and need of working capital; types of working capital, estimation of working capital requirement, operating cycle period.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Prasanna Chandra	Financial Management – Theory & Practices	New Delhi, TMH	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	I.M. Pandey	Financial Management	Vikas Publication	Latest Edition
R-02	M.Y. Khan and P.K. Jain	Financial Management – Text, Problems & cases	New Delhi, TMH	Latest Edition
R-03	Rajiv Srivastava and Anil Sharma	Financial Management	Oxford University Press	Latest Edition
R-04	Horne, James C Van.	Financial Management And Policy	Phi Learning Pvt Ltd	Latest Edition



PROGRAM	Bachelors Of Commerce
SEMESTER	III
COURSE TITLE	Principles of Marketing
COURSE CODE	04BC0304
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand Fundamental Marketing Concepts and marketing environment.
- Understand the concepts of Basic 4Ps of Marketing.
- Understand and apply the concepts of Segmenting and Targeting Customers.
- Comprehend various channels of distribution and various means of promotion.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO MARKETING MANAGEMENT Nature, Scope & Importance of Marketing, Concepts of Marketing, Marketing Mix, Environmental Factors Affecting Marketing, Wants, Demands, Customer Value, Satisfaction - Marketing post LPG	08
II	CONSUMER BEHAVIOUR & SEGMENTATION Overview of Consumer Behavior, Factors affecting Consumer Buying Decisions, Consumer Buying Process Market segmentation: Concept, Importance and Bases; Target market selection; Positioning concept, importance and bases; differentiation strategies - an overview	10
III	PRODUCT AND PRICING Product: Product Mix, Product Life Cycle, New Product Development, Overview of Brand Pricing: Significance, Factors affecting price of a product, Pricing policies and strategies.	10
IV	PLACE AND PROMOTION Distribution: meaning and importance, Types of distribution channels; Wholesaling and retailing (Only Overview), Factors affecting choice of distribution channel, Logistics-Overview & Importance	12

	Promotion: Nature and importance, Promotion Tools: advertising, 5 Ms of Advertising, personal selling, public relations, Direct Marketing & sales promotion – concept and characteristics, Communication process, Promotion mix	
V	CONTEMPORARY ISSUES IN MARKETING Overview of Social Media Marketing; Online Marketing, Overview of Services Marketing and Additions Ps of Marketing, Overview of Green Marketing, Overview of Rural Marketing.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Philip Kotler & Kevin Lane Keller	A Framework for Marketing Management	Pearson Education.	Sixth Edition (2016)

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Philip Kotler; Kevin Lane Keller; Abraham Koshy; MithileshwarJha	Marketing Management: A South Asian Perspective	Pearson Education	Latest Edition
R-02	Karunakaran	Marketing Management (Text and Cases in Indian Context)	Himalaya Publishing House	Latest Edition
R-03	Rajan Saxena	Marketing Management	TMGH	Fourth Edition



PROGRAM	Bachelors Of Commerce
SEMESTER	III
COURSE TITLE	LEGAL ASPECTS OF BUSINESS
COURSE CODE	04BC0305
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the legal provisions in India related to Business.
- Understand provisions regarding Indemnity, Guarantee and others.
- Gain in-depth knowledge about sale and agreement to sell
- Examine the features of partnerships and registrations process of the partnership
- Understand various provisions related to Negotiable Instruments in Business
- Apply theoretical and practical learning to problems related to legal matters in their business.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INDIAN CONTRACT ACT, 1872: GENERAL PRINCIPLE OF LAW OF CONTRACT Introduction, Agreement, Object of the Law of Contract, Nature of Contract, Essential fundamentals of a Valid Contract, Classification of Contract, and Kinds of Contracts, including E-contract, Distinguish between Agreement and Contract. Tender (Offer or Proposal), Acceptance, Promise, Revocation. Capacity to Contract, Free Consent, Consideration, Void Agreements, (Conditional Contract) Contingent Contract, Quasi Contract, Performance of Contract, Discharge of Contract, Remedies for breach of Contract,	12
II	INDIAN CONTRACT ACT, 1872: SPECIAL CONTRACTS A. Indemnity and Guarantee: Introduction, Essential Features, difference between Indemnity and Guarantee, Extent of Surety's liability, Kinds of Guarantee, Rights of Surety, Discharge of Surety	12

	<p>B. Bailment :Introduction, Classification of Bailment, Duties and Rights of Bailor and Bailee - Law relating to Lien, Rights of bailor and bailee against wrong doer, Finder of loss goods, Termination of bailment</p> <p>C. Pledge:Introduction, Difference between bailment and pledge, rights and duties of pawnor and pawnee, pledge by non-owners</p> <p>D. Contract of Agency:Introduction, Essentials of agency, Rules of agency, who can employ an agent?, who may be an agent?, Agent and servant, Agent and independent contractor, Test of agency, Creation of agency, Classification of agent, Relations of principals and agent, Duties and rights of principal, Delegation of authority, Relations of principal with third parties, Liabilities, Termination of agency</p>	
III	<p>SALE OF GOODS ACT, 1930</p> <p>Introductory Concepts, kinds of Goods, (Development) Formation of Contract of Sale, Difference between sale and agreement to sell, Sale and hire purchaser agreement, Subject matter of contract of sale, Effects of destruction as to time</p> <p>Condition and warranties, caveat emptor, transfer of property, performance of contracts, rights and duties of buyer and seller, rights of an unpaid seller, remedies for breach of contract of sale, Auction sale.</p>	08
IV	<p>INDIAN PARTNERSHIP ACT, 1932,</p> <p>Introduction, Salient features of partnership, formation of partnership, test of partnership, registration of partnership, relations of partners to third parties, types of partners, dissolution of firm, Amendments of 2008, 2011, 2013</p>	06
V	<p>NEGOTIABLE INSTRUMENTS ACT, 1881</p> <p>Introduction, Characteristics of Negotiable Instrument, Types of Negotiable Instrument, Classification of Negotiable Instrument, parties to a Negotiable Instrument, holder and holder in due course, liability of parties, Negotiation, presentation of Negotiable Instrument, Dishonor of Negotiable Instrument, Discharge of Negotiable Instrument, penalties and procedure, Amendments in 2015</p>	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:**Text Books:**

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M.C. Kuchhal & Vivek Kuchhal	Mercantile Laws	Vikas Publication	6 th Edition 2016
T-02	N.D.Kappor	Elements of Mercantile Laws	Sultan Chand and Sons.	Latest Edition

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	S.S. Gulshan	Business Law	New Age International Publishers	Latest Edition
R-02	Avtar singh	Principles of Mercantile Laws	Eastern Book Co,	Latest Edition
R-03	Dr.G.K. Kappor	Companies Law and practice	Taxman	Edition 21 st , July 2016
R-04	Shushma Arora	Business Law	Taxman	Edition in Nov, 2015

PROGRAM	Bachelors Of Commerce
SEMESTER	III
COURSE TITLE	Indian Financial System
COURSE CODE	04BC0306
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Describe the financial system, Define and illustrate key financial terms
- Explain the key roles played in a modern society by the financial products, markets and institutions and describe the relative standing of the major financial centers;
- Discuss the changes that have taken place in the way financial services are provided;

Course Contents:

Unit No	Unit / Sub Unit	Sessions
Unit I	An Introduction to the financial system Overview of financial system: Formal and Informal- Difference, Advantages and Disadvantages. Formal financial system: its Constituents and inter-relationships among the components. Functions of a financial system. Role of Financial System in Economic Development Financial regulation and regulatory Agencies (Primarily RBI, SEBI & IRDA): Meaning, features and their kinds (tabular representation of the various regulators, the markets they regulate). Role and functions of RBI, SEBI and IRDA as regulator.	10
Unit II	Financial Institutions Meaning, classification and types of financial institutions: Intermediary financial institutions and non-intermediary financial institutions ; banking and non- banking. Features, Role/ functions Structure, participants and	10

	importance of each kind of institution.	
Unit III	Financial Markets Meaning and Classification of financial markets (multiple ways to classify)-, Money market, Capital Market- Primary And Secondary Market, Forex Market, Debt Market . Features, Importance, Role/functions, structure and participants of each market. Recent Development in Indian Money Market and Capital Market. Interlink between Money Market and Capital Market Overview of Debt Market in India ,Stock holding Corporation of India and Major stock exchange: NSE, BSE, OTCEI,	10
Unit IV	Financial Instruments Meaning , classification and types of financial instruments : Money market instruments, capital market instruments and hybrid instruments - Call money market, T- Bills, Commercial bills, Commercial papers and Certificates of deposits, Government (Gilt- Edged) securities and Industrial securities); Characteristics of financial instruments; New financial instruments; Evaluation of financial instruments (risk return trade-off)	10
Unit V	Financial services Concept of financial services, difference between financial and non financial services, features and importance of financial services; Role/ functions of financial services; Kinds of financial services: fund based and fee based.	08

Learning Outcomes

After studying this course, student should be able to:

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

		Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Pathak Bharati	The Indian Financial System –Markets, Institutions, and Services,	Pearson Education, New Delhi.	4 th Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Bhole L. M	Financial Institutions and Markets, Growth and Innovation,	Tata McGraw-Hill, New Delhi	5 th Edition.
R-02	Khan M. Y	Financial Services,	Tata McGraw Hill	7 th Edition
R-03	Anil Agashe	Financial Services, Markets and Regulations,	Himalaya	1 st Edition
R-04	H.R. Machiraju	Indian Financial System,	Vikas,	4 th Edition.
R-05	Clifford Gomez	Financial Markets, Institutions and financial Services,	PHI,	6 th Edition
R-06	Meir Kohn	Financial Institutions and Markets,.	Tata McGraw Hill,	2 nd Edition
R-07	A Datta	Indian Financial System,	Excel Books	(2012)
R-08	P N Varshney& D K Mittal	Indian Financial System,	Sulthan Chand & Sons.	11 th Edition
R-09	E Gardon& K Natarajan	Financial Markets & Services,	HPH,	10 th Edition.

PROGRAM	Bachelours Of Commerce
SEMESTER	III
COURSE TITLE	Understanding Financial Statements
COURSE CODE	04BC0307
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

OBJECTIVES

- To provide basic understanding of financial statements.
- To explain use of financial information to Value and Analyse firms.
- To enhance understanding and analytical skills for representation of findings and conclusions of Financial Statements.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
Unit I	Introduction of Financial statements & Income Statement: Financial Statements, Importance, Various users of Financial Statements, Presentation of Financial Statements. Interrelation between Income Statement and Balance Sheet Income Statement: manufacturing vs. Trade organizations. Vertical Vs Horizontal form, Components – Sales (Top line), Income from other sources, cost of goods sold, gross margin, EBITDA, EBITA, EBIT, EBT, EAT, Provisions, Earnings available to owners (Bottom Line).	8
Unit II	Statement of Financial Position: Meaning, Definition and purpose, horizontal vs. vertical form. Assets - Fixed, tangible, Intangible assets. Current Assets – Cash, Debtors, Bills receivables, deferred payments, Bank balance, Stock/ Inventory, Tangible & Intangible Assets, Gross block, Net Block, Investments. Current assets: accounts receivables, Inventory, Loans and advances and others. Shareholders 'funds, Long term Loans. Current liabilities. Understand organisations internal perspective and external perspective, comparative study between two organizations, (Report), Owners v/s lenders perspective,	8

	Comparison between two years of same organizations. Common size, Comparative and Trend Analysis of Financial statement with a simple case study	
Unit III	<p>Cash flow statement: Meaning Definition, Analysis and Applications.</p> <ol style="list-style-type: none"> 1. Cash flow from Operations – Production, Sales, and Delivery of products, collecting payments from customers. 2. Cash flow from investment activities - Purchase/ sales of assets, Loan made to suppliers and received from customers, Payments related to merger & acquisition. 3. Cash Flow from financing activities – Inflow of cash from Investors, banks and Shareholders. 	8

Learning Outcomes

After studying this course, student should be able to:

- Understand purpose of different financial statements
- Gain in-depth Knowledge about different components in the financial statement and their significance to assess the healthiness of the firm
- Examine different financial activities of the firm between two periods and understand how those activities influence on financial healthiness of the firm
- Compare financial statement of different firms through Cash flow Analysis.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Evaluation Criteria	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	N. Ramachandran and RamkumarKakakni	Finance made easy Series (Box set)	Mac-Graw hill publication	Second edition 2014

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition& Year of Publication
R-01	Vishal Thakkar	Finance for Non-Finance	TV18 Broad cast Ltd	Revised edition 2014
R-02	Anil Lamba	Romancing Balance sheet for anyone who owns, runs or manages a business	CNBCTV18 Drawbridge Publication,	Revised edition, 2016



PROGRAM	Bachelors Of Commerce
SEMESTER	IV
COURSE TITLE	Cost Accounting - II
COURSE CODE	04BC0401
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Learn the important cost concepts.
- Understand Application and implementation of costing methods

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Methods of Costing: Job and Batch Costing: Job Costing Procedure, Batch costing ,Economic Batch Quantity Contract Costing: Basics of Contract Costing, Procedure, Special Points in Contract Costing, Cost plus Contract.	10
II	Methods of costing Process Costing: Introduction, Essential Characteristics of Process Costing, Process Costing and Job Costing— A Comparison, Costing Procedure, Normal Loss and abnormal loss, Normal Gain and abnormal Gain, When Output is Partly Sold and Partly Transferred to the Next Process, equivalent production, Inter-process profits	11
III	Methods of costing Operating Costing: Cost unit, Transport costing, Transport costing procedure, Boiler house and power house costing ,Canteen costing	9
IV	Methods of costing Activity Based Costing: Basis Of ABC, Benefits Of ABC Over Absorption Costing, Other Concepts Related To ABC Joint and By-Product Costing; Accounting for joint products ,By- products ,Accounting for by-products, Limitations of joint cost analysis	11
V	Cost Audit and Cost Accounting Standard Cost Audit, Features, Functional Cost Audits, Cost Accounting Standards in	7

	India.	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M. N. Arora	A Textbook on Cost and Management	Vikas Publication	Latest Edition
T-02	Paresh Shah	Cost and Management Accounting	Oxford Publication	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Ravi M kishore	Cost and Management Accounting	Taxmann	Latest
R-02	V Rajshekharn & Lalitha	Cost Accounting	Pearson	Latest
R-03	CharlesT, Horngren, S M	Cost Accounting	Pearson	Latest
R-04	P C Tulsyani	Cost Accounting	S Chand	Latest
R-05	Khan and Jain	Management Accounting	TMH	Latest



PROGRAM	Bachelors Of Commerce
SEMESTER	IV
COURSE TITLE	Entrepreneurship
COURSE CODE	04BC0402
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Comprehend fundamental concepts for starting the business.
- Apprehend the concept of industrial environment and preparing basic plan.
- Understand available sources for raising funds for start- ups.
- Comprehend various challenges and possible solution for starting a business unit.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	ENTREPRENEURSHIP - AN INTRODUCTION: Meaning & Definition of Entrepreneurship, Common Entrepreneurial Characteristics, Required skills of an Entrepreneurs, Entrepreneurial Process, Role of Entrepreneurship in Economic Development of the Nation, Advantages & Drawbacks of Entrepreneurship, Introduction to Intrapreneurship	10
II	UNDERSTANDING INDUSTRIAL ENVIRONMENT: Industry - Large Scale - Small Scale - Tiny - Ancillary - Cottage, Challenges for Small Scale Industries, Registration process of SME, Definition & Symptoms of industrial sickness and suggested remedies for sick units, Domestic & International Entrepreneurship Options	12
III	PREPARING BUSINESS PLAN: Generation of Project Ideas, Sources of Business Ideas, Methods to generate business ideas, Feasibility Analysis: Economic, Managerial competency. Marketing, Financial & Technical, Environmental Scanning and SWOT analysis. Structure of a business plan, Importance of Business Plan, process of Preparation of Business Plan.	08
IV	SOURCES OF FINANCE FOR BUDDING ENTREPRENEURS Debt V/S Equity, Internal V/s External Funds, Options for Borrowing Funds,	08

	Various Financial Institutions Supporting entrepreneurial activities, Introduction to Venture Capital Funding, Managing Growth	
V	SUCCESS & FAILURE STORIES OF ENTREPRENEURSHIP: Discussions of various business stories & Cases of Successful Businesses, Lessons to be learnt from various organizational failures	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Kumar Arya,	Entrepreneurship,	Pearson,	Latest Edition
T-02	Desai Vasant,	The Dynamics of Entrepreneurial Development & Management	Himalaya Publishing House, Delhi	Latest Edition
T-02	Robert D. Hisrich, Michael P Peters and Dean A Shepherd,	Entrepreneurship	TMH	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
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R-01	Poornima M. Charnatimath, ,	Entrepreneurship Development And Small Business Enterprises	Pearson,	Second Edition
R-02	K Ramchandran,	Entrepreneurship – Indian Cases on Change Agents	TMGH	Latest Edition
R-03	Satish Taneja, S.L.Gupta	Entrepreneurship Development New Venture Creation	Galgotia Publishing Company	Latest Edition
R-04	Rashmi Bansal	Stay Hungry Stay Foolish	IIM Ahmedabad CIIE publication	Latest Edition
R-05	Longenecker, Moore, Petty and Palich,	Managing Small Business	Cengage Learning, India Edition	Latest Edition



PROGRAM	Bachelors Of Commerce
SEMESTER	IV
COURSE TITLE	Financial Management –II
COURSE CODE	04BC0403
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Students get acquainted with advance understanding of financial management, valuation concepts, advance capital budgeting and working capital policies.
- Evaluate the valuation of securities
- Understand the concepts of business valuations.
- Analyze theories of capital structure

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Financial Management and Valuation Concepts: Financial decisions in firm, Building blocks of modern finance, Financial System, Financial Planning. Valuation of Bonds and stocks – Bond valuation, YTM, YTC, valuation of preference and equity stocks. Concept of risk & return.	08
II	Capital Structure Decision and its determinants: Capital Structure theories and methods – NI Approach, NOI Approach, MM Approach, EPIT-EPS Analysis. Leverage Analysis – Operating, financing and combined leverage, and point of indifference.	10
III	Advanced Issues in Capital Budgeting: Capital Rationing, Comparison between IRR & NPV, MIRR, Risk analysis in capital budgeting (Certainty Equivalent method, Probability and sensitivity Analysis).	10
IV	Corporate Valuation: Business Valuation – Concept and approaches of valuation. Basic concept of Corporate restructuring, mergers & acquisition, EVA and MVA.	10

V	Working Capital Management and Policy: Cash Management - Meaning, Motives of holding cash, objectives of cash management, Cash budget. Receivables Management – Objectives, Credit policy, credit term and collection policies. Inventory Management - Meaning, Objectives, Factors affecting inventory, Techniques of inventory management: EOQ, ABC Analysis, Reorder point. Working Capital Financing.	10
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Prasanna Chandra	Financial Management – Theory & Practices	New Delhi, TMH	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	I.M. Pandey	Financial Management	Vikas Publication	Latest Edition
R-02	M.Y. Khan and P.K. Jain	Financial Management – Text, Problems & cases	New Delhi, TMH	Latest Edition
R-03	Rajiv Srivastava and Anil Sharma	Financial Management	Oxford University Press	Latest Edition
R-04	Horne, James C Van.	Financial Management And Policy	Phi Learning Pvt Ltd	Latest Edition



PROGRAM	Bachelors Of Commerce
SEMESTER	IV
COURSE TITLE	Auditing
COURSE CODE	04BC0404
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Trace the Evolution, Meaning, Features, Objectives, Principal aspects, Benefits and Limitations of Auditing.
- Audit Process, Audit Engagement Terms, Audit Planning,
- External Confirmation, Verification of Assets, Verification of Liabilities.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Auditing Meaning – Objects –Classification of Audit – Continuous Audit – Periodical or Final Audit – Internal Control – Internal Check – Auditors duty with regards to Internal Check – Difference between Auditing and Investigation	8
II	Procedure of Auditing Meaning of Vouching – Points to be noted in Voucher – Internal check with regards to Cash Transactions and Trading Transactions – Audit of impersonal ledger – Verification and Valuation of Assets and Liabilities	11
III	Audit of Limited Companies: Company Auditor: Qualifications and disqualifications – Appointment – Removal – Remuneration – Rights – Duties – Liabilities of an Auditor: Civil Liability and Criminal Liability of Auditor – Audit Committee – Audit of Banking Companies – Audit of Insurance companies	9
IV	Auditor's Report Content of Auditor's Report – Emphasis on Companies Auditor's Report Order, 2016 (CARO – 2016) – Applicability – Companies not	

	covered in CARO 2016 – Summary of all 16 Clauses.	11
V	Recent Trends in Auditing Cost Audit – Tax Audit – Management Audit – Audit of Computerized Accounts – Consideration of Audit in EDP Environment – Relevant Auditing and Assurance Standards	9

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Gupta, Kamal and Ashok Arora	Fundamentals of Auditing	Tata Mc-Graw Hill Publishing Co. Ltd., New Delhi	Latest Edition
T-02	Tandon, B. N., S. Sudharsanam and S. Sundharabahu	A Handbook of Practical Auditing	S. Chand and Co. Ltd., New Delhi	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Strawser R., Jerry. and Robert R Strawser	Auditing	Thomson Learning	Latest
R-02	Michael Chris Knapp	Contemporary Auditing: Real Issues and Cases	Thomson Learning	Latest
R-03	Alvin, S.A. Arens and K. Loebbecke James	Auditing: An Integrated Approach	Prentice Hall	Latest



PROGRAM	Bachelors Of Commerce
SEMESTER	IV
COURSE TITLE	Income Tax- Law and Practice-I
COURSE CODE	04BC0405
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the basic provisions of Income Tax Law in India
- Calculate income under the head of Income from Salary
- Calculate income under the head of Income from House Property.
- Calculate income under the head of Income from Profits and Gains of Business and Profession

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION : History – Background - Levy of income tax - Rates of tax & slab – Important Definitions - Agricultural income RESIDENTIAL STATUS : Relevance and significance of residential status - Types of residential status and its Determination - Incidence of tax based on residential status EXEMPT INCOME: Income which do not form part of total income -Conditions to be satisfied for availing exemptions	08
II	INCOME UNDER THE HEAD SALARY Definition of Salary – Chargeability - Treatment of various Allowances - Perquisites and their valuation - Retirement benefits - Provisions regarding Provident Fund - Deductions from gross Salary - Computation of taxable salary (Practical Problems)	10
III	INCOME FROM HOUSE PROPERTY Chargeability of income from house property - Deemed ownership - Composite rent - Annual value and its determination - Deductions from annual value - Computation of taxable income under this head (Practical Problems)	10

IV	COMPUTATION OF ALLOWABLE DEPRECIATION Concept – Conditions to be satisfied – Computation of depreciation allowance	06
V	INCOME UNDER PROFITS AND GAINS OF BUSINESS AND PROFESSION Meaning of Business and Profession – Chargeability of income from profits and gains of business and profession - Allowable expenses – Expressly disallowed expenses - Deemed profits and incomes - Computation of taxable income under this head (Practical Problems)	14

Note: Any change in the provisions of Income Tax Act, 1961 as per budget or otherwise, shall be respectively made applicable to the syllabus. The syllabus of an academic year shall be the provisions of the relevant Assessment Year.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Dr. V. K. Singhania and Dr. Monica Singhania	Students' guide to Income Tax (University Edition)	Taxmann	Latest
T-02	Dr. Girish Ahuja and Dr. Ravi Gupta	Direct Tax Law and Practice	Bharat Publication	Latest
T-03	CA. T. N. Manoharan	Direct Tax Laws	Snow White Publication	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Dr. Girish Ahuja and Dr. Ravi Gupta	Practical Approach to Tax Laws and Practice	Bharat Publication	Latest
R-02	Dr. V. K. Singhanian and Dr. Monica Singhanian	Students' guide to Income Tax	Taxmann	Latest
R-03	Gaur, V. P. & Narang, B. K.	Income tax Law and practice	Kalyani Publishers, New Delhi	Latest
R-04	Prasad, B.	Income tax Law and practice	New Age Publications	Latest
R-05	B.B. Lal and N. Vashisht	Direct tax	I. K. International Publishing House	Latest



PROGRAM	Bachelors Of Commerce
SEMESTER	IV
COURSE TITLE	Trade Theories & Practices
COURSE CODE	04BC0406
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Students should be able to analyze changes and problems in light of trade theories and policies.
- Discuss the changes that have taken place in the composition of the trade in India over the time

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION Trade: Meaning and its types. Why do countries trade: Difference between internal and international trade. Characteristic of International Trade and domestic trade. Inter-regional and international Trade. Need and importance of Foreign Trade .Problems and Prospects in International Trade. International Trade Theories: Mercantilism, Absolute Cost Advantage, Comparative Cost Advantage, Heckscher-Ohlin Theory, Factor Endowment Theory, The Product Life-Cycle Theory, New Trade Theory- Theory of External Economies, National Competitive Advantage Porter's Diamond. Terms of Trade - Concept, Measurement, Types, Factors affecting Terms of Trade: Coastal trade prospects and Challenges: India's Internal Trade- Characteristics and Problems. Terminology and abbreviations in Trade practices	12
II	TRADE POLICY : Free Trade - concept and its merits and demerits; Protection - concept, Merits and Demerits, Methods of Protection. Tariffs barriers - Meaning, Types of Tariffs. Effects of Tariffs on International Trade. Non- Tariff Barriers -Import Quotas, Dumping, etc., Concepts of Trade Sanctions, Trade Barriers and Fair trade.	08
III	FORIEGN TRADE: INSTITUTIONAL ASSISTANCE IN INDIA	8

	Foreign Trade of India – Brief history & Recent trends. Composition of Imports and Exports – An overview of pattern of foreign trade in different five year plan periods. Direction of India’s Foreign Trade. Major trading partners. Recent Developments in India’s Trade. The Role of EXIM BANK, ECGC, STC, MMTC.	
IV	BALANCE OF PAYMENTS : Balance of Trade and Balance of Payments, Equilibrium and Disequilibrium in Balance of Payments, India’s Balance of Payments during Planning Period and Trends: Problems of BOT, BOP and corrective measures. Trade Policy in India – General Developments during planning period. Import substitution and Export promotion. Recent changes in trade policy, Trade agreements: GATT & WTO, UNCTAD	10
V	Regional Blocs and International Institutions: Regional Economic Groupings: EU, SAARC, OPEC, ASEAN. International Institutions : IBRD, IMF, ADB, NDB	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Anil Arora	International Trade: Theories and Current trends in the Globalised world	Deep and Deep publications	Latest
T-01	Francis Cherunilam	international trade and export management	Himalaya Publishing House	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Haberler G	Theory of International Trade	Augustus M Kelley Pubs	Latest
R-02	Salvi P.G	New Directions on India's Trade policy	The university of Michigan Press	Latest
R-03	Plaekar	Trade of India	The University of Michigan Press	Latest
R-04	Jacob Viner	Studies in Theory of International Trade	Routledge Library Edition	Latest

Online Resources:

WTO: <http://www.wto.org>

UNCTAD: <http://www.unctad.org>

OECD: <http://www.oecd.org>

International Center for Trade and Sustainable Development: <http://www.ictsd.org>

The World Bank: <http://www.worldbank.org>

PROGRAM	Bachelors Of Commerce
SEMESTER	IV
COURSE TITLE	Fundamentals of Investments
COURSE CODE	04BC0407
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

COURSE OUTCOMES:

- The students should be familiar with different investment alternatives,
- Should be familiar with the framework of their analysis and highlight the role of investor protection.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Investment Environment & Avenues: Meaning and Concept, Saving V/S Investment, Traders, Speculators, Gambler, Investors, Investment Avenues: Deposits – Bank and Post office; Government Saving Schemes – PPF, NSC, SCSS, Recent Govt. Securities Schemes; Bond and Debentures; Equity Share Market; Mutual Fund – Various Schemes, Insurance Product; Retirement Product; Money Market Instrument – T- bills, CP,COD,CBLO, Repos ; Real Estate ; Precious Assets Market; Financial Derivatives Instruments; New Investment Avenues – ETFs, TIPS, STRIPS,Souvenir Gold Scheme	8
II	Stock Market & Indices Participants in Securities market, Primary and Secondary equity market, Buying and Selling of Share in Market, payment Settlement System, Indian Stock Exchanges, Foreign Stock Exchanges, Stock Indices in India and abroad-Composition of Stocks in Stock indices (Nifty, BSE, Sector Specific), Computation of Indices (BSE And NSE), Factors affecting Change in Stock Indices, Role of SEBI and stock exchanges in investor protection; Investor grievances and their redressal system, insider trading, investors' awareness and activism.	8
III	Security Analysis – Risk and Return	8

	The Concepts of Risk and Return, The Components of Return, Measurement of Rate of Return, Measuring historical return, Sources of Risk, Measuring Historical Risk, Risk in a Portfolio Context, Diversification, Diversifiable and Non-diversifiable Risk, The Relation between Risk and Expected Rate of Return Measuring Expected Risk and Return, Measurement of Non-diversifiable Risk, Practice Study of Calculation of Risk and Return of Securities from Nifty and BSE in Microsoft Excel.	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Sanjay Matai	Your Guide to Finance and Investments	CNBC 18	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Prasanna Chandra	Investment Analysis and Portfolio Management	McGrow-Hill Publication	Fourth Edition
R-02	Shalini Amarnani	Everything You Wanted to Know About Investing (A New Perspective)	CNBC 18	Latest

PROGRAM	Bachelors Of Commerce
SEMESTER	V
COURSE TITLE	Research Methodology
COURSE CODE	04BC0501
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- To gain basic knowledge on research methods.
- To make decisions based on actual business conditions using statistical method.
- To demonstrate knowledge in different types of research methods and techniques.
- To perform statistical analysis and compile structured reports that reflect appropriate decision making.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Business Research Business Research Methods : Introduction, Basic Research, Applied Research, Business Research Methods, Business Research Process Design(10-Steps)	12
II	Research Process Introduction to Qualitative and Quantitative Research, Sampling Design – Census and Sample survey, Characteristics of good sample design, Sampling Methods – Random sampling and non-random Sampling, Sampling and non-sampling Errors.	06
III	Data Collection, Measurement and Scaling Data collection methods – Primary and Secondary Data , Measurement in Research, Measurement Scale, Meaning of Scaling, Scaling Techniques and their construction , Questionnaire Design.	12
IV	Analysis of Data and Hypothesis Testing Excel for Data Preparation and Analysis, Formulation and statement of hypothesis, confidence interval, Type-I error, Type-II error, one-tailed & two tailed tests , Testing of hypothesis(z-test & t-test for single population)	12
V	Preparing Reports Technical and Academic Report Writing, Significance of Report writing, Layout of Research Report, Precaution for writing Research Report and Conclusion.	06

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
TEXT BOOKS:-

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Naval Bajpai	Business Research Methods	Pearson	2/e, 2017
T-02	C.R.Kothari And Gaurav Garg	Research Methodology: Methods And Techniques	New Age International	3/e, 2014

REFERENCE BOOKS:-

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Deepak Chawla & Neena Sodhi	Research Methodology, Concepts And Cases	Vikas Publication	2/e,2016
R-02	Cooper And Schindler	Business Research Methods	Mcgraw-Hill Publication	12/e,2014
R-03	D.K. Bhattacharya	Research Methodology	Excel Books	2/e,2006
R-04	J K Sachdeva	Business Research Methodology	HPH	2/e,2011
R-05	Uma Sekaran & Roger Bougie	Research Methods For Business – A Skill Building Approach	Wiley	6/e,2013
R-06	Naresh K Malhotra	Marketing Research	Pearson Education	5/e,2007

PROGRAM	Bachelors Of Commerce
SEMESTER	V
COURSE TITLE	GST And Its Practices
COURSE CODE	04BC0502
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the Constitutional provisions relating to Indirect Taxation in India;
- Understand the taxable event for levy of GST;
- Understand Supplies covered by Negative List and Exemptions from GST;
- Make Valuation of Taxable Supply and understand about Time of Supply;
- Understand about various returns to be filed by GST Dealer and Modes of Payment of GST;
- Basic understandings of GST portal.

COURSE CONTENTS:-

Unit No	Unit / Sub Unit	Sessions
I	Introduction Of GST Introduction of Indirect Tax - Basics of GST – Brief History of GST - Constitutional provisions on GST- Central and State Government Powers on Taxing GST – GST Council – Advantages and Disadvantages of GST	4
II	Supply Taxable event in case of GST- Importance of Supply in the context of GST- Definitions of Goods and Service - Meaning and Definition of Supply- Scope of Supply - Inclusions and Exclusions from Supply- Important elements of Supply.	10
III	Non Taxable Supply - Negative List And Exemptions Overview of Supplies covered by Negative list- Overview of Supplies covered by Exemptions.	12
IV	Valuation And Time Of Supply Valuation of Supply by Transaction Value Method- Overview of Time of Supply	10
V	Returns Filings And Payments In GST Returns under GST- GST Portal - Frequency and general content of Returns- Due dates for filing GST Returns - Payment of GST.	12

NOTE:-Provisions of the GST Act as amended from time to time shall be the part of syllabus.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

TEXT BOOKS:-

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	V.S.Datey	GST	Taxman	2018

REFERENCE BOOKS:-

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Prakhar Jain	The Simplified Indian Gst Law	White Falcon Publishing	2018
R-02	Board Of Study- Icai	Study Material Of Gst	Bos-Icai	2018

PROGRAM	Bachelors Of Commerce
SEMESTER	V
COURSE TITLE	Corporate Accounting
COURSE CODE	04BC0503
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Account for the transactions related to equity shares of a company
- Account for the transactions related to preference shares of a company
- Account for the transactions related to debentures
- Prepare financial statements of company
- Calculate the value of shares of a company

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Accounting For Equity Share Capital Journal entries for issue of equity shares at par, at premium and at discount, Calls in arrears, Calls in advance, Pro-rata allotment of shares, Forfeiture of shares, Re-issue of forfeited shares, Buy back of shares	08
II	Accounting For Preference Share Capital Journal entries for issue of preference shares at par, at premium and at discount, Meaning of redemption, Conditions for redemption, Journal entries for redemption, Creation of Capital Redemption Reserve Account	10
III	Accounting For Debentures Journal entries for issue of debentures at par, at premium and at discount, Redemption of debentures by installment, by purchase from open market, by conversion, Accounting for Debenture Redemption Fund/ Sinking Fund	08
IV	Corporate Final Accounts Corporate Profit and Loss A/c, Corporate Balance Sheet (as per Vertical Format of Schedule III of Companies Act, 2013); along with all the schedules.	14
V	Valuation Of Shares Need of valuation of Shares, Practical sums for valuation of shares: Net	08

	Assets Method, Yield Method and Fair Value Method	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	S.N. Maheshwari and S.K. Maheshwari	Advanced Accountancy Volume II	Vikas Publication	2015
T-02	P. C. Tulsian and Bharat Tulsian	Corporate Accounting	S. Chand	2017

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Mukherjee and Hanif	Corporate Accounting	Tata McGraw Hill	2005
R-02	J. R. Monga	Basic Corporate Accounting	Mayur Paperbacks	2014
R-03	Ashok Sehgal and Deepak Sehgal	Advanced Accounting Volume II	Taxman	6 th edition, 2008

PROGRAM	Bachelors Of Commerce
SEMESTER	V
COURSE TITLE	Business Ethics & Corporate Governance
COURSE CODE	04BC0504
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the dynamics of business ethics.
- Identify ethical dilemmas in business & suggest solutions to overcome the problems.
- Learn the concept of corporate governance and its relevance to ethical business activity.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Ethics and Values Meaning and classification of Ethics, Ethical Deficit and Erosion, Concern about Ethics: Personal Ethics and Integrity, Definition of Ethics, Relevance of Ethics in Business, Arguments for and against Business Ethics, Ethical Principles in Business, Ethics, Morality, Law, Religion. Values Concept and Types: Model based on Rokeach Value Survey, Ethics and Values, Nature of ethics as moral value; types of value.	09
II	History Of Indian And Western Ethics: Brief History of Indian (Vedas, Ramayana and Gita) and Western Ethos(Bible, Aristotle and Plato) : Areas of Convergence and Divergence Contributions of Rabindranath Tagore, Swami Vivekananda, Mahatma Gandhi, Sri Aurobindo in Indian Ethos.	10
III	Ethical Dilemma and Essence of Decision Making Ethic Meaning and structure of Ethical Dilemma in business, Sources of	10

	Ethical Problems, Managing Ethical Dilemmas; Understanding Decision making, Model of Cognitive Moral Development, The Process of Making Good Ethical Decision; Dynamics of Ethical Leadership.	
IV	Ethical Issues in Financial Management, Marketing & HRM Introduction to Ethics in Finance, Ethical issues in Financial Markets, Financial service industry and by Financial people in organizations . Case study on Strategic failure of Satyam Computer Service. Role of Marketing, Areas in Marketing Ethics, Truth and Advertising; Functional Areas of HRM, Need for Workplace ethics, HR related ethical issues, Rights and duties of Employees .	11
V	Introduction to Corporate Governance Concept, Need for Governance in Business, Objectives of Corporate Governance, Definition and attributes of good corporate governance, Corporate governance theories – Agency, Stewardship, Shareholder, stake holder theory , Role of Board of Governors, Factors influencing quality of Corporate Governance. Indian Committees and Guidelines on Corporate Governance	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	A. C. Fernando	Business Ethics and Corporate Governance	Pearson	2 nd edition, 2012

T-02	Daniel Albuquerque	Business Ethics: Principles and practice	Oxford Uni. Press	2010
T-03	Andrew Crane, Dirk Matten	Business Ethics	Oxford Uni. Press	2010

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	S.K.Chakraborty	Management by Values	Oxford University Press	1991
R-02	Murthy C.S.V.	Business Ethics and Corporate Governance	Himalaya Publishing	1 st edition, 2017
R-03	S K Mandal	Ethics in Business and Corporate Governance	Tata McGraw Hill	2 nd edition, 2012
R-04	Ferrell, Fraedrich, Ferrell	Business Ethics	Cengage Learning	11 th edition, 2017
R-05	Rupani Riya	Business Ethics and Corporate Governance	Himalaya Publishing	4 th edition, 2015

PROGRAM	Bachelors Of Commerce
SEMESTER	V
COURSE TITLE	Income Tax Law and Practice – II
COURSE CODE	04BC0505
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Compute income under the head Capital Gains;
- Compute income under the head Income From Other Sources;
- Compute deductions available to Individuals and HUFs from Gross Total Income and understand the provisions of setoff and carry forward of losses and Clubbing of Income;
- Compute Tax Payable by Individual, HUF and Firm and understand the applicability of TDS, TCS and Advance tax;
- Understand the provisions relating to Filing of Return of Income and Self-Assessment.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Capital Gains Chargeability- Types of Capital Assets-Transfer of Capital Asset- Rates of Capital Gain Tax- Overview of Exemptions available from Capital Gains- Computation of income chargeable under the head Capital Gains.	12
II	Income From Other Sources Chargeability- Incomes covered under other sources- Principle of Grossing Up- Deductions allowed- Inadmissible deductions - Computation of Income from other sources.	6
III	A) Set Off And Carry Forward Of Losses& Clubbing Of Income B) Deductions Available From Gross Total Income Setoff and Carry Forward of Losses – Clubbing of Income - Basics of Deductions- Difference between deduction and exemption- Various deductions available to Individuals and HUFs from Gross Total Income.	10
IV	Tax Payable, TDS, TCS And Advance Tax Computation of Total Income and Tax Payable by Individual, HUF and Firm [excluding LLP & Chapter XIIB of the Income Tax Act,1961) – Tax Deduction at Source- Concept of Tax Collection at Source - Persons liable to pay Advance Tax- Due dates of various installments of advance tax.	12
V	Filing Of Return Of Income& Self-Assessment Persons required to file return of income- Due dates of Filing Return of	8

	Income- Overview of Revised Return and Belated Return- Signing of Return and Self-Assessment. (including filing returns online/ e- returns)	
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Note: Any change in the provisions of the Income Tax Act, 1961 as per budget or otherwise, shall be respectively made applicable to the syllabus. The syllabus of an academic year shall be the provisions of the relevant Assessment Year.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

TEXT BOOKS:-

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Dr. Vinod K Singhania	Income Tax Law and Practice	Taxmann	Latest
T-02	Dr.Girish Ahuja	Systematic Approach to Income Tax	Bharat Prakashan	Latest

REFERENCE BOOKS:-

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	CA. T. N. Manoharan	Direct Tax Laws	Snow White Publication	Latest
R-02	Gaur, V. P. & Narang, B. K.	Income tax Law and practice	Kalyani Publishers, New Delhi	Latest
R-03	Prasad, B.	Income tax Law and practice	New Age Publications	Latest
R-04	B.B. Lal and N. Vashisht	Direct tax	I. K. International Publishing House	Latest

PROGRAM	Bachelors Of Commerce
SEMESTER	V
COURSE TITLE	Company Law
COURSE CODE	04BC0506
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Demonstrate knowledge of the theories, concepts and principles related to the structure and regulation of company organizations.
- Analyze the likely impact of these trends and developments on the major topics in Company Law.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction: Joint stock Company –Meaning- definition - Nature and characteristics of a company- kinds of a company- advantages and disadvantages. History Of Company Law (1956 ACT IN BRIEF). Conversion private company to public ltd company and vice- versa. -lifting of corporate veil - formation of a company [meaning duties and liabilities of promoters]. - Administration of Company Law [including National Company Law Tribunal (NCLT), Appellate Tribunal (NCLAT)-limited liability of partnership -Comparison with partnerships and limited liability partnership	10
II	Documents: Memorandum of Association(MOA): meaning- content -doctrine of ultra-virus- doctrine of constructive notice-doctrine of indoor management-alteration in memorandum of association – Article of Association (AOA)- meaning- content -difference between MOA & AOA. Prospectus- definition- object- conditions for the issue of the prospectus-statement in lieu of prospectus –Types of Prospectus (Abridged prospectus, Shelf Prospectus, Red Herring Prospectus and Deemed prospectus) -misrepresentation and penalties in case of	10

	misrepresentation in prospectus.	
III	<p>Shares Capital</p> <p>Shares: Definition- share Vs stock- Classification- kinds of share capital- alteration of share capital-Reduction of share capital- guidelines for issue of fresh capital- public issue- private placement- underwriting of shares capital- bonus issues-right issues- employees stock action plans- buyback- public share at par, premium and discount- forfeiture, rules for valid forfeiture- transfer& transmission- buy back.</p> <p>Share allotment & share certificate Share allotment- meaning- statutory provisions- irregular allotment- consequences of irregular allotment- rules regarding issue of share certificates- distinction between share certificate and share warrants</p>	10
IV	<p>Management and Meetings</p> <p>Directors Directors: meaning- position- classification, additional, alternate and adhoc director; women directors, independent director, small shareholders' director; director identity number (DIN) - who can appoint a director, qualification & disqualification- appointment of directors- rights, powers, duties and liabilities of a director- number of director & directorship- vacation of office of directors- removal of a director- resignation of a director- interested directors- managing directors</p> <p>Meetings Meetings of shareholders and board; types of meeting, convening and conduct of meetings, requisites of a valid meeting; postal ballot, meeting through video conferencing, e-voting; —Statutory, Annual general meeting and Extra-ordinary General meeting. Company Meetings (Directors) : —Requisites of valid Board Meeting- notice, quorum, Chairman, resolutions, minutes. —Procedure of convening & conducting a Board meeting.</p>	10
V	<p>Winding up of companies</p> <p>Concept - modes of winding up – who can apply for winding-up - effects of winding upon antecedent and other transactions-appointment of liquidators - winding up of unregistered companies</p>	8

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	G.K. Kapoor Sanjay Dhamija	Company Law	Taxmann's University Edition.	20th Edition 2017

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Bare Act	Companies Act 2013	Bharat Law House Pvt. Ltd.	26 th Edition
R-02	G.K. Kapoor Sanjay Dhamija	Company Law and Practice (Paperback): A Comprehensive Text Book on Companies Act 2013	Taxman	22nd Edition 2017

w.e.f 2019

PROGRAM	Bachelors Of Commerce
SEMESTER	V
COURSE TITLE	Tally ERP 9.0
COURSE CODE	04BC1507
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

Course Outcomes:

- Gain complete knowledge of Tally software, theoretically as well as practically.
- Generate various reports and statements using Tally.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	<p>Computerized Accounting Systems using Tally ERP 9</p> <p>Fundamentals of Tally ERP 9 Need of Computerized Accounting – Components of Gateway of Tally – Keyboard Conventions – Closing Tally ERP 9 – Creation of a company – Selection of a Company – Shut a Company – Alteration of Company Details in Tally ERP 9 – Highlights of Features and Configurations in Tally ERP 9.</p> <p>Inventory Management in Tally ERP 9 Meaning of Inventory and Inventory Management – Inventory Master Creation in Tally ERP 9: Creation of Stock Group, Stock Item, Godown and Unit of Measurement – Defining stock opening balance in Tally ERP 9</p> <p>Maintaining Chart of Accounts in Tally ERP 9 Creation of Accounting Ledgers and Groups – Altering, Displaying and Deleting Ledgers and Groups – Defining Ledger opening balance in Tally ERP 9</p> <p>Recording of Day to Day Transactions in Tally ERP 9 Meaning of Source Document or Voucher – Accounting Vouchers: Contra Voucher, Payment Voucher, Receipt Voucher, Purchase Voucher, Sales Voucher, Credit Note Voucher, Debit Note Voucher, and Journal Voucher</p>	14
II	<p>Getting started with GST in Tally ERP 9 Introduction – Enabling GST and Defining Tax Details – Accounting of Supply of Goods: Intrastate Inward and Outward Supply of Goods, Interstate Inward and Outward Supply of Goods, Purchase and Sales Return of Goods – Accounting of Supply of Services: Intrastate Inward and Outward Supply of Services and Interstate Inward and Outward Supply of Services.</p>	08

III	Generating Reports in Tally ERP 9 MIS Reports - <ul style="list-style-type: none"> • Accounting Reports <ul style="list-style-type: none"> - Statements - Trial Balance, Profit and Loss Account, Balance Sheet , Cash Flow Statement and Fund Flow Statement -Books and Registers - Day Book, Receipts and Payments , Bills Receivable, Bills Payable , Purchase Register and Sales Register • Inventory Reports <ul style="list-style-type: none"> Stock Summary ,Stock Transfer , Movement Analysis: Stock group and Stock Item Analysis 	02
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

		Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment(Practical)	30% (I.A.)
C	End-Semester Examination(Practical and VIVA with 50% Weightage for each)	50% (External Assessment)

SUGGESTED READINGS:
Text Book:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Tally Education Pvt Ltd, Bengaluru	Official Guide to Financial Accounting using Tally.ERP 9 with GST	BPB Publications	4 th Revised & Updated Edition 2018

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Shraddha Singh	Tally ERP 9 (Power of Simplicity): Software for Business and Accounts	Comprehensive Computer Learning	2014
R-02	Rajesh Chheda	Learn Tally.ERP 9 with GST	Ane's Student Edition	2 nd Edition-2017

PROGRAM	Bachelors Of Commerce
SEMESTER	VI
COURSE TITLE	Management Accounting
COURSE CODE	04BC0601
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the scope of management accounting
- Understand the importance of marginal costing in decision making.
- Apply the control mechanism on all the element of cost that affect production.
- Understand the role of Budgetary control in framing the financial plan.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Management Accounting Meaning, Definition, Nature, Scope, Functions and Limitations of Management Accounting. Relationship and difference between Management Accounting to Cost Accounting and Financial Accounting. Description of Tools and Techniques in Management Accounting.	8
II	Marginal and Absorption Costing Marginal Costing- Meaning, Characteristics, Advantages and Limitations, Difference between Marginal Costing and Absorption Costing. Income determination under Marginal Costing and Absorption Costing. CVP/BEP Analysis, Safety Margin and Key factors that involves decision making.	12
III	Budgeting and Budgetary Control Meaning, Objectives, Advantages and Limitations, Essentials of effective budgeting in management process, Installation of Budget System Budgetary Control: Types of budgets preparation, Zero Base Budgeting; Performance Budgeting.	10
IV	Standard Costing Meaning, Difference between Standard Costing and Budgetary Control; Merits and Demerits of Standard costing, Prerequisite for establishment of standard costing, Efficiency and Activity Ratios, Material, Labour and Overhead Variance Analysis and Control.	10

V	Short Term Decision Making Meaning, Importance of relevant cost, Role of managerial costing in short-term decision making, Role of differential cost analysis, cost a non-cost factor in decision making.	08
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
T-01	M. N. Arora	Cost and Management Accounting	Vikas Publishing House	10 th Edition
T-02	P.C. Tulsian	Cost and Management Accounting	S Chand	3 rd Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Jawahar Lal	Cost Accounting	Tata McGraw Hill Publication	5 th Edition
R-02	Paresh Shah	Management Accounting	Oxford Publication	2 nd Edition
R-03	Ravi Kishor	Cost Management Accounting	Taxman	6 th Edition
R-04	Bhattacharya	Management Accounting	Pearson Publication	3 rd Edition
R-05	Hilton, Maher and Selto	Cost Management: Strategies for Business Decision	TMH	4 th Edition

PROGRAM	Bachelors Of Commerce
SEMESTER	VI
COURSE TITLE	International Business
COURSE CODE	04BC0602
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the problems in the implementation of dispute settlement mechanism.
- Correlate the culture, religion and language and its importance in the world market.
- Understand the tools for selecting the countries for doing business.
- Examine the trade invoicing process, implications on exporters, importers and trade.
- Learn and compare the established theories of international business.
- To integrate and apply frameworks, models, tools, and concepts from various perspectives to a real world global setting.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Overview of Globalization: - Frame work for International Business Globalization: Concept and Factors Affecting globalization and related issues, Globalization a Boon or Bane, Different dimensions of international business.	10
II	International Business Environment: Legal aspects, Cultural Differences and Cross-cultural factors, International trade theories policy framework and INDIA's trade policy, Regional trade blocks. Foreign Direct Investment, Country Evaluations and Sections.	10
III	Global Financial Markets and Strategy: - Global monetary systems, foreign exchange market, currency crisis Choice of strategy, global market entry strategies, types & forms of international marketing & Human resources.	10
IV	International Trade Operations and WTO: - Export Import Trends, Documents, Pre-&Post shipment documents Letter of Credit & Its types, Types of Economic Zones, Reforms for the growth of Foreign Trade, Agreements, Challenges & Opportunities, WTO Intellectual Property Rights, and Industrial Sectors, WTO&GATTs, Business sectors wise	10

	analysis.	
V	International Structure: - International Marketing Planning, Organizing and Control, International Marketing through Internet; Environmental affairs.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Book:-

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Justin Paul	International Business	PHI learning Private Limited	6 th Edition
T-02	Charles W. L. Hill and Arun Kumar Jain	International Business	Tata McGraw-Hill	10 th Edition

References Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	Daniels John, D. Lee H. Radebaugh and David P.	International Business	PearsonEducation	16 th Edition

	Sullivan.			
R-02	Cherunilam, Francis	International Business:	Prentice Hall of India Ltd.	5 th Edition
R-03	Mike Peng and Deepak Srivastava	GlobalBusiness	Cengage Publications	1 st Edition
R-04	Rakesh Mohan Joshi	International Business	Oxford University	1th Edition
R-05	Sundaram, Anant K. and Black, J. S	The International Business Environment	Prentice Hall.	1 st Edition.

Suggested Reading: -

1. Economic Survey, Govt. of India.
2. Export-import Policy and Other Documents, Govt. Of India.
3. Hazari, R. Bharat, Micro Economic Foundations of International Trade, Croom
4. Helm, London and Sydney.
5. Terpstra, V. and R. Sarathy, International Marketing, 8 th ed., Harcourt Asia PTE Ltd., Singapore, 2005.
6. Customs and Excise Law, various issues. 2.
7. Excise Law Times, various issues. 3.
8. IIFT, various publications. 4.
9. IMPEX Times, various issues. 5.
10. Ministry of Commerce, Export import Policy, Government of India, New Delhi.
11. Ministry of Commerce, Handbook of Procedures, Volumes I and II, Government of India, New Delhi.
12. Apte, P. G., Multinational Financial Management, Tata -McGraw Hill, New Delhi, 1998. Baker, J.C., International Finance: Management, Markets and Institutions, Prentice Hall, Englewood Cliffs, 1998. 2. Eitemean, David K., Arthur Stone -hill.

PROGRAM	Bachelors Of Commerce
SEMESTER	VI
COURSE TITLE	Insurance and Risk Management
COURSE CODE	04BC0603
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the basic aspects of Insurance sector.
- Understand the Role of IRDA.
- Know about Risk Management techniques in Insurance sector.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Insurance Sector: Meaning, Definition and Types of Insurance, The Evolution of Insurance, Insurance contract, Principles of Insurance. Regulatory Framework of Insurance: Role, IRDA: Power, Functions and IRDA Act, 1999.	10
II	Insurance Markets and Strategies: The evolving Markets and Strategies, Opportunities, Challenges and Marketing Strategies of Insurance, Liability and Payment Protection Insurance, PPI Claims, Insurance Law and Patents, Industry Standard Form, Omnibus Clause, Insurance Fraud: Causes, Types of Fraud, Annuity and New Reforms in Insurance Sector in India.	12
III	Insurance Techniques: Life Insurance Techniques: Applications- Life insurance with Benefits Linked to Investment Performance, Pension Funds and Occupational Pension Schemes. Non-life Insurance Techniques: The Basics- Actuarial Model for Calculation of Premium Rates, Risk Classification.	10
IV	Mitigating Risk Via Insurance: Meaning, Objectives and Tools of Risk Management, Risk Management Process, Risk Adjusted Performance Measures, Fraud and Abuse, Portfolio Evaluation tools Risks and Solvency.	8
V	Financial Aspects of Insurance Management: Insurance Companies and functions, Mutual Funds, Housing Finance. Important Life Insurance Products and General Insurance Products Determination of Premiums, Bonuses and Various Distribution Channels, Current case study in the market.	8

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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	O.P. Agrawal	Banking & Insurance	Himalaya Publishing House	2012
T-02	P. K. Gupta	Insurance and Risk Management	Himalaya Publishing House	2017
T-03	M. N. Mishra	Principles and Practices of Insurance	S. Chand and Sons	2016

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Neelam C Gulati,	Principles of Insurance Management	Excel	2012
R-02	Dr. Dhiresk Kulshrestha	Indian Insurance Sector in Globalised Era	A. K Publication	2014
R-03	Emmett J. Vaughan and Therese Vaughan	Fundamentals of Risk and Insurance	Wiley	2013
R-04	D.C. Shrivastava Shashank	Indian Insurance Industry Transition & Prospects	New Century Publications, Delhi	2013

PROGRAM	Bachelors Of Commerce
SEMESTER	VI
COURSE TITLE	Financial Markets and Services
COURSE CODE	04BC0604
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand procedures of raising capital from primary market and awareness about various legal aspects in Public Issue Management.
- Have knowledge of functionality of secondary market operations and the role of different players in the market
- Capture essence of various fund based and fee based financial services
- Understand legal and regulatory aspects of financial services in India

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction Financial Markets: Introduction, Functions Classification, Role of Financial Market in Economic Development, Capital Market, Money Market, Introduction, Concept, Role, Importance, Evolution process in India, Financial Services: Meaning, importance, Types of financial services, Financial services and economic environment.	10
II	Primary Market Meaning, Functions, Different Participants, Public Issue, IPO, FPO, Right Issue, Private Placement, Offer for sale, IPO Mechanism, Pricing of IPO, Fixed pricing, Book Building and Auctions.	9
III	Secondary Market Stock Exchange, Functions, Listing Norms , Trading&settlement systems, key participants – brokers, Dealers, Clearing houses, Depositories, Role of SEBI for Investors protection.	9
IV	Fee based Financial Services Merchant Banking, underwriting, Loan Syndication, Stock Broking Services – Meaning, Functions and Mechanism of Services. Credit Rating: Credit rating Agencies, Rating process and Methodology, Rating Symbols and grades. Regulatory frame work.	10
V	Fund Based Financial Services:	10

	Leasing: Concept, Classification, and Mechanism. Hire Purchase: Conceptual Framework, Mechanism, difference between Hire Purchase and Leasing. Factoring and forfeiting: Introduction, theoretical Frame work, factoring in India, Mutual fund: introduction, Products/Schemes. Venture Capital: Introduction, theoretical frame work, Indian Venture Capital Scenario, Private Equity.	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M Y Khan	Financial Services	Tata McGraw Hill	Fifth Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	Vasant Desai	The Indian financial system and Development	Himalaya Publishing House	5 th edition 2017
R-02	BhartiPathak	Indian Financial System	Pearson	4 th Edition
R-03	Vijay dhawan,	Merchant Banking &Financial services	McGraw Hill,	2 nd Edition
R-04	Tripathy, NalinePrava,.	Financial Services,	PHI Learning,	1 st Edition
R-05	Agrawal, O.P.,	Management of Financial services,	Himalaya Publishing House.	1 st Edition

PROGRAM	Bachelors Of Commerce
SEMESTER	VI
COURSE TITLE	Production And Operations Management
COURSE CODE	04BC0605
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the relevance of Production and Operations Management
- Apply the techniques of material management and quality management in an organization.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction Meaning, Nature and Scope of Production and Operation Management, Importance of Production Function, Types of production processes, Difference between Manufacturing and Service Operations	08
II	Plant location and Lay out Factors considered in location, Methods to decide location, Layout: Meaning, factors affecting facility layout, principles of layout, Types of Layout.	10
III	Materials Management Importance of Materials Management, Concept of Purchasing, Principles and Process of Purchasing. Types of purchasing, Inventory management, Objectives and Importance of Inventory management, Inventory costs, EOQ- models	10
IV	Methods Study Work Study – Method study and work measurement, objectives of work study, method analysis, motion study, productivity and productivity measurement	10
V	Quality Management Lean Manufacturing, JIT, Kaizen, ISO series, TQM (Only concepts)	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	K. Aswathappa and K. Shridhara Bhat	Production and Operation Management	Himalaya Publishing House	Second Edition,2008

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	S.A.Chunawalla and D.R. Patel	Production and Operation Management	Himalaya Publishing House	Ninth Edition,2016
R-02	Kanishka Bedi	Production and Operation management	Oxford higher education	Third Edition,2013

2019-2020

PROGRAM	Bachelors Of Commerce
SEMESTER	I
COURSE TITLE	FINANCIAL ACCOUNTING-I
COURSE CODE	04BC0101
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Implement the accounting process from journal entries to trial balance
- Understand the need for uniformity in accounting
- Prepare financial statements of sole-proprietary business

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	BASICS OF BOOK-KEEPING AND ACCOUNTING Introduction to Book Keeping, Accounting and Accountancy – Process of Accounting – Branches of Accounting- Methods of Accounting – Basis of Accounting – Characteristics of Accounting – Functions of Accounting – Users of Accounting Information – Basic Accounting Terms – Classification of Accounts and its Rules – Accounting Equation – Accounting Principles – Accounting Concepts – Accounting Conventions – Fundamental Accounting Assumptions	08
II	OVERVIEW OF INDIAN ACCOUNTING STANDARDS Background of GAAP and IFRS – Introduction to Indian AS: Background, need, applicability, overview of standards (only theory)	06
III	PROCESS OF ACCOUNTING Meaning of Journal – Format of Journal – Single and compound Journal Entries – Difference between Cash Discount and Trade Discount – Meaning of Ledger – Format of Ledger – Balancing of Ledger – Practical problems on Journal and Ledger – Meaning of Trial Balance – Preparation of Trial Balance – Redrafting of Trial Balance – Types of Errors and their Rectification	16
IV	FINAL ACCOUNTS OF SOLE-PROPERITORSHIP: Types of Expenditure – Types of Income – Types of Profit – Meaning of Deferred Revenue Expenditure – Difference between Trial Balance and Balance sheet – Contingent Asset and Contingent Liability – Classification of Assets and Liabilities under different heading -	10

	Difference between Provisions and Reserves –Types of Reserves - Preparation of Final accounts for sole proprietorship for non manufacturing	
V	DEPRECIATION: Meaning - Methods of calculating depreciation (straight line method and written down value) - Method of recording Depreciation (Charging to Asset Account, Creating provision for Depreciation/ Accumulated Depreciation, Treatment of Disposal of Fixed assets.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	P.C. Tulsian	Financial Accounting	Pearson	Latest
T-02	S.N. Maheshwari, and. S. K. Maheshwari	Financial Accounting	Vikas Publishing House, New Delhi	Latest
T-03	M.C.Shukla, T.S.Grewal and S.C.Gupta	Advanced Accounts. Vol.-I	S. Chand & Co., New Delhi	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	R. L. Gupta and M. Radhaswamy	Advanced Accounts. Vol.-I& II	S. Chand & Co., New Delhi	Latest
R-02	A.Mukharji and M. Hanif	Financial Accounting	Tata McGraw, Hill Publishing Co. Ltd. New	Latest

			Delhi	
R-03	S. P. Jain and K. N. Narang	Advanced Accountancy	Kalyani Publishers, New Delhi	Latest
R-04	T. S. Grewal	Introduction to Accountancy	S. Chand & Co. Pvt. Ltd., New Delhi	Latest
R-05	Monga, J. R.	Financial Accounting : concepts and applications	Mayoor Paper Backs, New Delhi	Latest

Elective

PROGRAM	Bachelors Of Commerce
SEMESTER	I
COURSE TITLE	BUSINESS MATHEMATICS
COURSE CODE	04BC0102
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Solve business problems involving percentage, profit / loss and calculate discount
- Calculate simple and compound interest on investments
- Understand repayments of loan using EMIs
- Structure and solve problems using matrices
- Understand and establish relationship between variables using functions to determine equilibrium

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	RATIO, PROPORTION AND PERCENTAGE Ratio – Definition, Continued ratio, Inverse Ratio Meaning and computation of Percentage and Proportion: Direct proportion, Inverse Proportion and Continued Proportion	08
II	PROFIT AND LOSS, DISCOUNT Profit and Loss – Terms and formulae, percentage profit and percentage loss, Selling price at a profit and loss Discount – Trade discount and Cash discount, Problems involving cost price, selling price and market price	10
III	MATHEMATICS OF FINANCE Introduction, Simple Interest and Compound Interest – Concept and problem solution Future Value (FV) - Annuity: Amount of ordinary annuity, Amount of annuity due Present Value (PV) - ordinary annuity and annuity due Loan Amortization and Equated Monthly Installments (EMIs) - Reducing balance and flat rate of interest	08

	Use of MS Excel	
IV	DETERMINANT AND MATRICES Introduction, Definition, Types of matrices, Algebra of matrices (Addition and Subtraction), Additive Inverse of a matrix, Structure problems in matrix form, Multiplication of matrices (Max 3X3) Determinant of square matrices (2X2 and 3X3), minor of an element, cofactor, adjoint and Inverse of Matrix Solution of system of linear equations using inverse of coefficient matrix Use of MS Excel to calculate determinant and inverse of matrix	14
V	PROGRESSION Progression: Sequence and Series Arithmetic Progression – definition, nth term, sum of n terms, illustrations Geometric Progression - definition, nth term, sum of n terms, illustrations Arithmetic mean and Geometric mean Sum of n-terms and sum of infinite terms in geometric progression	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	P. Hazarika	Business Mathematics	S. Chand and Sons	Latest
T-02	A. Dikshit and J. Jain	Business Mathematics	Himalaya Publishing House	Latest
T-03	D C Sancheti and V K Kapoor	Business Mathematics	Sultan Chand and Sons	Latest

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Zamarudeenand Qazi	Business Mathematics	Vikas Publishing	Latest
R-03	P. Mariappan	Business Mathematics	Pearson Education	Latest
R-02	Trivedi Kashyap	Business Mathematics	Pearson Education	Latest

Course: B.Com

PROGRAM	Bachelors Of Commerce
SEMESTER	I
COURSE TITLE	CAREER READINESS PROGRAM
COURSE CODE	04CR0101
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

Objectives:

- The “*Linguistics for Interpersonal Interaction*” course is designed to make the Learners feel comfortable understanding, thinking and speaking in English.
- Having undergone the training, the Learners will feel confident about his or her own English-speaking skills.

Pre Requisites: None

Course Duration:

- The course duration is of 24 sessions of 60 minutes each.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
Unit I	Phonology: Varieties of Language and Standard English, Phonetics and Phonology - Speech Mechanism and Articulatory Phonetics, English Phonemes. Characterization and Classification of Vowels - Diphthongs and Monophthongs.	6
Unit-II	Syntax and Morphology: Nouns, Pronouns and Determiners - Misconceptions related to usages of noun forms, Using Possessives, Types of Pronouns, General Determiners and Specific Determiners. Verbs and related forms - Types of verbs and their forms, Stative and Dynamic, Lexical and Delexical Adjectives and Adverbs - Word formation, Order of Adjectives, Types of Adverbs Preposition and Phrasal verbs - Preposition of time, Preposition of Movements, Preposition of Place, Phrasal Verbs Conjunctions - Coordinating and Subordinating, Using Conjunctions in formal settings. Present Continuous – Form, Usages, Misconception Present Simple & Simple Past – Form, Usages, Misconception	8
Unit - III	Reading Comprehension: Processing Strategy - Comprehension Strategy, Meta-cognitive Strategy, Prediction and Pre-prediction.	4
Unit - IV	Spoken Discourse: Coherence and Cohesion - Situational	6



	Sociolinguistic interaction, Conversation Practice. Feature of Spoken Discourse - Semantic and Pragmatic Meanings, Conversation Practice (Role Play)	
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Learning Outcomes:

After studying this course, student should be able to:

- Articulate phonetics and phonology, Noun, Pronoun, Verb
- Reading and processing comprehension.

Evaluation:

The students will be evaluated on following evaluation scheme:

		Weight age
A	End-Semester Examination	100% (External Assessment)

PROGRAM	Bachelors Of Commerce
SEMESTER	I
COURSE TITLE	PRINCIPLES OF MANAGEMENT
COURSE CODE	04LS1102
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Demonstrate their knowledge of business and management principles.
- Get acquainted with management process and functions.
- Comprehend the modern management techniques and its relevance in business.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Management Meaning, Nature and Characteristics of Management – Scope of Management - Functional areas - Management as a Science and an Art - Management & Administration – Levels of management & Managerial Skills - Evolution of Management Thoughts - Principles of management - Ethics in Management.	10
II	Planning in Management Need and importance of planning - basic purpose of planning - Planning process, Types of plans - Objectives - Management By Objectives Decision-making Decision making – Nature and importance- types of decisions – process	10
III	Organizing Need for organization - purpose of organization, fundamental principles of organization - Types of organization - Departmentalization, Committees - Centralization Vs decentralization of authority and responsibility Staffing Staffing – Introduction - Need for Staffing - Importance of staffing -Process of staffing	10
IV	Directing Directing – Meaning, nature and importance – Theories of Motivation – Maslow’s, Herzberg’s & McGregor’s Leadership – Introduction - Formal and Informal Leadership – Characteristics – Styles of Leadership - Importance of Communication as a leader	10

	Coordinating Coordination – Introduction - Importance of coordination - Principles of coordination	
V	Controlling Meaning and steps in controlling – Pre-requisites of a strong control system - Methods of establishing control Modern Management Techniques Introduction to various latest management techniques: Business process re-engineering, business outsourcing, benchmarking, kaizen, six sigma, knowledge management, just in time management, total quality management.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	L. M. Prasad	Principles of Management	Sultan Chand and Sons	Ninth Edition - 2015

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	V.S.P. Rao	Management: Text and Cases	Excel Books India	Second edition
R-02	Koontz & O'Donnell	Principles of Management	McGraw Hill	Forth edition

PROGRAM	Bachelors Of Commerce
SEMESTER	I
COURSE TITLE	Microeconomics
COURSE CODE	04LS1103
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Apply economic reasoning to the analysis of selected contemporary economic problems.
- Understand how households (demand) and businesses (supply) interact in various market structures to determine price and quantity of goods and services produced and consumed.
- Use economic problem solving skills to discuss the opportunities and challenges of the increasing globalization of the world economy.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO MICROECONOMICS Meaning and definition of Microeconomics, Nature and scope of Microeconomics, Difference between microeconomics and macroeconomics. Central economic problems of society.	10
II	CONSUMER BEHAVIOUR Utility analysis: Meaning of Cardinal and Ordinal utility. Cardinal Utility: Law of diminishing Marginal utility, Law of Equi-marginal Utility, Ordinal Utility: Indifference curve analysis, properties of indifference curve analysis, Marginal rate of substitution, Budget line and consumer's Equilibrium.	10
III	DEMAND AND SUPPLY ANALYSIS Determinants of demand, law of demand, exceptions to law of demand. Elasticity of demand and its applications: Price elasticity, Income elasticity and cross elasticity. Concept and Law of Supply, Factors Affecting Supply	10
IV	PRODUCTION AND COST ANALYSIS Production Function: Short run and long run production functions, laws of returns, and law of returns to scale. Cost Function: classification of costs, short run and long run cost curves and their interrelationship, Planning curve and envelope curve, internal and external economics of scale,	10

	revenue curves, optimum size of the firm, factors affecting the optimum size	
V	EQUILIBRIUM OF FIRM AND INDUSTRY Perfect competition, monopoly, monopolistic competition, discriminating monopoly, aspects of non-price competition; group equilibrium, excess capacity, selling costs, oligopolistic behavior.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	H. L. Ahuja	Principles of Economics	S. Chand Publishing house	11 th ed. 2015

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	N.GregoryMankiw,	Principles of Micro Economics	Cengage	6 th ed.
R-02	Pindyck, R.S., D. L. Rubinfeld and P. L. Mehta	Microeconomics	Pearson	7 th ed.
R-03	D. Salvatore	Microeconomic Theory	Tata McGraw Hill	5 th ed
R-04	D N Dwivedi	Managerial Economics,	Vikas Publishing House	4 th ed.

PROGRAM	Bachelors Of Commerce
SEMESTER	I
COURSE TITLE	Computer Essentials
COURSE CODE	04LS1107
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Draft Document / Worksheet and Presentation
- Understand the Computer Hardware and Software Fundamentals
- detail some of the problems that are encountered when developing documents and worksheets
- describe briefly some of the technologies that are used to support online applications

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	COMPUTER BASICS Data- Instruction and Information-Characteristics of Computers- Various fields of application of Computers- Input-output Devices (Hardware- Software- Human ware and Firmware)-Advantages and Limitations of Computer- Block Diagram of Computer- Function of Different Units of Computer- Classification of Computers. Data Representation-Different Number System (Decimal- Binary- Octal and hexadecimal) and their Inter Conversion.	10
II	COMPUTER SOFTWARE Types of Software- Application software and system software- Compiler and Interpreter-Generations of languages-Low and High Level Languages-Computer Memory: Primary Memory &Secondary memory. Cache memory-optical memory-Storage Media. Introduction to Operating System-All Directory Manipulation- Creating Directory- Sub Directory- Renaming-Coping and Deleting the Directory File Manipulation-Creating a File-Deleting- Coping- renaming a File Using accessories such as calculator- paint brush- CD player etc.	10
III	INTRODUCTION TO MS- OFFICE (WORD) Introduction to Word Processing- Features - Formatting Documents- Paragraph Formatting- Indents- Page Formatting- Header and Footer- Bullets and Numbering- Tabs- Tables- Formatting the Tables- Finding and Replacing Text-Mail Merging etc..	10

IV	INTRODUCTION TO MS- OFFICE (EXCEL) Introduction to Electronic Spreadsheets - Feature of MS-Excel- Entering Data- Entering Series- Editing Data- Cell Referencing- ranges- Formulae- Functions- Auto Sum- Copying Formula- Formatting Data- Creating Charts- Creating Database- Sorting Data- Filtering etc.	10
V	INTRODUCTION TO MS- OFFICE (POWERPOINT) PowerPoint - Features of MS PowerPoint Clipping- Slide Animation- Slide Transitions- Slide Shows- formatting etc.- Creating formal presentations- inserting different objects- arts- charts- pictures etc. to slide.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	P.K.Sinha	Fundamental of Computers	B.P.B. Publications	

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Curtin, Foley, Sen, Martin,	Information Technology	Information Technology, Tata MCGraw Hill	2007
R-02	Sanjay Saxena	A First Course in computers	Vikas Publication	

List of Journals/Periodicals/ Magazines/ Newspapers etc.



The Students will have to refer to past issues of the following journals in order to get relevant topic/ information pertaining to the subject.

1. Computer and Education – Elsevier
2. Journal of Computers



Elective I: BBA, BBA (Hon.) & B. Com.

Reading and Writing for Business

Subject Code:04SL0102

Credit: 2

Semester: 1

Course Description

The course will inculcate skills of formal reading and writing for business among the students. Good reading skills play a vital role in decision making in response to a proposal or a report. Formal writing, on the other hand, enables one to express one's ideas, plans, aims and objectives on paper. The course will offer a number of classroom activities, assignments and tasks to ensure the inculcation of the aforesaid skills among the students.

Course Objectives

The course will enable the students:

1. to read and interpret formal business writings such as reports, articles and reviews;
2. to know structures of formal business letters and reports;
3. to write formal business letters and reports;
4. to inculcate a taste for reading and writing habits pertaining to the world of business.

Unit 1: Introduction to business world

1. Reading a business case-study – “Tripping Along” by Deep Kalra from *Stay Hungry Stay Foolish*
2. Reading 3 business articles (general in nature) from the newspapers/magazines

- I. "Paytm: the wonder wallet" from Forbes India.
- II. "Millennials: How They Live and Work" from Gallup.
- III. "The Right Culture: Not About Employees Happiness" from Gallup.

Recommended Reading

Arakali, Harichandan. "Paytm: The wonder wallet." Forbes India, 16 Nov. 2016,
<http://www.forbesindia.com/printcontent/44825>

Clifton, Jim. "Millennials: How They Live and Work." Gallup, 11 May 2016,
<http://www.gallup.com/opinion/chairman/191426/millennials-live-work.aspx>

Harter, Jim. "The Right Culture: Not About Employee Happiness." Gallup, 12 April 2017,
http://www.gallup.com/businessjournal/208487/right-culture-not-employeehappiness.aspx?g_source=WORKPLACE&g_medium=topic&g_campaign=tiles

Kalra, Deep. "Tripping Along." *Stay Hungry Stay Foolish*, edited by Rashmi Bansal, IIM Ahmedabad, 2008, pp. 130-143.

Unit 2: Reading and writing for business

1. Reading business letters (of sales, inquiry, order, complaint, and adjustment)
2. Writing business letters (Any two types)
3. Reading a few short business reports
4. Writing a short business report

Teaching Scheme

Teaching Scheme (Hours per week)	Evaluation Scheme					Total Marks	
	Practical	ESE	IA	CSE	Viva		Term Work
2 Hours		00	30	20	25	25	100

1. IA will consist of the following components (30 marks):

- a. **Assignments (20 Marks):** Students will prepare three assignments as following.

- 1) Letter: Write three letters on the given subjects (10 Marks)
- 2) Article: Write a business article on the given theme (05 Marks)
- 3) Report: Write a report on the given subject (05 Marks)

- b. **In-Class Participation (10 Marks)**
- 2. **CSE (20 marks):**
 - a. **(Term Paper):** Students will write a paper on the given topic.
- 3. **Viva (25 Marks):** Viva will be conducted at the end of the semester. It will be based on the CSE, Term Work, Assignments and topics covered in the syllabus.
- 4. **Term Work (25 Marks):**
 - a. **(Term-End Presentation):** Students will make a presentation based on topics provided by the faculty, at the end of the semester.

Further Suggested Readings

1. Raman M. and Singh P., *Business Communication*. 20th ed., Oxford University Press, 2011.
2. Kumar S. and Lata P., *Communication Skills*. 6th ed., Oxford University Press, 2013.
3. Murphy H., Hildebrandt H. and Thomas J., *Effective Business Communication*. Tata MacGraw-Hill, 2008.
4. Sharma R. and Mohan K., *Business Correspondence and Report Writing*. 4th ed., Tata MacGraw-Hill, 1998.
5. Lesikar R., Flatley M., Rentz K., Pande N., *Business Communication*. 11th ed., Tata MacGraw-Hill, 2009.



Elective II: BBA, BBA (Hon.) & B. Com.

Speaking and Presentation Skills

Subject Code: 04SL0103

Credits: 02

Semester: 1

Course Description

The course intends to make students confident in speaking in English with the help of various language functions. It also focuses on developing students' presentation skills.

Course Objectives

The course will enable students

1. to share information on familiar matters/issues in English;
2. to make effective presentations in English;
3. to gain confidence in speaking in English.

Unit 1: Speaking/Interacting in an Academic Context

1. Greetings
2. Introducing self and peers
3. Asking and sharing information
4. Expressing points of view
5. Discussions
6. Facing viva voce
7. Group discussions
8. Facing an interview (interview skills)

Unit 2: Effective Presentation Skills

1. Introduction to effective presentation skills
2. Preparing the presentation (Collection of Data/Information, exploring the topic etc.)

3. Using ICT for the presentation
4. Getting ready for the presentation
5. Effective body language
6. Effective pronunciation
7. Interacting with the audience (Q & A)
8. Practice (with video recording)
9. Feedback and Suggestions

Recommended Readings/ Viewings

- Select TED Talks
- Select INK Talks
- Select Toastmasters Videos
- Select Courtroom Dramas
- Select Videos of speakers like Steve Jobs, Sundar Pichai etc.

Teaching Scheme

Teaching Scheme (Hours per week)	Evaluation Scheme					Total Marks	
	Practical	ESE	IA	CSE	Viva		Term Work
2 Hours		00	30	20	25	25	100

1. **IA will consist of the following components (30 marks):**
 - a. **Assignments (20 Marks):** Students will prepare three oral assignments.
 - b. **In-Class Participation (10 Marks)**
2. **CSE (20 marks):**
 - a. **(Term End Simulation):** Students will carry out simulated tasks at the end of the semester. It would comprise individual and group tasks.
3. **Viva (25 Marks):** Viva will be conducted at the end of the semester. It will be based on the CSE, Term Work, Assignments and topics covered in the syllabus.
4. **Term Work (25 Marks):**
 - a. **(Term-End Presentation):** Students will make a presentation based on topics provided by the faculty, at the end of the semester.

Recommended Readings

“Communication.” themuse. 2017. <https://www.themuse.com/tags/communication>. Accessed 4 July 2017.

Presentation Magazine. 2017. <https://www.presentationmagazine.com/>. Accessed 4 July 2017.

“Presentation Skills.” *SKILLS YOU NEED*. 2017. <https://www.skillsyouneed.com/presentation-skills.html>. Accessed 4 July 2017.

Siddons Suzy. *The Complete Presentation Skills Handbook*. Kogan Page, 2008.

Sprague Jo, and Douglas Stuart. *The Speaker's Handbook*. 8th ed., Thomson Wadsworth, 2008.

PROGRAM	Bachelors Of Commerce
SEMESTER	II
COURSE TITLE	FINANCIAL ACCOUNTING-II
COURSE CODE	04BC0201
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Address advanced accounting issues of partnership firm
- Learn the application of Garner vs. Murray rule
- Understand the difference between hire purchase and installment purchase transactions
- Classify the branches and do the accounting accordingly
- Demonstrate knowledge of the concept of Ex-interest and Cum-interest

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	RECONSTITUTION OF PARTNERSHIP FIRM Accounting issues related to Admission, Retirement and Death of a Partner – Preparation of Revaluation account – Calculation of Goodwill : Average profit method, Super profit method, Annuity method, Capitalisation method	10
II	DISSOLUTION OF PARTNERSHIP FIRM Preparation of Realisation account – Settlement of accounts – Piecemeal distribution: Maximum loss method and Proportionate capital method – Insolvency of partner during piecemeal distribution (Garner vs. Murray rule)	12
III	ACCOUNTING FOR HIRE PURCHASE Meaning – Difference between Hire purchase and Installment purchase – Calculation of missing details when cash price or rate of interest is not given – Accounting for hire purchase transactions –Default and repossession	08
IV	ACCOUNTING FOR BRANCHES Meaning – Classification of Branches –Accounting for dependant branches – Accounting for independent branches	10
V	INVESTMENT ACCOUNTS Meaning – Classification of investments – Calculation of purchase price – Disposal of investments – Preparation of Investments account – Calculation of ex-interest and cum-interest	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	P.C. Tulsian	Financial Accounting	Pearson	Latest
T-02	S.N. Maheshwari, and. S. K. Maheshwari	Financial Accounting	Vikas Publishing House, New Delhi	Latest
T-03	M.C.Shukla, T.S.Grewal and S.C.Gupta	Advanced Accounts. Vol.-I	S. Chand & Co., New Delhi	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	R. L. Gupta and M. Radhaswamy	Advanced Accounts. Vol.-I& II	S. Chand & Co., New Delhi	Latest
R-02	A.Mukharji and M. Hanif	Financial Accounting	Tata McGraw, Hill Publishing Co. Ltd. New Delhi	Latest
R-03	S. P. Jain and K. N. Narang	Advanced Accountancy	Kalyani Publishers, New Delhi	Latest
R-04	T. S. Grewal	Introduction to Accountancy	S. Chand & Co. Pvt. Ltd., New Delhi	Latest
R-05	Monga, J. R.	Financial Accounting : concepts and applications	Mayoor Paper Backs, New Delhi	Latest

PROGRAM	Bachelors Of Commerce
SEMESTER	II
COURSE TITLE	Business Statistics
COURSE CODE	04BC0205
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Address advanced accounting issues of partnership firm
- Learn the application of Garner vs. Murray rule
- Understand the difference between hire purchase and installment purchase transactions
- Classify the branches and do the accounting accordingly
- Demonstrate knowledge of the concept of Ex-interest and Cum-interest

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Basic Concepts Basics of Statistics Introduction. Definition of Statistics, Application of Statistics in Business, Economics and Industry. Presentation of Data Data collection methods (Primary Vs Secondary, Population Vs Sample), Classification and Tabulation of Quantitative Data , Frequency distribution and Cumulative frequency distribution, Graphical Presentation of data - Histogram, Polygon and Ogive , (Use of MS-Excel to create Frequency Distribution and Graphs)	08
II	Univariate Analysis Descriptive Measures (Central Tendencies and Variation) Meaning of Central Tendency. Central tendencies – Arithmetic mean, Mode, Median and Percentiles, Variation – Range, Variance and Standard Deviation of ungrouped and grouped data. Coefficient of Variation (CV), Choice of good measures. (Use of MS Excel Statistical function to find descriptive	12
III	Theory of Probability Counting rule($m*n$ rule), Permutation and Combination (Use of MS Excel to compute permutation and combination)	08

	Definition, Basic terminology of Probability, Three approaches of assigning probability (Classical, Relative Frequency and Subjective approach), Rules of probability- Addition rule and Multiplication rule for independent and dependent events.	
IV	Probability Distribution Random variable, probability distribution and mathematical expectation Discrete Probability Distribution: Binomial distribution, Poisson distribution Continuous probability Distribution: Normal Distribution – Properties and Applications (Use of MS Excel Statistical function to compute Binomial, Poisson and Normal probability)	10
V	Bivariate Analysis Correlation and Regression Analysis Meaning of correlation, types of correlation, method of correlation – Karl Pearson’s coefficient of correlation, Meaning of Regression, regression coefficients and two lines of regression, use of regression in prediction. (Use of MS Excel Statistical Function to compute correlation and regression)	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	J K Sharma	Fundamentals of Business Statistics	Vikas Publication	Latest Edition
T-02	N D Vohra	Business Statistics	McGraw Hill Education	Latest Edition
T-03	D P Apte	Statistical Tools for Managers Using MS EXCEL	Excel Books	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Lewin and Rubin	Statistics for Management	Prentice-Hall of India	Latest
R-02	Sancheti D.C. and Kapoor V.K	Statistics: Theory, Methods & Application	Sultan Chand & Sons	Latest
R-03	S.C. Gupta	Fundamentals of Statistics	Himalaya Publishing House	Latest
R-04	S P Gupta	Statistical Methods	Sultan Chand	Latest
R-05	R. P. Hooda	Introduction to Statistics	Macmillan	Latest
R-06	S.C. Aggarwal & R.K Rana	Basic Statistics for Economists	V.K. India.	Latest
R-07	Beri, G.C	Business Statistics	TMH	Latest
R-08	Chandan J S	Statistics for Business and Economics	Vikas Publications	Latest

PROGRAM	Bachelors Of Commerce
SEMESTER	II
COURSE TITLE	Business Environment
COURSE CODE	04BC0208
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the meaning and relationship of environment and business
- Know the characteristics of modern business
- Explain the competitive structure of an industry

Course Contents:

Unit No.	Unit / Sub Unit	Sessions
I	INTRODUCTION TO BUSINESS ENVIRONMENT Introduction to Business environment - salient features – importance - types of business environment-SWOT Analysis- Firm Specific-environment scanning: features - process & techniques, Business Environment with reference to global integration	08
II	ECONOMIC ENVIRONMENT & POLITICAL ENVIRONMENT Political structure: Legislature institutions – executive institutions – judiciary institutions - Economic systems: capitalism, socialism; mixed economy, LPG - Liberalization, Privatization & Globalization and its impacts –Highlights of New industrial policy & its implication in India –Fundamentals of fiscal policy.	12
III	LEGAL FRAMEWORK ISO standards- Bureau Of Indian Standards–Important features of Intellectual property rights – Trademarks –The Competition Act 2002: Basics of Foreign Exchange Management Act 1999 (FEMA): Features – objectives - application of the Act - FEMA Vs FERA.	10
IV	TECHNOLOGICAL ENVIRONMENT Innovations, technological leadership and followership- Technology and competitive advantage - sources of technological dynamics - management of technology - transfer of technology – its forms, methods and features - time lags in technology – status of technology in India and its impact on Business –Overview of Technological Policies in India	10
V	SOCIAL ENVIRONMENT Business and Society, Changing Concepts and objectives of Business, Interdependence of business and society, technological development and	8

	social change, Consumers' rights & consumerism, Consumer protection Act; corporate governance.	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
1	Francis Cherunilam	Environment For Business	Himalaya Publishing House	2 nd edition 2011

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
1	Mishra, S.K. and Puri V.K	Economic Environment of Business	Himalaya Publishing House	1 st - 2011
2	Paul Justin	Business Environment- Text and Cases	TATA McGraw Hill Publishing	3 rd - 2010
3	Vivek Mittal	Business Environment	Excel Books	2 nd - 2010
4	Raj Agarwal	Business Environment	Excel Books	5 th - 2002
5	Francis Cherunilam	Business Environment, Text & Cases	Himalaya Publishing House	25 th - 2016
6	Aswathappa K	Essentials of Business Environment	Himalaya Publishing House	13 th - 2016
7	Morrison J	The International Business Environment	Palgrave	2 nd - 2006
8	Richard G. Lipsey	An Introduction to Positive Economics	ELBS, Oxford	7 th - 1989

List of Journals /Periodicals/ Magazines/ Newspapers etc.



1. International Journal of Business Environment
2. International Journal of Entrepreneurship & Business Environment Perspectives
3. Journal of World Business
4. Economic & Political Weekly
5. Intellectual Property Rights
6. Corporate Governance
7. Business India / Business World
8. Banking & Finance
9. Industrial Economist
10. Fortune, Global Business Review,
11. Economic Survey- GOI
12. World Development Report
13. India Development Report (Latest Edition)
14. RBI Annual Report, etc

PROGRAM	Bachelors Of Commerce
SEMESTER	II
COURSE TITLE	Applications Of Spreadsheet
COURSE CODE	04LS0212
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

COURSE OUTCOMES:

- Able to perform routine organizational tasks using Spreadsheets.
- Can be able to understand about pivot tables and how to use it for routine purpose.
- Able to manage spreadsheet and be able to compare data in to different spreadsheet.
- Create a dynamic spreadsheet.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Manage Worksheet Data, Reorder and Summarize Data Understanding software for spreadsheet, learning basic menu items, Basic operations like create, open and save a file, worksheets and workbooks, Renaming Inserting Data in proper tabular format, Basic formatting like changing fonts, size, merging and splitting cells, Coloring cells, conditional formatting	06
II	Functions & Formulas Basic Arithmetic Functions , Conditional Functions, Lookup Functions, Sorting and Filtering Data, Paste Special, Data Validation, Converting Text to Table, Working with multiple sheets	09
III	Data Analysis and Printing Analyze data dynamically by using PivotTables , Filter, show, and hide PivotTable data, Edit PivotTables, Format PivotTables, Create PivotTables from external data, create dynamic charts by using Pivot Charts, Page Setup and Printing	09

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Cox et al	Step by Step 2007 Microsoft Office System	PHI Learning Private Limited	Second Edition, 2009

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Curtis Frye	Microsoft Excel 2016 Step by Step	Microsoft Press	Latest

PROGRAM	Bachelors Of Commerce
SEMESTER	II
COURSE TITLE	Macroeconomics
COURSE CODE	04LS1203
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Comprehend why household, business, government and global behavior determine the aggregate demand for goods and services.
- Understand the basics of national income accounting.
- Apply economic reasoning to understand the operation of an economy.

Course Contents:

Unit No	Unit/Sub-unit	Sessions
I	Introduction to Macroeconomics & National Income Nature and Scope of Macroeconomics, Circular Flow of Income and National Income Accounting, Concepts of GDP and NDP - Sectoral Composition of National Income - GDP measured at Factor Price and Constant Prices- Concept of GNP and NNP, Factor Cost and National Income-Per Capita income, Disposable Income and Personal Disposable Income- Measurement of National Income – Difficulties in measuring National Income	10
II	Keynesian Economic Theory Say's Law of Market and its criticism by Keynes. Simple Keynes Model of Income Determination. Concepts of Consumption Function, Saving Function and Investment Function. Average Propensity to consume, Marginal Propensity to Consume, Investment Multiplier–Marginal Efficiency of Capital and factors affecting MEC.	10
III	Money Supply and Central Bank Meaning and Evolution of Money- Definition of Money- Functions of Money – Demand for Money - Quantity Theory of Money- Fisher's Equation of	10

	Exchange-Cambridge Theory. Supply of Money – Determinants of Money Supply- Components of Money Supply- RBI’s Approach-M1, M2, M3, M4.	
IV	Business Cycle & Inflation Concepts of Business cycle – Four phases of Business Cycle – Interest rate – Loanable fund Theory and Liquidity preference theory- Motives for liquidity preference--Transaction Motive, Precaution Motive, Speculative Motive. Factors affecting interest Rate, Inflation-Meaning, Types, Causes, Effects- Inflation and Investment.	10
V	Open Economy Macroeconomics Balance of Payments –Meaning and assessment, Balance of payment and disequilibrium causes and remedies. Introduction to Foreign Exchange Rates- Fixed V/s Flexible foreign exchange rates. Exchange rate determination.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	H.L.Ahuja	Macro Ecoomics	S.Chand	20 th ,2015

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	D.M.Mithani and Prof. Nayak	Macroeconomics II	Himalaya Publication	1 st edition
R-02	D. N. Dwivedi	Macroeconomics Theory and policy	Tata Mcgraw Hill	4 th edition
R-03	Mankiw	Macroeconomics- Indian edition	Cengage	1st

PROGRAM	Bachelors Of Commerce
SEMESTER	II
COURSE TITLE	Fundamentals of Human Resource Management
COURSE CODE	04LS1209
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the various functions of the HR management and a range of practices employed by organizations.
- Develop appropriate methods for attracting, retaining, developing and engaging talent for the organization.
- Identify employment related challenges faced by the organization

Course Contents:

Unit No.	Unit / Sub Unit	Sessions
I	INTRODUCTION TO HUMAN RESOURCE MANAGEMENT Introduction – Meaning - Objectives of Human Resource Management- Importance of HRM – Functions and Process of HRM- HR Manager - Duties and Responsibilities – Recent trends in HRM	10
II	PROCUREMENT OF HUMAN RESOURCE Human Resource Planning – Significance and Process, Job Analysis - Process- Job Description & Job Specification, Recruitment –Sources– Methods of Recruitment, Selection – Steps in Selection Process – Placement and Induction	12
III	TRAINING AND HUMAN RESOURCE DEVELOPMENT Training- Significance of training - identification of training needs - methods of training – Difference between Training & Development- Design of Training Programme- Evaluation of Training Effectiveness	07
IV	COMPENSATION AND MAINTAINENCE Job Evaluation – Concept, Process and Significance- Components of Employee Remuneration – Base and Supplementary- types of employee benefits and services; Performance Appraisal – Concept and Objectives- Traditional and Modern Methods	09
V	INTRODCUTION TO INDUSTRIAL RELATIONS Industrial Relation – Objectives – Approaches of Industrial Relations – Collective Bargaining – Grievance Process	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Pravin Durai	HumanResource Management	Pearson Publication	Second Edition
T-02	Gary Dessler and Biju Varkkery	Human Resources Management	Pearson Publication	Thirteenth Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	V. S. P. Rao	Human Resource Management– Text and Cases	Excel Books	Third Edition
R-02	K. Aswasthapa	Human Resource	Tata Mc Graw Hill	Sixth Edition
R-03	P. Subba Rao	Essential of Human Resource Management and Industrial relations	Himalaya Publishing House	Fifth Edition
R-04	Sinha, Sinha and Shekhar .	Industrial Relations, Trade unions and Labour Legislations	Pearson Education	Second Edition

PROGRAM	Bachelors Of Commerce
SEMESTER	III
COURSE TITLE	Cost Accounting - I
COURSE CODE	04BC0301
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Students will understand how to bifurcate the cost based on different classification
- Students will acquaint with various methods involved in cost ascertainment.
- Interpret the impact of the selected costs method
- Identify the specifics of different costing methods

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO COST ACCOUNTING Understanding of Cost, Costing, Cost Accounting and Cost Accountancy – Difference between Cost, Expense and Loss – Objectives of Cost Accounting– Elements of Cost – Fundamental understanding of Cost Unit, Cost Center, Cost Object, Cost Ascertainment & Cost Estimation – Methods and Techniques of Cost accounting – Advantage and Limitations of Cost Accounting – Classification of cost – Comparison between Financial Accounting and Cost Accounting	10
II	ELEMENTS OF COST (DIRECT EXPENSE) MATERIAL Meaning of Material (Direct & Indirect) – Material Control (Inventory Control) – Techniques of Inventory Control – EOQ – ABC Analysis – Setting Stock Levels – Treatment of Material losses – Normal loss and Abnormal loss – Accounting treatment for waste, scrap, spoilage & defectives	10
III	LABOUR Meaning & Types of Labour (Direct & Indirect) – Timekeeping – Time booking - Idle Time – Overtime – Labour Turn Over. Methods of Remuneration - Time Rate System – Piece Rate System – Incentive – Halsey plan – Rowan Plan- Taylor’s differential Piece Rate System and Merrick’s Differential Piece Rate System –	10

	Gantt's task and bonus plan – Emerson's Efficiency plan	
IV	ELEMENTS OF COST (INDIRECT EXPENSE) Meaning Definition and Classification of Overheads — Allocation of Overheads – Apportionment of Overheads – Primary & Secondary Overhead Distribution Summary – Repeated Distribution Method – Simultaneous Equations Method – Absorption of Overheads – Under & Over Absorption – Methods of Absorption – Treatment of Absorption – Machine Hour Rate	10
V	Unit Costing Meaning of Unit Costing – Preparation of Cost Sheet - Estimated Cost Sheet – Treatment of Raw- Material, Work in Progress and Closing Stock in Cost Sheet – Treatment of scrap	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M. N. Arora	Cost and Management Accounting	Vikas Publication	10/e

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	P.C.Tulsian	Cost Accounting	S Chad	8e
R-02	S.N.Maheswari	Cost & Management Accounting	Sultan Chand & Sons	14/e
R-03	M.Y.Khan	Cost Accounting	Tata McGraw Hill	2/e

PROGRAM	Bachelors Of Commerce
SEMESTER	III
COURSE TITLE	E COMMERCE
COURSE CODE	04BC0302
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

- detail what is meant by the term 'e-commerce'
- examine some typical electronic commerce applications
- detail some of the problems that are encountered when developing e commerce applications
- describe briefly some of the technologies that are used to support online applications
- show how some of the technologies detailed in the course are used in concert to realise a typical commercial system

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO E COMMERCE Introduction to E-Commerce – History of E-commerce, types of E-Commerce - Comparison of traditional commerce and e-commerce. Business models under E-Commerce – Business to Business (B2B) - Business to Customer model (B2C), Consumer-to-Consumer (C2C) - Consumer-to-Business (C2B) model - Peer to-Peer (P2P) model – emerging trends - Advantages and Disadvantages of e-commerce - web auctions, virtual communities - portals - e-business revenue generation models.	10
II	HOW TO SET UP E COMMERCE BUSINESS Why do I want to set up an E-Commerce enterprise? competition, global research, customer service, value edition, operations oriented process, 'pettish' products; What do I want to do on the net? Web development and maintenance, static web pages, integration with operational database, dynamic web site, customer transaction, transaction processing/ payment, merchant account, transaction processing, online credit card frauds, full E-Commerce.	10
III	PAYMENTS IN E – BUSINESS	10

	E-payment systems – An introduction - B to C payments - B to B payments - Types of E- payment system – Credit card - debit cards - accumulating balance - online stored value payment systems - Secure Electronic Transaction (SET) protocol - payment gateways - digital cash - digital wallets - agile wallet - smart cards and digital cheques.	
IV	SECURITY OPERATIONS FOR E-BUSINESS Possible Security threats – implementation of E-commerce security – encryption – Decryption - protecting client computers - E-Commerce Communication channels and web servers Encryption - SSL protocol – Firewalls - Cryptography methods – VPNs - protecting networks - policies and procedures	10
V	MARKETING OF E-BUSINESS E-Commerce and marketing - B to B and B to C marketing and branding strategies - Web transaction logs – cookies - shopping cart database – DBMS – SQL - data mining - CRM (customer relationship Management) system – permission marketing - affiliate marketing - viral marketing.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	K. Bajaj & D. Nag	E-Commerce: The cutting edge of business	McGraw Hill Education (India) Private Limited	2005

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Becker, S. Ann (ed.),	Electronic Commerce: Concepts, Methodologies, Tools and Applications		2007

PROGRAM	Bachelors Of Commerce
SEMESTER	III
COURSE TITLE	Financial Management -I
COURSE CODE	04BC0303
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Get acquainted with basic understanding of financing, investing, dividend and working capital decisions of an enterprise.
- Compute the cost of capital.
- Identify various techniques of capital budgeting.
- Understand dividend and its models

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Financial Management: Meaning & definition, nature, scope and functions; profit vs. wealth maximization, Finance function in an organization and role of finance manager. Time Value of Money - present value and future value, annuity, Loan Amortization, real and nominal value.	8
II	Financing Decision & Cost of Capital: Sources of Financing: Equity, Preferred, Debt and other sources, Cost of Capital - cost of equity capital, preferred capital, debt capital and retained earnings and overall cost of capital (WACC). An overview of equity & debt financing pattern in corporate India.	12
III	Investment Decisions: Importance of capital budgeting decision, Estimation of cash flows, Capital Budgeting appraisal method – payback period, Average rate of return, NPV, IRR and profitability index. Investment appraisal methods in practice by corporate world.	12
IV	Dividend Decision: Meaning and forms of dividend, factors affecting dividend decision, Models of	8

	dividend: Walter's Model, Gordon's Model and MM Hypothesis.	
V	Liquidity Decision: Meaning, concept, components, determinants and need of working capital; types of working capital, estimation of working capital requirement, operating cycle period.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Prasanna Chandra	Financial Management – Theory & Practices	New Delhi, TMH	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	I.M. Pandey	Financial Management	Vikas Publication	Latest Edition
R-02	M.Y. Khan and P.K. Jain	Financial Management – Text, Problems & cases	New Delhi, TMH	Latest Edition
R-03	Rajiv Srivastava and Anil Sharma	Financial Management	Oxford University Press	Latest Edition
R-04	Horne, James C Van.	Financial Management And Policy	Phi Learning Pvt Ltd	Latest Edition



PROGRAM	Bachelors Of Commerce
SEMESTER	III
COURSE TITLE	Principles of Marketing
COURSE CODE	04BC0304
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand Fundamental Marketing Concepts and marketing environment.
- Understand the concepts of Basic 4Ps of Marketing.
- Understand and apply the concepts of Segmenting and Targeting Customers.
- Comprehend various channels of distribution and various means of promotion.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO MARKETING MANAGEMENT Nature, Scope & Importance of Marketing, Concepts of Marketing, Marketing Mix, Environmental Factors Affecting Marketing, Wants, Demands, Customer Value, Satisfaction - Marketing post LPG	08
II	CONSUMER BEHAVIOUR & SEGMENTATION Overview of Consumer Behavior, Factors affecting Consumer Buying Decisions, Consumer Buying Process Market segmentation: Concept, Importance and Bases; Target market selection; Positioning concept, importance and bases; differentiation strategies - an overview	10
III	PRODUCT AND PRICING Product: Product Mix, Product Life Cycle, New Product Development, Overview of Brand Pricing: Significance, Factors affecting price of a product, Pricing policies and strategies.	10
IV	PLACE AND PROMOTION Distribution: meaning and importance, Types of distribution channels; Wholesaling and retailing (Only Overview), Factors affecting choice of distribution channel, Logistics-Overview & Importance	12

	Promotion: Nature and importance, Promotion Tools: advertising, 5 Ms of Advertising, personal selling, public relations, Direct Marketing & sales promotion – concept and characteristics, Communication process, Promotion mix	
V	CONTEMPORARY ISSUES IN MARKETING Overview of Social Media Marketing; Online Marketing, Overview of Services Marketing and Additions Ps of Marketing, Overview of Green Marketing, Overview of Rural Marketing.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Philip Kotler & Kevin Lane Keller	A Framework for Marketing Management	Pearson Education.	Sixth Edition (2016)

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Philip Kotler; Kevin Lane Keller; Abraham Koshy; MithileshwarJha	Marketing Management: A South Asian Perspective	Pearson Education	Latest Edition
R-02	Karunakaran	Marketing Management (Text and Cases in Indian Context)	Himalaya Publishing House	Latest Edition
R-03	Rajan Saxena	Marketing Management	TMGH	Fourth Edition



PROGRAM	Bachelors Of Commerce
SEMESTER	III
COURSE TITLE	LEGAL ASPECTS OF BUSINESS
COURSE CODE	04BC0305
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the legal provisions in India related to Business.
- Understand provisions regarding Indemnity, Guarantee and others.
- Gain in-depth knowledge about sale and agreement to sell
- Examine the features of partnerships and registrations process of the partnership
- Understand various provisions related to Negotiable Instruments in Business
- Apply theoretical and practical learning to problems related to legal matters in their business.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INDIAN CONTRACT ACT, 1872: GENERAL PRINCIPLE OF LAW OF CONTRACT Introduction, Agreement, Object of the Law of Contract, Nature of Contract, Essential fundamentals of a Valid Contract, Classification of Contract, and Kinds of Contracts, including E-contract, Distinguish between Agreement and Contract. Tender (Offer or Proposal), Acceptance, Promise, Revocation. Capacity to Contract, Free Consent, Consideration, Void Agreements, (Conditional Contract) Contingent Contract, Quasi Contract, Performance of Contract, Discharge of Contract, Remedies for breach of Contract,	12
II	INDIAN CONTRACT ACT, 1872: SPECIAL CONTRACTS A. Indemnity and Guarantee: Introduction, Essential Features, difference between Indemnity and Guarantee, Extent of Surety's liability, Kinds of Guarantee, Rights of Surety, Discharge of Surety	12

	<p>B. Bailment :Introduction, Classification of Bailment, Duties and Rights of Bailor and Bailee - Law relating to Lien, Rights of bailor and bailee against wrong doer, Finder of loss goods, Termination of bailment</p> <p>C. Pledge:Introduction, Difference between bailment and pledge, rights and duties of pawnor and pawnee, pledge by non-owners</p> <p>D. Contract of Agency:Introduction, Essentials of agency, Rules of agency, who can employ an agent?, who may be an agent?, Agent and servant, Agent and independent contractor, Test of agency, Creation of agency, Classification of agent, Relations of principals and agent, Duties and rights of principal, Delegation of authority, Relations of principal with third parties, Liabilities, Termination of agency</p>	
III	<p>SALE OF GOODS ACT, 1930</p> <p>Introductory Concepts, kinds of Goods, (Development) Formation of Contract of Sale, Difference between sale and agreement to sell, Sale and hire purchaser agreement, Subject matter of contract of sale, Effects of destruction as to time</p> <p>Condition and warranties, caveat emptor, transfer of property, performance of contracts, rights and duties of buyer and seller, rights of an unpaid seller, remedies for breach of contract of sale, Auction sale.</p>	08
IV	<p>INDIAN PARTNERSHIP ACT, 1932,</p> <p>Introduction, Salient features of partnership, formation of partnership, test of partnership, registration of partnership, relations of partners to third parties, types of partners, dissolution of firm, Amendments of 2008, 2011, 2013</p>	06
V	<p>NEGOTIABLE INSTRUMENTS ACT, 1881</p> <p>Introduction, Characteristics of Negotiable Instrument, Types of Negotiable Instrument, Classification of Negotiable Instrument, parties to a Negotiable Instrument, holder and holder in due course, liability of parties, Negotiation, presentation of Negotiable Instrument, Dishonor of Negotiable Instrument, Discharge of Negotiable Instrument, penalties and procedure, Amendments in 2015</p>	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:**Text Books:**

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M.C. Kuchhal & Vivek Kuchhal	Mercantile Laws	Vikas Publication	6 th Edition 2016
T-02	N.D.Kappor	Elements of Mercantile Laws	Sultan Chand and Sons.	Latest Edition

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	S.S. Gulshan	Business Law	New Age International Publishers	Latest Edition
R-02	Avtar Singh	Principles of Mercantile Laws	Eastern Book Co,	Latest Edition
R-03	Dr.G.K. Kappor	Companies Law and practice	Taxman	Edition 21 st , July 2016
R-04	Shushma Arora	Business Law	Taxman	Edition in Nov, 2015

PROGRAM	Bachelors Of Commerce
SEMESTER	III
COURSE TITLE	Indian Financial System
COURSE CODE	04BC0306
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Describe the financial system, Define and illustrate key financial terms
- Explain the key roles played in a modern society by the financial products, markets and institutions and describe the relative standing of the major financial centers;
- Discuss the changes that have taken place in the way financial services are provided;

Course Contents:

Unit No	Unit / Sub Unit	Sessions
Unit I	An Introduction to the financial system Overview of financial system: Formal and Informal- Difference, Advantages and Disadvantages. Formal financial system: its Constituents and inter-relationships among the components. Functions of a financial system. Role of Financial System in Economic Development Financial regulation and regulatory Agencies (Primarily RBI, SEBI & IRDA): Meaning, features and their kinds (tabular representation of the various regulators, the markets they regulate). Role and functions of RBI, SEBI and IRDA as regulator.	10
Unit II	Financial Institutions Meaning, classification and types of financial institutions: Intermediary financial institutions and non-intermediary financial institutions ; banking and non- banking. Features, Role/ functions Structure, participants and	10

	importance of each kind of institution.	
Unit III	Financial Markets Meaning and Classification of financial markets (multiple ways to classify)-, Money market, Capital Market- Primary And Secondary Market, Forex Market, Debt Market . Features, Importance, Role/functions, structure and participants of each market. Recent Development in Indian Money Market and Capital Market. Interlink between Money Market and Capital Market Overview of Debt Market in India ,Stock holding Corporation of India and Major stock exchange: NSE, BSE, OTCEI,	10
Unit IV	Financial Instruments Meaning , classification and types of financial instruments : Money market instruments, capital market instruments and hybrid instruments - Call money market, T- Bills, Commercial bills, Commercial papers and Certificates of deposits, Government (Gilt- Edged) securities and Industrial securities); Characteristics of financial instruments; New financial instruments; Evaluation of financial instruments (risk return trade-off)	10
Unit V	Financial services Concept of financial services, difference between financial and non financial services, features and importance of financial services; Role/ functions of financial services; Kinds of financial services: fund based and fee based.	08

Learning Outcomes

After studying this course, student should be able to:

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

		Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Pathak Bharati	The Indian Financial System –Markets, Institutions, and Services,	Pearson Education, New Delhi.	4 th Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Bhole L. M	Financial Institutions and Markets, Growth and Innovation,	Tata McGraw-Hill, New Delhi	5 th Edition.
R-02	Khan M. Y	Financial Services,	Tata McGraw Hill	7 th Edition
R-03	Anil Agashe	Financial Services, Markets and Regulations,	Himalaya	1 st Edition
R-04	H.R. Machiraju	Indian Financial System,	Vikas,	4 th Edition.
R-05	Clifford Gomez	Financial Markets, Institutions and financial Services,	PHI,	6 th Edition
R-06	Meir Kohn	Financial Institutions and Markets,.	Tata McGraw Hill,	2 nd Edition
R-07	A Datta	Indian Financial System,	Excel Books	(2012)
R-08	P N Varshney& D K Mittal	Indian Financial System,	Sulthan Chand & Sons.	11 th Edition
R-09	E Gardon& K Natarajan	Financial Markets & Services,	HPH,	10 th Edition.

PROGRAM	Bachelours Of Commerce
SEMESTER	III
COURSE TITLE	Understanding Financial Statements
COURSE CODE	04BC0307
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

OBJECTIVES

- To provide basic understanding of financial statements.
- To explain use of financial information to Value and Analyse firms.
- To enhance understanding and analytical skills for representation of findings and conclusions of Financial Statements.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
Unit I	Introduction of Financial statements & Income Statement: Financial Statements, Importance, Various users of Financial Statements, Presentation of Financial Statements. Interrelation between Income Statement and Balance Sheet Income Statement: manufacturing vs. Trade organizations. Vertical Vs Horizontal form, Components – Sales (Top line), Income from other sources, cost of goods sold, gross margin, EBITDA, EBITA, EBIT, EBT, EAT, Provisions, Earnings available to owners (Bottom Line).	8
Unit II	Statement of Financial Position: Meaning, Definition and purpose, horizontal vs. vertical form. Assets - Fixed, tangible, Intangible assets. Current Assets – Cash, Debtors, Bills receivables, deferred payments, Bank balance, Stock/ Inventory, Tangible & Intangible Assets, Gross block, Net Block, Investments. Current assets: accounts receivables, Inventory, Loans and advances and others. Shareholders 'funds, Long term Loans. Current liabilities. Understand organisations internal perspective and external perspective, comparative study between two organizations, (Report), Owners v/s lenders perspective,	8

	Comparison between two years of same organizations. Common size, Comparative and Trend Analysis of Financial statement with a simple case study	
Unit III	<p>Cash flow statement: Meaning Definition, Analysis and Applications.</p> <ol style="list-style-type: none"> 1. Cash flow from Operations – Production, Sales, and Delivery of products, collecting payments from customers. 2. Cash flow from investment activities - Purchase/ sales of assets, Loan made to suppliers and received from customers, Payments related to merger & acquisition. 3. Cash Flow from financing activities – Inflow of cash from Investors, banks and Shareholders. 	8

Learning Outcomes

After studying this course, student should be able to:

- Understand purpose of different financial statements
- Gain in-depth Knowledge about different components in the financial statement and their significance to assess the healthiness of the firm
- Examine different financial activities of the firm between two periods and understand how those activities influence on financial healthiness of the firm
- Compare financial statement of different firms through Cash flow Analysis.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Evaluation Criteria	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	N. Ramachandran and RamkumarKakakni	Finance made easy Series (Box set)	Mac-Graw hill publication	Second edition 2014

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition& Year of Publication
R-01	Vishal Thakkar	Finance for Non-Finance	TV18 Broad cast Ltd	Revised edition 2014
R-02	Anil Lamba	Romancing Balance sheet for anyone who owns, runs or manages a business	CNBCTV18 Drawbridge Publication,	Revised edition, 2016



PROGRAM	Bachelors Of Commerce
SEMESTER	IV
COURSE TITLE	Cost Accounting - II
COURSE CODE	04BC0401
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Learn the important cost concepts.
- Understand Application and implementation of costing methods

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Methods of Costing: Job and Batch Costing: Job Costing Procedure, Batch costing ,Economic Batch Quantity Contract Costing: Basics of Contract Costing, Procedure, Special Points in Contract Costing, Cost plus Contract.	10
II	Methods of costing Process Costing: Introduction, Essential Characteristics of Process Costing, Process Costing and Job Costing— A Comparison, Costing Procedure, Normal Loss and abnormal loss, Normal Gain and abnormal Gain, When Output is Partly Sold and Partly Transferred to the Next Process, equivalent production, Inter-process profits	11
III	Methods of costing Operating Costing: Cost unit, Transport costing, Transport costing procedure, Boiler house and power house costing ,Canteen costing	9
IV	Methods of costing Activity Based Costing: Basis Of ABC, Benefits Of ABC Over Absorption Costing, Other Concepts Related To ABC Joint and By-Product Costing; Accounting for joint products ,By- products ,Accounting for by-products, Limitations of joint cost analysis	11
V	Cost Audit and Cost Accounting Standard Cost Audit, Features, Functional Cost Audits, Cost Accounting Standards in	7

	India.	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M. N. Arora	A Textbook on Cost and Management	Vikas Publication	Latest Edition
T-02	Paresh Shah	Cost and Management Accounting	Oxford Publication	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Ravi M kishore	Cost and Management Accounting	Taxmann	Latest
R-02	V Rajshekharn & Lalitha	Cost Accounting	Pearson	Latest
R-03	CharlesT, Horngren, S M	Cost Accounting	Pearson	Latest
R-04	P C Tulsyani	Cost Accounting	S Chand	Latest
R-05	Khan and Jain	Management Accounting	TMH	Latest

PROGRAM	Bachelors Of Commerce
SEMESTER	IV
COURSE TITLE	Entrepreneurship
COURSE CODE	04BC0402
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Comprehend fundamental concepts for starting the business.
- Apprehend the concept of industrial environment and preparing basic plan.
- Understand available sources for raising funds for start- ups.
- Comprehend various challenges and possible solution for starting a business unit.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	ENTREPRENEURSHIP - AN INTRODUCTION: Meaning & Definition of Entrepreneurship, Common Entrepreneurial Characteristics, Required skills of an Entrepreneurs, Entrepreneurial Process, Role of Entrepreneurship in Economic Development of the Nation, Advantages & Drawbacks of Entrepreneurship, Introduction to Intrapreneurship	10
II	UNDERSTANDING INDUSTRIAL ENVIRONMENT: Industry - Large Scale - Small Scale - Tiny - Ancillary - Cottage, Challenges for Small Scale Industries, Registration process of SME, Definition & Symptoms of industrial sickness and suggested remedies for sick units, Domestic & International Entrepreneurship Options	12
III	PREPARING BUSINESS PLAN: Generation of Project Ideas, Sources of Business Ideas, Methods to generate business ideas, Feasibility Analysis: Economic, Managerial competency. Marketing, Financial & Technical, Environmental Scanning and SWOT analysis. Structure of a business plan, Importance of Business Plan, process of Preparation of Business Plan.	08
IV	SOURCES OF FINANCE FOR BUDDING ENTREPRENEURS Debt V/S Equity, Internal V/s External Funds, Options for Borrowing Funds,	08

	Various Financial Institutions Supporting entrepreneurial activities, Introduction to Venture Capital Funding, Managing Growth	
V	SUCCESS & FAILURE STORIES OF ENTREPRENEURSHIP: Discussions of various business stories & Cases of Successful Businesses, Lessons to be learnt from various organizational failures	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Kumar Arya,	Entrepreneurship,	Pearson,	Latest Edition
T-02	Desai Vasant,	The Dynamics of Entrepreneurial Development & Management	Himalaya Publishing House, Delhi	Latest Edition
T-02	Robert D. Hisrich, Michael P Peters and Dean A Shepherd,	Entrepreneurship	TMH	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
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R-01	Poornima M. Charnatimath, ,	Entrepreneurship Development And Small Business Enterprises	Pearson,	Second Edition
R-02	K Ramchandran,	Entrepreneurship – Indian Cases on Change Agents	TMGH	Latest Edition
R-03	Satish Taneja, S.L.Gupta	Entrepreneurship Development New Venture Creation	Galgotia Publishing Company	Latest Edition
R-04	Rashmi Bansal	Stay Hungry Stay Foolish	IIM Ahmedabad CIIE publication	Latest Edition
R-05	Longenecker, Moore, Petty and Palich,	Managing Small Business	Cengage Learning, India Edition	Latest Edition



PROGRAM	Bachelors Of Commerce
SEMESTER	IV
COURSE TITLE	Financial Management –II
COURSE CODE	04BC0403
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Students get acquainted with advance understanding of financial management, valuation concepts, advance capital budgeting and working capital policies.
- Evaluate the valuation of securities
- Understand the concepts of business valuations.
- Analyze theories of capital structure

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Financial Management and Valuation Concepts: Financial decisions in firm, Building blocks of modern finance, Financial System, Financial Planning. Valuation of Bonds and stocks – Bond valuation, YTM, YTC, valuation of preference and equity stocks. Concept of risk & return.	08
II	Capital Structure Decision and its determinants: Capital Structure theories and methods – NI Approach, NOI Approach, MM Approach, EPIT-EPS Analysis. Leverage Analysis – Operating, financing and combined leverage, and point of indifference.	10
III	Advanced Issues in Capital Budgeting: Capital Rationing, Comparison between IRR & NPV, MIRR, Risk analysis in capital budgeting (Certainty Equivalent method, Probability and sensitivity Analysis).	10
IV	Corporate Valuation: Business Valuation – Concept and approaches of valuation. Basic concept of Corporate restructuring, mergers & acquisition, EVA and MVA.	10

V	Working Capital Management and Policy: Cash Management - Meaning, Motives of holding cash, objectives of cash management, Cash budget. Receivables Management – Objectives, Credit policy, credit term and collection policies. Inventory Management - Meaning, Objectives, Factors affecting inventory, Techniques of inventory management: EOQ, ABC Analysis, Reorder point. Working Capital Financing.	10
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Prasanna Chandra	Financial Management – Theory & Practices	New Delhi, TMH	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	I.M. Pandey	Financial Management	Vikas Publication	Latest Edition
R-02	M.Y. Khan and P.K. Jain	Financial Management – Text, Problems & cases	New Delhi, TMH	Latest Edition
R-03	Rajiv Srivastava and Anil Sharma	Financial Management	Oxford University Press	Latest Edition
R-04	Horne, James C Van.	Financial Management And Policy	Phi Learning Pvt Ltd	Latest Edition



PROGRAM	Bachelors Of Commerce
SEMESTER	IV
COURSE TITLE	Auditing
COURSE CODE	04BC0404
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Trace the Evolution, Meaning, Features, Objectives, Principal aspects, Benefits and Limitations of Auditing.
- Audit Process, Audit Engagement Terms, Audit Planning,
- External Confirmation, Verification of Assets, Verification of Liabilities.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Auditing Meaning – Objects –Classification of Audit – Continuous Audit – Periodical or Final Audit – Internal Control – Internal Check – Auditors duty with regards to Internal Check – Difference between Auditing and Investigation	8
II	Procedure of Auditing Meaning of Vouching – Points to be noted in Voucher – Internal check with regards to Cash Transactions and Trading Transactions – Audit of impersonal ledger – Verification and Valuation of Assets and Liabilities	11
III	Audit of Limited Companies: Company Auditor: Qualifications and disqualifications – Appointment – Removal – Remuneration – Rights – Duties – Liabilities of an Auditor: Civil Liability and Criminal Liability of Auditor – Audit Committee – Audit of Banking Companies – Audit of Insurance companies	9
IV	Auditor's Report Content of Auditor's Report – Emphasis on Companies Auditor's Report Order, 2016 (CARO – 2016) – Applicability – Companies not	

	covered in CARO 2016 – Summary of all 16 Clauses.	11
V	Recent Trends in Auditing Cost Audit – Tax Audit – Management Audit – Audit of Computerized Accounts – Consideration of Audit in EDP Environment – Relevant Auditing and Assurance Standards	9

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Gupta, Kamal and Ashok Arora	Fundamentals of Auditing	Tata Mc-Graw Hill Publishing Co. Ltd., New Delhi	Latest Edition
T-02	Tandon, B. N., S. Sudharsanam and S. Sundharabahu	A Handbook of Practical Auditing	S. Chand and Co. Ltd., New Delhi	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Strawser R., Jerry. and Robert R Strawser	Auditing	Thomson Learning	Latest
R-02	Michael Chris Knapp	Contemporary Auditing: Real Issues and Cases	Thomson Learning	Latest
R-03	Alvin, S.A. Arens and K. Loebbecke James	Auditing: An Integrated Approach	Prentice Hall	Latest



PROGRAM	Bachelors Of Commerce
SEMESTER	IV
COURSE TITLE	Income Tax- Law and Practice-I
COURSE CODE	04BC0405
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the basic provisions of Income Tax Law in India
- Calculate income under the head of Income from Salary
- Calculate income under the head of Income from House Property.
- Calculate income under the head of Income from Profits and Gains of Business and Profession

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION : History – Background - Levy of income tax - Rates of tax & slab – Important Definitions - Agricultural income RESIDENTIAL STATUS : Relevance and significance of residential status - Types of residential status and its Determination - Incidence of tax based on residential status EXEMPT INCOME: Income which do not form part of total income -Conditions to be satisfied for availing exemptions	08
II	INCOME UNDER THE HEAD SALARY Definition of Salary – Chargeability - Treatment of various Allowances - Perquisites and their valuation - Retirement benefits - Provisions regarding Provident Fund - Deductions from gross Salary - Computation of taxable salary (Practical Problems)	10
III	INCOME FROM HOUSE PROPERTY Chargeability of income from house property - Deemed ownership - Composite rent - Annual value and its determination - Deductions from annual value - Computation of taxable income under this head (Practical Problems)	10

IV	COMPUTATION OF ALLOWABLE DEPRECIATION Concept – Conditions to be satisfied – Computation of depreciation allowance	06
V	INCOME UNDER PROFITS AND GAINS OF BUSINESS AND PROFESSION Meaning of Business and Profession – Chargeability of income from profits and gains of business and profession - Allowable expenses – Expressly disallowed expenses - Deemed profits and incomes - Computation of taxable income under this head (Practical Problems)	14

Note: Any change in the provisions of Income Tax Act, 1961 as per budget or otherwise, shall be respectively made applicable to the syllabus. The syllabus of an academic year shall be the provisions of the relevant Assessment Year.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Dr. V. K. Singhania and Dr. Monica Singhania	Students' guide to Income Tax (University Edition)	Taxmann	Latest
T-02	Dr. Girish Ahuja and Dr. Ravi Gupta	Direct Tax Law and Practice	Bharat Publication	Latest
T-03	CA. T. N. Manoharan	Direct Tax Laws	Snow White Publication	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Dr. Girish Ahuja and Dr. Ravi Gupta	Practical Approach to Tax Laws and Practice	Bharat Publication	Latest
R-02	Dr. V. K. Singhanian and Dr. Monica Singhanian	Students' guide to Income Tax	Taxmann	Latest
R-03	Gaur, V. P. & Narang, B. K.	Income tax Law and practice	Kalyani Publishers, New Delhi	Latest
R-04	Prasad, B.	Income tax Law and practice	New Age Publications	Latest
R-05	B.B. Lal and N. Vashisht	Direct tax	I. K. International Publishing House	Latest



PROGRAM	Bachelors Of Commerce
SEMESTER	IV
COURSE TITLE	Trade Theories & Practices
COURSE CODE	04BC0406
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Students should be able to analyze changes and problems in light of trade theories and policies.
- Discuss the changes that have taken place in the composition of the trade in India over the time

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION Trade: Meaning and its types. Why do countries trade: Difference between internal and international trade. Characteristic of International Trade and domestic trade. Inter-regional and international Trade. Need and importance of Foreign Trade .Problems and Prospects in International Trade. International Trade Theories: Mercantilism, Absolute Cost Advantage, Comparative Cost Advantage, Heckscher-Ohlin Theory, Factor Endowment Theory, The Product Life-Cycle Theory, New Trade Theory- Theory of External Economies, National Competitive Advantage Porter's Diamond. Terms of Trade - Concept, Measurement, Types, Factors affecting Terms of Trade: Coastal trade prospects and Challenges: India's Internal Trade- Characteristics and Problems. Terminology and abbreviations in Trade practices	12
II	TRADE POLICY : Free Trade - concept and its merits and demerits; Protection - concept, Merits and Demerits, Methods of Protection. Tariffs barriers - Meaning, Types of Tariffs. Effects of Tariffs on International Trade. Non- Tariff Barriers -Import Quotas, Dumping, etc., Concepts of Trade Sanctions, Trade Barriers and Fair trade.	08
III	FORIEGN TRADE: INSTITUTIONAL ASSISTANCE IN INDIA	8

	Foreign Trade of India – Brief history & Recent trends. Composition of Imports and Exports – An overview of pattern of foreign trade in different five year plan periods. Direction of India’s Foreign Trade. Major trading partners. Recent Developments in India’s Trade. The Role of EXIM BANK, ECGC, STC, MMTC.	
IV	BALANCE OF PAYMENTS : Balance of Trade and Balance of Payments, Equilibrium and Disequilibrium in Balance of Payments, India’s Balance of Payments during Planning Period and Trends: Problems of BOT, BOP and corrective measures. Trade Policy in India – General Developments during planning period. Import substitution and Export promotion. Recent changes in trade policy, Trade agreements: GATT & WTO, UNCTAD	10
V	Regional Blocs and International Institutions: Regional Economic Groupings: EU, SAARC, OPEC, ASEAN. International Institutions : IBRD, IMF, ADB, NDB	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Anil Arora	International Trade: Theories and Current trends in the Globalised world	Deep and Deep publications	Latest
T-01	Francis Cherunilam	international trade and export management	Himalaya Publishing House	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Haberler G	Theory of International Trade	Augustus M Kelley Pubs	Latest
R-02	Salvi P.G	New Directions on India's Trade policy	The university of Michigan Press	Latest
R-03	Plaekar	Trade of India	The University of Michigan Press	Latest
R-04	Jacob Viner	Studies in Theory of International Trade	Routledge Library Edition	Latest

Online Resources:

WTO: <http://www.wto.org>

UNCTAD: <http://www.unctad.org>

OECD: <http://www.oecd.org>

International Center for Trade and Sustainable Development: <http://www.ictsd.org>

The World Bank: <http://www.worldbank.org>

PROGRAM	Bachelors Of Commerce
SEMESTER	IV
COURSE TITLE	Fundamentals of Investments
COURSE CODE	04BC0407
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

COURSE OUTCOMES:

- The students should be familiar with different investment alternatives,
- Should be familiar with the framework of their analysis and highlight the role of investor protection.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Investment Environment & Avenues: Meaning and Concept, Saving V/S Investment, Traders, Speculators, Gambler, Investors, Investment Avenues: Deposits – Bank and Post office; Government Saving Schemes – PPF, NSC, SCSS, Recent Govt. Securities Schemes; Bond and Debentures; Equity Share Market; Mutual Fund – Various Schemes, Insurance Product; Retirement Product; Money Market Instrument – T- bills, CP,COD,CBLO, Repos ; Real Estate ; Precious Assets Market; Financial Derivatives Instruments; New Investment Avenues – ETFs, TIPS, STRIPS,Souvenir Gold Scheme	8
II	Stock Market & Indices Participants in Securities market, Primary and Secondary equity market, Buying and Selling of Share in Market, payment Settlement System, Indian Stock Exchanges, Foreign Stock Exchanges, Stock Indices in India and abroad-Composition of Stocks in Stock indices (Nifty, BSE, Sector Specific), Computation of Indices (BSE And NSE), Factors affecting Change in Stock Indices, Role of SEBI and stock exchanges in investor protection; Investor grievances and their redressal system, insider trading, investors' awareness and activism.	8
III	Security Analysis – Risk and Return	8

	The Concepts of Risk and Return, The Components of Return, Measurement of Rate of Return, Measuring historical return, Sources of Risk, Measuring Historical Risk, Risk in a Portfolio Context, Diversification, Diversifiable and Non-diversifiable Risk, The Relation between Risk and Expected Rate of Return Measuring Expected Risk and Return, Measurement of Non-diversifiable Risk, Practice Study of Calculation of Risk and Return of Securities from Nifty and BSE in Microsoft Excel.	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Sanjay Matai	Your Guide to Finance and Investments	CNBC 18	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Prasanna Chandra	Investment Analysis and Portfolio Management	McGrow-Hill Publication	Fourth Edition
R-02	Shalini Amarnani	Everything You Wanted to Know About Investing (A New Perspective)	CNBC 18	Latest

PROGRAM	Bachelors Of Commerce
SEMESTER	V
COURSE TITLE	Research Methodology
COURSE CODE	04BC0501
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- To gain basic knowledge on research methods.
- To make decisions based on actual business conditions using statistical method.
- To demonstrate knowledge in different types of research methods and techniques.
- To perform statistical analysis and compile structured reports that reflect appropriate decision making.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Business Research Business Research Methods : Introduction, Basic Research, Applied Research, Business Research Methods, Business Research Process Design(10-Steps)	12
II	Research Process Introduction to Qualitative and Quantitative Research, Sampling Design – Census and Sample survey, Characteristics of good sample design, Sampling Methods – Random sampling and non-random Sampling, Sampling and non-sampling Errors.	06
III	Data Collection, Measurement and Scaling Data collection methods – Primary and Secondary Data , Measurement in Research, Measurement Scale, Meaning of Scaling, Scaling Techniques and their construction , Questionnaire Design.	12
IV	Analysis of Data and Hypothesis Testing Excel for Data Preparation and Analysis, Formulation and statement of hypothesis, confidence interval, Type-I error, Type-II error, one-tailed & two tailed tests , Testing of hypothesis(z-test & t-test for single population)	12
V	Preparing Reports Technical and Academic Report Writing, Significance of Report writing, Layout of Research Report, Precaution for writing Research Report and Conclusion.	06

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
TEXT BOOKS:-

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Naval Bajpai	Business Research Methods	Pearson	2/e, 2017
T-02	C.R.Kothari And Gaurav Garg	Research Methodology: Methods And Techniques	New Age International	3/e, 2014

REFERENCE BOOKS:-

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Deepak Chawla & Neena Sodhi	Research Methodology, Concepts And Cases	Vikas Publication	2/e,2016
R-02	Cooper And Schindler	Business Research Methods	Mcgraw-Hill Publication	12/e,2014
R-03	D.K. Bhattacharya	Research Methodology	Excel Books	2/e,2006
R-04	J K Sachdeva	Business Research Methodology	HPH	2/e,2011
R-05	Uma Sekaran & Roger Bougie	Research Methods For Business – A Skill Building Approach	Wiley	6/e,2013
R-06	Naresh K Malhotra	Marketing Research	Pearson Education	5/e,2007

PROGRAM	Bachelors Of Commerce
SEMESTER	V
COURSE TITLE	GST And Its Practices
COURSE CODE	04BC0502
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the Constitutional provisions relating to Indirect Taxation in India;
- Understand the taxable event for levy of GST;
- Understand Supplies covered by Negative List and Exemptions from GST;
- Make Valuation of Taxable Supply and understand about Time of Supply;
- Understand about various returns to be filed by GST Dealer and Modes of Payment of GST;
- Basic understandings of GST portal.

COURSE CONTENTS:-

Unit No	Unit / Sub Unit	Sessions
I	Introduction Of GST Introduction of Indirect Tax - Basics of GST – Brief History of GST - Constitutional provisions on GST- Central and State Government Powers on Taxing GST – GST Council – Advantages and Disadvantages of GST	4
II	Supply Taxable event in case of GST- Importance of Supply in the context of GST- Definitions of Goods and Service - Meaning and Definition of Supply- Scope of Supply - Inclusions and Exclusions from Supply- Important elements of Supply.	10
III	Non Taxable Supply - Negative List And Exemptions Overview of Supplies covered by Negative list- Overview of Supplies covered by Exemptions.	12
IV	Valuation And Time Of Supply Valuation of Supply by Transaction Value Method- Overview of Time of Supply	10
V	Returns Filings And Payments In GST Returns under GST- GST Portal - Frequency and general content of Returns- Due dates for filing GST Returns - Payment of GST.	12

NOTE:-Provisions of the GST Act as amended from time to time shall be the part of syllabus.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

TEXT BOOKS:-

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	V.S.Datey	GST	Taxman	2018

REFERENCE BOOKS:-

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Prakhar Jain	The Simplified Indian Gst Law	White Falcon Publishing	2018
R-02	Board Of Study- Icai	Study Material Of Gst	Bos-Icai	2018

PROGRAM	Bachelors Of Commerce
SEMESTER	V
COURSE TITLE	Corporate Accounting
COURSE CODE	04BC0503
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Account for the transactions related to equity shares of a company
- Account for the transactions related to preference shares of a company
- Account for the transactions related to debentures
- Prepare financial statements of company
- Calculate the value of shares of a company

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Accounting For Equity Share Capital Journal entries for issue of equity shares at par, at premium and at discount, Calls in arrears, Calls in advance, Pro-rata allotment of shares, Forfeiture of shares, Re-issue of forfeited shares, Buy back of shares	08
II	Accounting For Preference Share Capital Journal entries for issue of preference shares at par, at premium and at discount, Meaning of redemption, Conditions for redemption, Journal entries for redemption, Creation of Capital Redemption Reserve Account	10
III	Accounting For Debentures Journal entries for issue of debentures at par, at premium and at discount, Redemption of debentures by installment, by purchase from open market, by conversion, Accounting for Debenture Redemption Fund/ Sinking Fund	08
IV	Corporate Final Accounts Corporate Profit and Loss A/c, Corporate Balance Sheet (as per Vertical Format of Schedule III of Companies Act, 2013); along with all the schedules.	14
V	Valuation Of Shares Need of valuation of Shares, Practical sums for valuation of shares: Net	08

	Assets Method, Yield Method and Fair Value Method	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	S.N. Maheshwari and S.K. Maheshwari	Advanced Accountancy Volume II	Vikas Publication	2015
T-02	P. C. Tulsian and Bharat Tulsian	Corporate Accounting	S. Chand	2017

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Mukherjee and Hanif	Corporate Accounting	Tata McGraw Hill	2005
R-02	J. R. Monga	Basic Corporate Accounting	Mayur Paperbacks	2014
R-03	Ashok Sehgal and Deepak Sehgal	Advanced Accounting Volume II	Taxman	6 th edition, 2008

PROGRAM	Bachelors Of Commerce
SEMESTER	V
COURSE TITLE	Business Ethics & Corporate Governance
COURSE CODE	04BC0504
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the dynamics of business ethics.
- Identify ethical dilemmas in business & suggest solutions to overcome the problems.
- Learn the concept of corporate governance and its relevance to ethical business activity.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Ethics and Values Meaning and classification of Ethics, Ethical Deficit and Erosion, Concern about Ethics: Personal Ethics and Integrity, Definition of Ethics, Relevance of Ethics in Business, Arguments for and against Business Ethics, Ethical Principles in Business, Ethics, Morality, Law, Religion. Values Concept and Types: Model based on Rokeach Value Survey, Ethics and Values, Nature of ethics as moral value; types of value.	09
II	History Of Indian And Western Ethics: Brief History of Indian (Vedas, Ramayana and Gita) and Western Ethos(Bible, Aristotle and Plato) : Areas of Convergence and Divergence Contributions of Rabindranath Tagore, Swami Vivekananda, Mahatma Gandhi, Sri Aurobindo in Indian Ethos.	10
III	Ethical Dilemma and Essence of Decision Making Ethic Meaning and structure of Ethical Dilemma in business, Sources of	10

	Ethical Problems, Managing Ethical Dilemmas; Understanding Decision making, Model of Cognitive Moral Development, The Process of Making Good Ethical Decision; Dynamics of Ethical Leadership.	
IV	Ethical Issues in Financial Management, Marketing & HRM Introduction to Ethics in Finance, Ethical issues in Financial Markets, Financial service industry and by Financial people in organizations . Case study on Strategic failure of Satyam Computer Service. Role of Marketing, Areas in Marketing Ethics, Truth and Advertising; Functional Areas of HRM, Need for Workplace ethics, HR related ethical issues, Rights and duties of Employees .	11
V	Introduction to Corporate Governance Concept, Need for Governance in Business, Objectives of Corporate Governance, Definition and attributes of good corporate governance, Corporate governance theories – Agency, Stewardship, Shareholder, stake holder theory , Role of Board of Governors, Factors influencing quality of Corporate Governance. Indian Committees and Guidelines on Corporate Governance	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	A. C. Fernando	Business Ethics and Corporate Governance	Pearson	2 nd edition, 2012

T-02	Daniel Albuquerque	Business Ethics: Principles and practice	Oxford Uni. Press	2010
T-03	Andrew Crane, Dirk Matten	Business Ethics	Oxford Uni. Press	2010

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	S.K.Chakraborty	Management by Values	Oxford University Press	1991
R-02	Murthy C.S.V.	Business Ethics and Corporate Governance	Himalaya Publishing	1 st edition, 2017
R-03	S K Mandal	Ethics in Business and Corporate Governance	Tata McGraw Hill	2 nd edition, 2012
R-04	Ferrell, Fraedrich, Ferrell	Business Ethics	Cengage Learning	11 th edition, 2017
R-05	Rupani Riya	Business Ethics and Corporate Governance	Himalaya Publishing	4 th edition, 2015

PROGRAM	Bachelors Of Commerce
SEMESTER	V
COURSE TITLE	Income Tax Law and Practice – II
COURSE CODE	04BC0505
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Compute income under the head Capital Gains;
- Compute income under the head Income From Other Sources;
- Compute deductions available to Individuals and HUFs from Gross Total Income and understand the provisions of setoff and carry forward of losses and Clubbing of Income;
- Compute Tax Payable by Individual, HUF and Firm and understand the applicability of TDS, TCS and Advance tax;
- Understand the provisions relating to Filing of Return of Income and Self-Assessment.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Capital Gains Chargeability- Types of Capital Assets-Transfer of Capital Asset- Rates of Capital Gain Tax- Overview of Exemptions available from Capital Gains- Computation of income chargeable under the head Capital Gains.	12
II	Income From Other Sources Chargeability- Incomes covered under other sources- Principle of Grossing Up- Deductions allowed- Inadmissible deductions - Computation of Income from other sources.	6
III	A) Set Off And Carry Forward Of Losses& Clubbing Of Income B) Deductions Available From Gross Total Income Setoff and Carry Forward of Losses – Clubbing of Income - Basics of Deductions- Difference between deduction and exemption- Various deductions available to Individuals and HUFs from Gross Total Income.	10
IV	Tax Payable, TDS, TCS And Advance Tax Computation of Total Income and Tax Payable by Individual, HUF and Firm [excluding LLP & Chapter XIIB of the Income Tax Act,1961) – Tax Deduction at Source- Concept of Tax Collection at Source - Persons liable to pay Advance Tax- Due dates of various installments of advance tax.	12
V	Filing Of Return Of Income& Self-Assessment Persons required to file return of income- Due dates of Filing Return of	8

	Income- Overview of Revised Return and Belated Return- Signing of Return and Self-Assessment. (including filing returns online/ e- returns)	
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Note: Any change in the provisions of the Income Tax Act, 1961 as per budget or otherwise, shall be respectively made applicable to the syllabus. The syllabus of an academic year shall be the provisions of the relevant Assessment Year.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

TEXT BOOKS:-

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Dr. Vinod K Singhania	Income Tax Law and Practice	Taxmann	Latest
T-02	Dr.Girish Ahuja	Systematic Approach to Income Tax	Bharat Prakashan	Latest

REFERENCE BOOKS:-

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	CA. T. N. Manoharan	Direct Tax Laws	Snow White Publication	Latest
R-02	Gaur, V. P. & Narang, B. K.	Income tax Law and practice	Kalyani Publishers, New Delhi	Latest
R-03	Prasad, B.	Income tax Law and practice	New Age Publications	Latest
R-04	B.B. Lal and N. Vashisht	Direct tax	I. K. International Publishing House	Latest

PROGRAM	Bachelors Of Commerce
SEMESTER	V
COURSE TITLE	Company Law
COURSE CODE	04BC0506
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Demonstrate knowledge of the theories, concepts and principles related to the structure and regulation of company organizations.
- Analyze the likely impact of these trends and developments on the major topics in Company Law.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	<p>Introduction:</p> <p>Joint stock Company –Meaning- definition - Nature and characteristics of a company- kinds of a company- advantages and disadvantages. History Of Company Law (1956 ACT IN BRIEF). Conversion private company to public ltd company and vice- versa. -lifting of corporate veil - formation of a company [meaning duties and liabilities of promoters]. - Administration of Company Law [including National Company Law Tribunal (NCLT), Appellate Tribunal (NCLAT)-limited liability of partnership -Comparison with partnerships and limited liability partnership</p>	10
II	<p>Documents:</p> <p>Memorandum of Association(MOA): meaning- content -doctrine of ultra-virus- doctrine of constructive notice-doctrine of indoor management-alteration in memorandum of association – Article of Association (AOA)- meaning- content -difference between MOA & AOA.</p> <p>Prospectus- definition- object- conditions for the issue of the prospectus-statement in lieu of prospectus –Types of Prospectus (Abridged prospectus, Shelf Prospectus, Red Herring Prospectus and Deemed prospectus) -misrepresentation and penalties in case of</p>	10

	misrepresentation in prospectus.	
III	<p>Shares Capital</p> <p>Shares: Definition- share Vs stock- Classification- kinds of share capital- alteration of share capital-Reduction of share capital- guidelines for issue of fresh capital- public issue- private placement- underwriting of shares capital- bonus issues-right issues- employees stock action plans- buyback- public share at par, premium and discount- forfeiture, rules for valid forfeiture- transfer& transmission- buy back.</p> <p>Share allotment & share certificate Share allotment- meaning- statutory provisions- irregular allotment- consequences of irregular allotment- rules regarding issue of share certificates- distinction between share certificate and share warrants</p>	10
IV	<p>Management and Meetings</p> <p>Directors Directors: meaning- position- classification, additional, alternate and adhoc director; women directors, independent director, small shareholders' director; director identity number (DIN) - who can appoint a director, qualification & disqualification- appointment of directors- rights, powers, duties and liabilities of a director- number of director & directorship- vacation of office of directors- removal of a director- resignation of a director- interested directors- managing directors</p> <p>Meetings Meetings of shareholders and board; types of meeting, convening and conduct of meetings, requisites of a valid meeting; postal ballot, meeting through video conferencing, e-voting; —Statutory, Annual general meeting and Extra-ordinary General meeting. Company Meetings (Directors) : —Requisites of valid Board Meeting- notice, quorum, Chairman, resolutions, minutes. —Procedure of convening & conducting a Board meeting.</p>	10
V	<p>Winding up of companies</p> <p>Concept - modes of winding up – who can apply for winding-up - effects of winding upon antecedent and other transactions-appointment of liquidators - winding up of unregistered companies</p>	8

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	G.K. Kapoor Sanjay Dhamija	Company Law	Taxmann's University Edition.	20th Edition 2017

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Bare Act	Companies Act 2013	Bharat Law House Pvt. Ltd.	26 th Edition
R-02	G.K. Kapoor Sanjay Dhamija	Company Law and Practice (Paperback): A Comprehensive Text Book on Companies Act 2013	Taxman	22nd Edition 2017

w.e.f 2019

PROGRAM	Bachelors Of Commerce
SEMESTER	V
COURSE TITLE	Tally ERP 9.0
COURSE CODE	04BC1507
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

Course Outcomes:

- Gain complete knowledge of Tally software, theoretically as well as practically.
- Generate various reports and statements using Tally.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	<p>Computerized Accounting Systems using Tally ERP 9</p> <p>Fundamentals of Tally ERP 9 Need of Computerized Accounting – Components of Gateway of Tally – Keyboard Conventions – Closing Tally ERP 9 – Creation of a company – Selection of a Company – Shut a Company – Alteration of Company Details in Tally ERP 9 – Highlights of Features and Configurations in Tally ERP 9.</p> <p>Inventory Management in Tally ERP 9 Meaning of Inventory and Inventory Management – Inventory Master Creation in Tally ERP 9: Creation of Stock Group, Stock Item, Godown and Unit of Measurement – Defining stock opening balance in Tally ERP 9</p> <p>Maintaining Chart of Accounts in Tally ERP 9 Creation of Accounting Ledgers and Groups – Altering, Displaying and Deleting Ledgers and Groups – Defining Ledger opening balance in Tally ERP 9</p> <p>Recording of Day to Day Transactions in Tally ERP 9 Meaning of Source Document or Voucher – Accounting Vouchers: Contra Voucher, Payment Voucher, Receipt Voucher, Purchase Voucher, Sales Voucher, Credit Note Voucher, Debit Note Voucher, and Journal Voucher</p>	14
II	<p>Getting started with GST in Tally ERP 9 Introduction – Enabling GST and Defining Tax Details – Accounting of Supply of Goods: Intrastate Inward and Outward Supply of Goods, Interstate Inward and Outward Supply of Goods, Purchase and Sales Return of Goods – Accounting of Supply of Services: Intrastate Inward and Outward Supply of Services and Interstate Inward and Outward Supply of Services.</p>	08

III	Generating Reports in Tally ERP 9 MIS Reports - <ul style="list-style-type: none"> • Accounting Reports - Statements - Trial Balance, Profit and Loss Account, Balance Sheet , Cash Flow Statement and Fund Flow Statement -Books and Registers - Day Book, Receipts and Payments , Bills Receivable, Bills Payable , Purchase Register and Sales Register • Inventory Reports Stock Summary ,Stock Transfer , Movement Analysis: Stock group and Stock Item Analysis 	02
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

		Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment(Practical)	30% (I.A.)
C	End-Semester Examination(Practical and VIVA with 50% Weightage for each)	50% (External Assessment)

SUGGESTED READINGS:
Text Book:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Tally Education Pvt Ltd, Bengaluru	Official Guide to Financial Accounting using Tally.ERP 9 with GST	BPB Publications	4 th Revised & Updated Edition 2018

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Shraddha Singh	Tally ERP 9 (Power of Simplicity): Software for Business and Accounts	Comprehensive Computer Learning	2014
R-02	Rajesh Chheda	Learn Tally.ERP 9 with GST	Ane's Student Edition	2 nd Edition-2017

PROGRAM	Bachelors Of Commerce
SEMESTER	VI
COURSE TITLE	Management Accounting
COURSE CODE	04BC0601
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the scope of management accounting
- Understand the importance of marginal costing in decision making.
- Apply the control mechanism on all the element of cost that affect production.
- Understand the role of Budgetary control in framing the financial plan.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Management Accounting Meaning, Definition, Nature, Scope, Functions and Limitations of Management Accounting. Relationship and difference between Management Accounting to Cost Accounting and Financial Accounting. Description of Tools and Techniques in Management Accounting.	8
II	Marginal and Absorption Costing Marginal Costing- Meaning, Characteristics, Advantages and Limitations, Difference between Marginal Costing and Absorption Costing. Income determination under Marginal Costing and Absorption Costing. CVP/BEP Analysis, Safety Margin and Key factors that involves decision making.	12
III	Budgeting and Budgetary Control Meaning, Objectives, Advantages and Limitations, Essentials of effective budgeting in management process, Installation of Budget System Budgetary Control: Types of budgets preparation, Zero Base Budgeting; Performance Budgeting.	10
IV	Standard Costing Meaning, Difference between Standard Costing and Budgetary Control; Merits and Demerits of Standard costing, Prerequisite for establishment of standard costing, Efficiency and Activity Ratios, Material, Labour and Overhead Variance Analysis and Control.	10

V	Short Term Decision Making Meaning, Importance of relevant cost, Role of managerial costing in short-term decision making, Role of differential cost analysis, cost a non-cost factor in decision making.	08
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
T-01	M. N. Arora	Cost and Management Accounting	Vikas Publishing House	10 th Edition
T-02	P.C. Tulsian	Cost and Management Accounting	S Chand	3 rd Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Jawahar Lal	Cost Accounting	Tata McGraw Hill Publication	5 th Edition
R-02	Paresh Shah	Management Accounting	Oxford Publication	2 nd Edition
R-03	Ravi Kishor	Cost Management Accounting	Taxman	6 th Edition
R-04	Bhattacharya	Management Accounting	Pearson Publication	3 rd Edition
R-05	Hilton, Maher and Selto	Cost Management: Strategies for Business Decision	TMH	4 th Edition

PROGRAM	Bachelors Of Commerce
SEMESTER	VI
COURSE TITLE	International Business
COURSE CODE	04BC0602
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the problems in the implementation of dispute settlement mechanism.
- Correlate the culture, religion and language and its importance in the world market.
- Understand the tools for selecting the countries for doing business.
- Examine the trade invoicing process, implications on exporters, importers and trade.
- Learn and compare the established theories of international business.
- To integrate and apply frameworks, models, tools, and concepts from various perspectives to a real world global setting.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Overview of Globalization: - Frame work for International Business Globalization: Concept and Factors Affecting globalization and related issues, Globalization a Boon or Bane, Different dimensions of international business.	10
II	International Business Environment: Legal aspects, Cultural Differences and Cross-cultural factors, International trade theories policy framework and INDIA's trade policy, Regional trade blocks. Foreign Direct Investment, Country Evaluations and Sections.	10
III	Global Financial Markets and Strategy: - Global monetary systems, foreign exchange market, currency crisis Choice of strategy, global market entry strategies, types & forms of international marketing & Human resources.	10
IV	International Trade Operations and WTO: - Export Import Trends, Documents, Pre-&Post shipment documents Letter of Credit & Its types, Types of Economic Zones, Reforms for the growth of Foreign Trade, Agreements, Challenges & Opportunities, WTO Intellectual Property Rights, and Industrial Sectors, WTO&GATTs, Business sectors wise	10

	analysis.	
V	International Structure: - International Marketing Planning, Organizing and Control, International Marketing through Internet; Environmental affairs.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Book:-

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Justin Paul	International Business	PHI learning Private Limited	6 th Edition
T-02	Charles W. L. Hill and Arun Kumar Jain	International Business	Tata McGraw-Hill	10 th Edition

References Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	Daniels John, D. Lee H. Radebaugh and David P.	International Business	PearsonEducation	16 th Edition

	Sullivan.			
R-02	Cherunilam, Francis	International Business:	Prentice Hall of India Ltd.	5 th Edition
R-03	Mike Peng and Deepak Srivastava	GlobalBusiness	Cengage Publications	1 st Edition
R-04	Rakesh Mohan Joshi	International Business	Oxford University	1th Edition
R-05	Sundaram, Anant K. and Black, J. S	The International Business Environment	Prentice Hall.	1 st Edition.

Suggested Reading: -

1. Economic Survey, Govt. of India.
2. Export-import Policy and Other Documents, Govt. Of India.
3. Hazari, R. Bharat, Micro Economic Foundations of International Trade, Croom
4. Helm, London and Sydney.
5. Terpstra, V. and R. Sarathy, International Marketing, 8 th ed., Harcourt Asia PTE Ltd., Singapore, 2005.
6. Customs and Excise Law, various issues. 2.
7. Excise Law Times, various issues. 3.
8. IIFT, various publications. 4.
9. IMPEX Times, various issues. 5.
10. Ministry of Commerce, Export import Policy, Government of India, New Delhi.
11. Ministry of Commerce, Handbook of Procedures, Volumes I and II, Government of India, New Delhi.
12. Apte, P. G., Multinational Financial Management, Tata -McGraw Hill, New Delhi, 1998. Baker, J.C., International Finance: Management, Markets and Institutions, Prentice Hall, Englewood Cliffs, 1998. 2. Eitemean, David K., Arthur Stone -hill.

PROGRAM	Bachelors Of Commerce
SEMESTER	VI
COURSE TITLE	Insurance and Risk Management
COURSE CODE	04BC0603
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the basic aspects of Insurance sector.
- Understand the Role of IRDA.
- Know about Risk Management techniques in Insurance sector.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Insurance Sector: Meaning, Definition and Types of Insurance, The Evolution of Insurance, Insurance contract, Principles of Insurance. Regulatory Framework of Insurance: Role, IRDA: Power, Functions and IRDA Act, 1999.	10
II	Insurance Markets and Strategies: The evolving Markets and Strategies, Opportunities, Challenges and Marketing Strategies of Insurance, Liability and Payment Protection Insurance, PPI Claims, Insurance Law and Patents, Industry Standard Form, Omnibus Clause, Insurance Fraud: Causes, Types of Fraud, Annuity and New Reforms in Insurance Sector in India.	12
III	Insurance Techniques: Life Insurance Techniques: Applications- Life insurance with Benefits Linked to Investment Performance, Pension Funds and Occupational Pension Schemes. Non-life Insurance Techniques: The Basics- Actuarial Model for Calculation of Premium Rates, Risk Classification.	10
IV	Mitigating Risk Via Insurance: Meaning, Objectives and Tools of Risk Management, Risk Management Process, Risk Adjusted Performance Measures, Fraud and Abuse, Portfolio Evaluation tools Risks and Solvency.	8
V	Financial Aspects of Insurance Management: Insurance Companies and functions, Mutual Funds, Housing Finance. Important Life Insurance Products and General Insurance Products Determination of Premiums, Bonuses and Various Distribution Channels, Current case study in the market.	8

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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	O.P. Agrawal	Banking & Insurance	Himalaya Publishing House	2012
T-02	P. K. Gupta	Insurance and Risk Management	Himalaya Publishing House	2017
T-03	M. N. Mishra	Principles and Practices of Insurance	S. Chand and Sons	2016

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Neelam C Gulati,	Principles of Insurance Management	Excel	2012
R-02	Dr. Dhiresk Kulshrestha	Indian Insurance Sector in Globalised Era	A. K Publication	2014
R-03	Emmett J. Vaughan and Therese Vaughan	Fundamentals of Risk and Insurance	Wiley	2013
R-04	D.C. Shrivastava Shashank	Indian Insurance Industry Transition & Prospects	New Century Publications, Delhi	2013

PROGRAM	Bachelors Of Commerce
SEMESTER	VI
COURSE TITLE	Financial Markets and Services
COURSE CODE	04BC0604
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand procedures of raising capital from primary market and awareness about various legal aspects in Public Issue Management.
- Have knowledge of functionality of secondary market operations and the role of different players in the market
- Capture essence of various fund based and fee based financial services
- Understand legal and regulatory aspects of financial services in India

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction Financial Markets: Introduction, Functions Classification, Role of Financial Market in Economic Development, Capital Market, Money Market, Introduction, Concept, Role, Importance, Evolution process in India, Financial Services: Meaning, importance, Types of financial services, Financial services and economic environment.	10
II	Primary Market Meaning, Functions, Different Participants, Public Issue, IPO, FPO, Right Issue, Private Placement, Offer for sale, IPO Mechanism, Pricing of IPO, Fixed pricing, Book Building and Auctions.	9
III	Secondary Market Stock Exchange, Functions, Listing Norms, Trading&settlement systems, key participants – brokers, Dealers, Clearing houses, Depositories, Role of SEBI for Investors protection.	9
IV	Fee based Financial Services Merchant Banking, underwriting, Loan Syndication, Stock Broking Services – Meaning, Functions and Mechanism of Services. Credit Rating: Credit rating Agencies, Rating process and Methodology, Rating Symbols and grades. Regulatory frame work.	10
V	Fund Based Financial Services:	10

	Leasing: Concept, Classification, and Mechanism. Hire Purchase: Conceptual Framework, Mechanism, difference between Hire Purchase and Leasing. Factoring and forfeiting: Introduction, theoretical Frame work, factoring in India, Mutual fund: introduction, Products/Schemes. Venture Capital: Introduction, theoretical frame work, Indian Venture Capital Scenario, Private Equity.	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M Y Khan	Financial Services	Tata McGraw Hill	Fifth Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	Vasant Desai	The Indian financial system and Development	Himalaya Publishing House	5 th edition 2017
R-02	BhartiPathak	Indian Financial System	Pearson	4 th Edition
R-03	Vijay dhawan,	Merchant Banking &Financial services	McGraw Hill,	2 nd Edition
R-04	Tripathy, NalinePrava,.	Financial Services,	PHI Learning,	1 st Edition
R-05	Agrawal, O.P.,	Management of Financial services,	Himalaya Publishing House.	1 st Edition

PROGRAM	Bachelors Of Commerce
SEMESTER	VI
COURSE TITLE	Production And Operations Management
COURSE CODE	04BC0605
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the relevance of Production and Operations Management
- Apply the techniques of material management and quality management in an organization.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction Meaning, Nature and Scope of Production and Operation Management, Importance of Production Function, Types of production processes, Difference between Manufacturing and Service Operations	08
II	Plant location and Lay out Factors considered in location, Methods to decide location, Layout: Meaning, factors affecting facility layout, principles of layout, Types of Layout.	10
III	Materials Management Importance of Materials Management, Concept of Purchasing, Principles and Process of Purchasing. Types of purchasing, Inventory management, Objectives and Importance of Inventory management, Inventory costs, EOQ- models	10
IV	Methods Study Work Study – Method study and work measurement, objectives of work study, method analysis, motion study, productivity and productivity measurement	10
V	Quality Management Lean Manufacturing, JIT, Kaizen, ISO series, TQM (Only concepts)	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	K. Aswathappa and K. Shridhara Bhat	Production and Operation Management	Himalaya Publishing House	Second Edition,2008

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	S.A.Chunawalla and D.R. Patel	Production and Operation Management	Himalaya Publishing House	Ninth Edition,2016
R-02	Kanishka Bedi	Production and Operation management	Oxford higher education	Third Edition,2013

2020-2021

PROGRAM	Bachelors Of Commerce
SEMESTER	I
COURSE TITLE	FINANCIAL ACCOUNTING-I
COURSE CODE	04BC0101
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Implement the accounting process from journal entries to trial balance
- Understand the need for uniformity in accounting
- Prepare financial statements of sole-proprietary business

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	BASICS OF BOOK-KEEPING AND ACCOUNTING Introduction to Book Keeping, Accounting and Accountancy – Process of Accounting – Branches of Accounting- Methods of Accounting – Basis of Accounting – Characteristics of Accounting – Functions of Accounting – Users of Accounting Information – Basic Accounting Terms – Classification of Accounts and its Rules – Accounting Equation – Accounting Principles – Accounting Concepts – Accounting Conventions – Fundamental Accounting Assumptions	08
II	OVERVIEW OF INDIAN ACCOUNTING STANDARDS Background of GAAP and IFRS – Introduction to Indian AS: Background, need, applicability, overview of standards (only theory)	06
III	PROCESS OF ACCOUNTING Meaning of Journal – Format of Journal – Single and compound Journal Entries – Difference between Cash Discount and Trade Discount – Meaning of Ledger – Format of Ledger – Balancing of Ledger – Practical problems on Journal and Ledger – Meaning of Trial Balance – Preparation of Trial Balance – Redrafting of Trial Balance – Types of Errors and their Rectification	16
IV	FINAL ACCOUNTS OF SOLE-PROPERITORSHIP: Types of Expenditure – Types of Income – Types of Profit – Meaning of Deferred Revenue Expenditure – Difference between Trial Balance and Balance sheet – Contingent Asset and Contingent Liability – Classification of Assets and Liabilities under different heading -	10

	Difference between Provisions and Reserves –Types of Reserves - Preparation of Final accounts for sole proprietorship for non manufacturing	
V	DEPRECIATION: Meaning - Methods of calculating depreciation (straight line method and written down value) - Method of recording Depreciation (Charging to Asset Account, Creating provision for Depreciation/ Accumulated Depreciation, Treatment of Disposal of Fixed assets.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	P.C. Tulsian	Financial Accounting	Pearson	Latest
T-02	S.N. Maheshwari, and. S. K. Maheshwari	Financial Accounting	Vikas Publishing House, New Delhi	Latest
T-03	M.C.Shukla, T.S.Grewal and S.C.Gupta	Advanced Accounts. Vol.-I	S. Chand & Co., New Delhi	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	R. L. Gupta and M. Radhaswamy	Advanced Accounts. Vol.-I& II	S. Chand & Co., New Delhi	Latest
R-02	A.Mukharji and M. Hanif	Financial Accounting	Tata McGraw, Hill Publishing Co. Ltd. New	Latest

			Delhi	
R-03	S. P. Jain and K. N. Narang	Advanced Accountancy	Kalyani Publishers, New Delhi	Latest
R-04	T. S. Grewal	Introduction to Accountancy	S. Chand & Co. Pvt. Ltd., New Delhi	Latest
R-05	Monga, J. R.	Financial Accounting : concepts and applications	Mayoor Paper Backs, New Delhi	Latest

Elective

PROGRAM	Bachelors Of Commerce
SEMESTER	I
COURSE TITLE	BUSINESS MATHEMATICS
COURSE CODE	04BC0102
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Solve business problems involving percentage, profit / loss and calculate discount
- Calculate simple and compound interest on investments
- Understand repayments of loan using EMIs
- Structure and solve problems using matrices
- Understand and establish relationship between variables using functions to determine equilibrium

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	RATIO, PROPORTION AND PERCENTAGE Ratio – Definition, Continued ratio, Inverse Ratio Meaning and computation of Percentage and Proportion: Direct proportion, Inverse Proportion and Continued Proportion	08
II	PROFIT AND LOSS, DISCOUNT Profit and Loss – Terms and formulae, percentage profit and percentage loss, Selling price at a profit and loss Discount – Trade discount and Cash discount, Problems involving cost price, selling price and market price	10
III	MATHEMATICS OF FINANCE Introduction, Simple Interest and Compound Interest – Concept and problem solution Future Value (FV) - Annuity: Amount of ordinary annuity, Amount of annuity due Present Value (PV) - ordinary annuity and annuity due Loan Amortization and Equated Monthly Installments (EMIs) - Reducing balance and flat rate of interest	08

	Use of MS Excel	
IV	DETERMINANT AND MATRICES Introduction, Definition, Types of matrices, Algebra of matrices (Addition and Subtraction), Additive Inverse of a matrix, Structure problems in matrix form, Multiplication of matrices (Max 3X3) Determinant of square matrices (2X2 and 3X3), minor of an element, cofactor, adjoint and Inverse of Matrix Solution of system of linear equations using inverse of coefficient matrix Use of MS Excel to calculate determinant and inverse of matrix	14
V	PROGRESSION Progression: Sequence and Series Arithmetic Progression – definition, nth term, sum of n terms, illustrations Geometric Progression - definition, nth term, sum of n terms, illustrations Arithmetic mean and Geometric mean Sum of n-terms and sum of infinite terms in geometric progression	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	P. Hazarika	Business Mathematics	S. Chand and Sons	Latest
T-02	A. Dikshit and J. Jain	Business Mathematics	Himalaya Publishing House	Latest
T-03	D C Sancheti and V K Kapoor	Business Mathematics	Sultan Chand and Sons	Latest

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Zamarudeenand Qazi	Business Mathematics	Vikas Publishing	Latest
R-03	P. Mariappan	Business Mathematics	Pearson Education	Latest
R-02	Trivedi Kashyap	Business Mathematics	Pearson Education	Latest

Course: B.Com

PROGRAM	Bachelors Of Commerce
SEMESTER	I
COURSE TITLE	CAREER READINESS PROGRAM
COURSE CODE	04CR0101
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

Objectives:

- The “*Linguistics for Interpersonal Interaction*” course is designed to make the Learners feel comfortable understanding, thinking and speaking in English.
- Having undergone the training, the Learners will feel confident about his or her own English-speaking skills.

Pre Requisites: None

Course Duration:

- The course duration is of 24 sessions of 60 minutes each.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
Unit I	Phonology: Varieties of Language and Standard English, Phonetics and Phonology - Speech Mechanism and Articulatory Phonetics, English Phonemes. Characterization and Classification of Vowels - Diphthongs and Monophthongs.	6
Unit-II	Syntax and Morphology: Nouns, Pronouns and Determiners - Misconceptions related to usages of noun forms, Using Possessives, Types of Pronouns, General Determiners and Specific Determiners. Verbs and related forms - Types of verbs and their forms, Stative and Dynamic, Lexical and Delexical Adjectives and Adverbs - Word formation, Order of Adjectives, Types of Adverbs Preposition and Phrasal verbs - Preposition of time, Preposition of Movements, Preposition of Place, Phrasal Verbs Conjunctions - Coordinating and Subordinating, Using Conjunctions in formal settings. Present Continuous – Form, Usages, Misconception Present Simple & Simple Past – Form, Usages, Misconception	8
Unit - III	Reading Comprehension: Processing Strategy - Comprehension Strategy, Meta-cognitive Strategy, Prediction and Pre-prediction.	4
Unit - IV	Spoken Discourse: Coherence and Cohesion - Situational	6



	Sociolinguistic interaction, Conversation Practice. Feature of Spoken Discourse - Semantic and Pragmatic Meanings, Conversation Practice (Role Play)	
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Learning Outcomes:

After studying this course, student should be able to:

- Articulate phonetics and phonology, Noun, Pronoun, Verb
- Reading and processing comprehension.

Evaluation:

The students will be evaluated on following evaluation scheme:

		Weight age
A	End-Semester Examination	100% (External Assessment)

PROGRAM	Bachelors Of Commerce
SEMESTER	I
COURSE TITLE	PRINCIPLES OF MANAGEMENT
COURSE CODE	04LS1102
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Demonstrate their knowledge of business and management principles.
- Get acquainted with management process and functions.
- Comprehend the modern management techniques and its relevance in business.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Management Meaning, Nature and Characteristics of Management – Scope of Management - Functional areas - Management as a Science and an Art - Management & Administration – Levels of management & Managerial Skills - Evolution of Management Thoughts - Principles of management - Ethics in Management.	10
II	Planning in Management Need and importance of planning - basic purpose of planning - Planning process, Types of plans - Objectives - Management By Objectives Decision-making Decision making – Nature and importance- types of decisions – process	10
III	Organizing Need for organization - purpose of organization, fundamental principles of organization - Types of organization - Departmentalization, Committees - Centralization Vs decentralization of authority and responsibility Staffing Staffing – Introduction - Need for Staffing - Importance of staffing -Process of staffing	10
IV	Directing Directing – Meaning, nature and importance – Theories of Motivation – Maslow’s, Herzberg’s & McGregor’s Leadership – Introduction - Formal and Informal Leadership – Characteristics – Styles of Leadership - Importance of Communication as a leader	10

	Coordinating Coordination – Introduction - Importance of coordination - Principles of coordination	
V	Controlling Meaning and steps in controlling – Pre-requisites of a strong control system - Methods of establishing control Modern Management Techniques Introduction to various latest management techniques: Business process re-engineering, business outsourcing, benchmarking, kaizen, six sigma, knowledge management, just in time management, total quality management.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	L. M. Prasad	Principles of Management	Sultan Chand and Sons	Ninth Edition - 2015

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	V.S.P. Rao	Management: Text and Cases	Excel Books India	Second edition
R-02	Koontz & O'Donnell	Principles of Management	McGraw Hill	Forth edition

PROGRAM	Bachelors Of Commerce
SEMESTER	I
COURSE TITLE	Microeconomics
COURSE CODE	04LS1103
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Apply economic reasoning to the analysis of selected contemporary economic problems.
- Understand how households (demand) and businesses (supply) interact in various market structures to determine price and quantity of goods and services produced and consumed.
- Use economic problem solving skills to discuss the opportunities and challenges of the increasing globalization of the world economy.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO MICROECONOMICS Meaning and definition of Microeconomics, Nature and scope of Microeconomics, Difference between microeconomics and macroeconomics. Central economic problems of society.	10
II	CONSUMER BEHAVIOUR Utility analysis: Meaning of Cardinal and Ordinal utility. Cardinal Utility: Law of diminishing Marginal utility, Law of Equi-marginal Utility, Ordinal Utility: Indifference curve analysis, properties of indifference curve analysis, Marginal rate of substitution, Budget line and consumer's Equilibrium.	10
III	DEMAND AND SUPPLY ANALYSIS Determinants of demand, law of demand, exceptions to law of demand. Elasticity of demand and its applications: Price elasticity, Income elasticity and cross elasticity. Concept and Law of Supply, Factors Affecting Supply	10
IV	PRODUCTION AND COST ANALYSIS Production Function: Short run and long run production functions, laws of returns, and law of returns to scale. Cost Function: classification of costs, short run and long run cost curves and their interrelationship, Planning curve and envelope curve, internal and external economics of scale,	10

	revenue curves, optimum size of the firm, factors affecting the optimum size	
V	EQUILIBRIUM OF FIRM AND INDUSTRY Perfect competition, monopoly, monopolistic competition, discriminating monopoly, aspects of non-price competition; group equilibrium, excess capacity, selling costs, oligopolistic behavior.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	H. L. Ahuja	Principles of Economics	S. Chand Publishing house	11 th ed. 2015

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	N.GregoryMankiw,	Principles of Micro Economics	Cengage	6 th ed.
R-02	Pindyck, R.S., D. L. Rubinfeld and P. L. Mehta	Microeconomics	Pearson	7 th ed.
R-03	D. Salvatore	Microeconomic Theory	Tata McGraw Hill	5 th ed
R-04	D N Dwivedi	Managerial Economics,	Vikas Publishing House	4 th ed.

PROGRAM	Bachelors Of Commerce
SEMESTER	I
COURSE TITLE	Computer Essentials
COURSE CODE	04LS1107
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Draft Document / Worksheet and Presentation
- Understand the Computer Hardware and Software Fundamentals
- detail some of the problems that are encountered when developing documents and worksheets
- describe briefly some of the technologies that are used to support online applications

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	COMPUTER BASICS Data- Instruction and Information-Characteristics of Computers- Various fields of application of Computers- Input-output Devices (Hardware- Software- Human ware and Firmware)-Advantages and Limitations of Computer- Block Diagram of Computer- Function of Different Units of Computer- Classification of Computers. Data Representation-Different Number System (Decimal- Binary- Octal and hexadecimal) and their Inter Conversion.	10
II	COMPUTER SOFTWARE Types of Software- Application software and system software- Compiler and Interpreter-Generations of languages-Low and High Level Languages-Computer Memory: Primary Memory &Secondary memory. Cache memory-optical memory-Storage Media. Introduction to Operating System-All Directory Manipulation- Creating Directory- Sub Directory- Renaming-Coping and Deleting the Directory File Manipulation-Creating a File-Deleting- Coping- renaming a File Using accessories such as calculator- paint brush- CD player etc.	10
III	INTRODUCTION TO MS- OFFICE (WORD) Introduction to Word Processing- Features - Formatting Documents- Paragraph Formatting- Indents- Page Formatting- Header and Footer- Bullets and Numbering- Tabs- Tables- Formatting the Tables- Finding and Replacing Text-Mail Merging etc..	10

IV	INTRODUCTION TO MS- OFFICE (EXCEL) Introduction to Electronic Spreadsheets - Feature of MS-Excel- Entering Data- Entering Series- Editing Data- Cell Referencing- ranges- Formulae- Functions- Auto Sum- Copying Formula- Formatting Data- Creating Charts- Creating Database- Sorting Data- Filtering etc.	10
V	INTRODUCTION TO MS- OFFICE (POWERPOINT) PowerPoint - Features of MS PowerPoint Clipping- Slide Animation- Slide Transitions- Slide Shows- formatting etc.- Creating formal presentations- inserting different objects- arts- charts- pictures etc. to slide.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	P.K.Sinha	Fundamental of Computers	B.P.B. Publications	

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Curtin, Foley, Sen, Martin,	Information Technology	Information Technology, Tata MCGraw Hill	2007
R-02	Sanjay Saxena	A First Course in computers	Vikas Publication	

List of Journals/Periodicals/ Magazines/ Newspapers etc.



The Students will have to refer to past issues of the following journals in order to get relevant topic/ information pertaining to the subject.

1. Computer and Education – Elsevier
2. Journal of Computers



Elective I: BBA, BBA (Hon.) & B. Com. Reading and Writing for Business

Subject Code:04SL0102

Credit: 2

Semester: 1

Course Description

The course will inculcate skills of formal reading and writing for business among the students. Good reading skills play a vital role in decision making in response to a proposal or a report. Formal writing, on the other hand, enables one to express one's ideas, plans, aims and objectives on paper. The course will offer a number of classroom activities, assignments and tasks to ensure the inculcation of the aforesaid skills among the students.

Course Objectives

The course will enable the students:

1. to read and interpret formal business writings such as reports, articles and reviews;
2. to know structures of formal business letters and reports;
3. to write formal business letters and reports;
4. to inculcate a taste for reading and writing habits pertaining to the world of business.

Unit 1: Introduction to business world

1. Reading a business case-study – “Tripping Along” by Deep Kalra from *Stay Hungry Stay Foolish*
2. Reading 3 business articles (general in nature) from the newspapers/magazines

- I. "Paytm: the wonder wallet" from Forbes India.
- II. "Millennials: How They Live and Work" from Gallup.
- III. "The Right Culture: Not About Employees Happiness" from Gallup.

Recommended Reading

Arakali, Harichandan. "Paytm: The wonder wallet." Forbes India, 16 Nov. 2016,
<http://www.forbesindia.com/printcontent/44825>

Clifton, Jim. "Millennials: How They Live and Work." Gallup, 11 May 2016,
<http://www.gallup.com/opinion/chairman/191426/millennials-live-work.aspx>

Harter, Jim. "The Right Culture: Not About Employee Happiness." Gallup, 12 April 2017,
http://www.gallup.com/businessjournal/208487/right-culture-not-employeehappiness.aspx?g_source=WORKPLACE&g_medium=topic&g_campaign=tiles

Kalra, Deep. "Tripping Along." *Stay Hungry Stay Foolish*, edited by Rashmi Bansal, IIM Ahmedabad, 2008, pp. 130-143.

Unit 2: Reading and writing for business

1. Reading business letters (of sales, inquiry, order, complaint, and adjustment)
2. Writing business letters (Any two types)
3. Reading a few short business reports
4. Writing a short business report

Teaching Scheme

Teaching Scheme (Hours per week)	Evaluation Scheme					Total Marks	
	Practical	ESE	IA	CSE	Viva		Term Work
2 Hours		00	30	20	25	25	100

1. IA will consist of the following components (30 marks):

- a. **Assignments (20 Marks):** Students will prepare three assignments as following.

- 1) Letter: Write three letters on the given subjects (10 Marks)
- 2) Article: Write a business article on the given theme (05 Marks)
- 3) Report: Write a report on the given subject (05 Marks)

- b. **In-Class Participation (10 Marks)**
- 2. **CSE (20 marks):**
 - a. **(Term Paper):** Students will write a paper on the given topic.
- 3. **Viva (25 Marks):** Viva will be conducted at the end of the semester. It will be based on the CSE, Term Work, Assignments and topics covered in the syllabus.
- 4. **Term Work (25 Marks):**
 - a. **(Term-End Presentation):** Students will make a presentation based on topics provided by the faculty, at the end of the semester.

Further Suggested Readings

1. Raman M. and Singh P., *Business Communication*. 20th ed., Oxford University Press, 2011.
2. Kumar S. and Lata P., *Communication Skills*. 6th ed., Oxford University Press, 2013.
3. Murphy H., Hildebrandt H. and Thomas J., *Effective Business Communication*. Tata MacGraw-Hill, 2008.
4. Sharma R. and Mohan K., *Business Correspondence and Report Writing*. 4th ed., Tata MacGraw-Hill, 1998.
5. Lesikar R., Flatley M., Rentz K., Pande N., *Business Communication*. 11th ed., Tata MacGraw-Hill, 2009.



Elective II: BBA, BBA (Hon.) & B. Com.

Speaking and Presentation Skills

Subject Code: 04SL0103

Credits: 02

Semester: 1

Course Description

The course intends to make students confident in speaking in English with the help of various language functions. It also focuses on developing students' presentation skills.

Course Objectives

The course will enable students

1. to share information on familiar matters/issues in English;
2. to make effective presentations in English;
3. to gain confidence in speaking in English.

Unit 1: Speaking/Interacting in an Academic Context

1. Greetings
2. Introducing self and peers
3. Asking and sharing information
4. Expressing points of view
5. Discussions
6. Facing viva voce
7. Group discussions
8. Facing an interview (interview skills)

Unit 2: Effective Presentation Skills

1. Introduction to effective presentation skills
2. Preparing the presentation (Collection of Data/Information, exploring the topic etc.)

3. Using ICT for the presentation
4. Getting ready for the presentation
5. Effective body language
6. Effective pronunciation
7. Interacting with the audience (Q & A)
8. Practice (with video recording)
9. Feedback and Suggestions

Recommended Readings/ Viewings

- Select TED Talks
- Select INK Talks
- Select Toastmasters Videos
- Select Courtroom Dramas
- Select Videos of speakers like Steve Jobs, Sundar Pichai etc.

Teaching Scheme

Teaching Scheme (Hours per week)	Evaluation Scheme					Total Marks	
	Practical	ESE	IA	CSE	Viva		Term Work
2 Hours		00	30	20	25	25	100

1. **IA will consist of the following components (30 marks):**
 - a. **Assignments (20 Marks):** Students will prepare three oral assignments.
 - b. **In-Class Participation (10 Marks)**
2. **CSE (20 marks):**
 - a. **(Term End Simulation):** Students will carry out simulated tasks at the end of the semester. It would comprise individual and group tasks.
3. **Viva (25 Marks):** Viva will be conducted at the end of the semester. It will be based on the CSE, Term Work, Assignments and topics covered in the syllabus.
4. **Term Work (25 Marks):**
 - a. **(Term-End Presentation):** Students will make a presentation based on topics provided by the faculty, at the end of the semester.

Recommended Readings

“Communication.” themuse. 2017. <https://www.themuse.com/tags/communication>. Accessed 4 July 2017.

Presentation Magazine. 2017. <https://www.presentationmagazine.com/>. Accessed 4 July 2017.

“Presentation Skills.” *SKILLS YOU NEED.* 2017. <https://www.skillsyouneed.com/presentation-skills.html>. Accessed 4 July 2017.

Siddons Suzy. *The Complete Presentation Skills Handbook*. Kogan Page, 2008.

Sprague Jo, and Douglas Stuart. *The Speaker's Handbook*. 8th ed., Thomson Wadsworth, 2008.

PROGRAM	Bachelors Of Commerce
SEMESTER	II
COURSE TITLE	FINANCIAL ACCOUNTING-II
COURSE CODE	04BC0201
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Address advanced accounting issues of partnership firm
- Learn the application of Garner vs. Murray rule
- Understand the difference between hire purchase and installment purchase transactions
- Classify the branches and do the accounting accordingly
- Demonstrate knowledge of the concept of Ex-interest and Cum-interest

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	RECONSTITUTION OF PARTNERSHIP FIRM Accounting issues related to Admission, Retirement and Death of a Partner – Preparation of Revaluation account – Calculation of Goodwill : Average profit method, Super profit method, Annuity method, Capitalisation method	10
II	DISSOLUTION OF PARTNERSHIP FIRM Preparation of Realisation account – Settlement of accounts – Piecemeal distribution: Maximum loss method and Proportionate capital method – Insolvency of partner during piecemeal distribution (Garner vs. Murray rule)	12
III	ACCOUNTING FOR HIRE PURCHASE Meaning – Difference between Hire purchase and Installment purchase – Calculation of missing details when cash price or rate of interest is not given – Accounting for hire purchase transactions –Default and repossession	08
IV	ACCOUNTING FOR BRANCHES Meaning – Classification of Branches –Accounting for dependant branches – Accounting for independent branches	10
V	INVESTMENT ACCOUNTS Meaning – Classification of investments – Calculation of purchase price – Disposal of investments – Preparation of Investments account – Calculation of ex-interest and cum-interest	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	P.C. Tulsian	Financial Accounting	Pearson	Latest
T-02	S.N. Maheshwari, and. S. K. Maheshwari	Financial Accounting	Vikas Publishing House, New Delhi	Latest
T-03	M.C.Shukla, T.S.Grewal and S.C.Gupta	Advanced Accounts. Vol.-I	S. Chand & Co., New Delhi	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	R. L. Gupta and M. Radhaswamy	Advanced Accounts. Vol.-I& II	S. Chand & Co., New Delhi	Latest
R-02	A.Mukharji and M. Hanif	Financial Accounting	Tata McGraw, Hill Publishing Co. Ltd. New Delhi	Latest
R-03	S. P. Jain and K. N. Narang	Advanced Accountancy	Kalyani Publishers, New Delhi	Latest
R-04	T. S. Grewal	Introduction to Accountancy	S. Chand & Co. Pvt. Ltd., New Delhi	Latest
R-05	Monga, J. R.	Financial Accounting : concepts and applications	Mayoor Paper Backs, New Delhi	Latest

PROGRAM	Bachelors Of Commerce
SEMESTER	II
COURSE TITLE	Business Statistics
COURSE CODE	04BC0205
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Address advanced accounting issues of partnership firm
- Learn the application of Garner vs. Murray rule
- Understand the difference between hire purchase and installment purchase transactions
- Classify the branches and do the accounting accordingly
- Demonstrate knowledge of the concept of Ex-interest and Cum-interest

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Basic Concepts Basics of Statistics Introduction. Definition of Statistics, Application of Statistics in Business, Economics and Industry. Presentation of Data Data collection methods (Primary Vs Secondary, Population Vs Sample), Classification and Tabulation of Quantitative Data , Frequency distribution and Cumulative frequency distribution, Graphical Presentation of data - Histogram, Polygon and Ogive , (Use of MS-Excel to create Frequency Distribution and Graphs)	08
II	Univariate Analysis Descriptive Measures (Central Tendencies and Variation) Meaning of Central Tendency. Central tendencies – Arithmetic mean, Mode, Median and Percentiles, Variation – Range, Variance and Standard Deviation of ungrouped and grouped data. Coefficient of Variation (CV), Choice of good measures. (Use of MS Excel Statistical function to find descriptive	12
III	Theory of Probability Counting rule($m*n$ rule), Permutation and Combination (Use of MS Excel to compute permutation and combination)	08

	Definition, Basic terminology of Probability, Three approaches of assigning probability (Classical, Relative Frequency and Subjective approach), Rules of probability- Addition rule and Multiplication rule for independent and dependent events.	
IV	Probability Distribution Random variable, probability distribution and mathematical expectation Discrete Probability Distribution: Binomial distribution, Poisson distribution Continuous probability Distribution: Normal Distribution – Properties and Applications (Use of MS Excel Statistical function to compute Binomial, Poisson and Normal probability)	10
V	Bivariate Analysis Correlation and Regression Analysis Meaning of correlation, types of correlation, method of correlation – Karl Pearson’s coefficient of correlation, Meaning of Regression, regression coefficients and two lines of regression, use of regression in prediction. (Use of MS Excel Statistical Function to compute correlation and regression)	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	J K Sharma	Fundamentals of Business Statistics	Vikas Publication	Latest Edition
T-02	N D Vohra	Business Statistics	McGraw Hill Education	Latest Edition
T-03	D P Apte	Statistical Tools for Managers Using MS EXCEL	Excel Books	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Lewin and Rubin	Statistics for Management	Prentice-Hall of India	Latest
R-02	Sancheti D.C. and Kapoor V.K	Statistics: Theory, Methods & Application	Sultan Chand & Sons	Latest
R-03	S.C. Gupta	Fundamentals of Statistics	Himalaya Publishing House	Latest
R-04	S P Gupta	Statistical Methods	Sultan Chand	Latest
R-05	R. P. Hooda	Introduction to Statistics	Macmillan	Latest
R-06	S.C. Aggarwal & R.K Rana	Basic Statistics for Economists	V.K. India.	Latest
R-07	Beri, G.C	Business Statistics	TMH	Latest
R-08	Chandan J S	Statistics for Business and Economics	Vikas Publications	Latest

PROGRAM	Bachelors Of Commerce
SEMESTER	II
COURSE TITLE	Business Environment
COURSE CODE	04BC0208
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the meaning and relationship of environment and business
- Know the characteristics of modern business
- Explain the competitive structure of an industry

Course Contents:

Unit No.	Unit / Sub Unit	Sessions
I	INTRODUCTION TO BUSINESS ENVIRONMENT Introduction to Business environment - salient features – importance - types of business environment-SWOT Analysis- Firm Specific-environment scanning: features - process & techniques, Business Environment with reference to global integration	08
II	ECONOMIC ENVIRONMENT & POLITICAL ENVIRONMENT Political structure: Legislature institutions – executive institutions – judiciary institutions - Economic systems: capitalism, socialism; mixed economy, LPG - Liberalization, Privatization & Globalization and its impacts –Highlights of New industrial policy & its implication in India –Fundamentals of fiscal policy.	12
III	LEGAL FRAMEWORK ISO standards- Bureau Of Indian Standards–Important features of Intellectual property rights – Trademarks –The Competition Act 2002: Basics of Foreign Exchange Management Act 1999 (FEMA): Features – objectives - application of the Act - FEMA Vs FERA.	10
IV	TECHNOLOGICAL ENVIRONMENT Innovations, technological leadership and followership- Technology and competitive advantage - sources of technological dynamics - management of technology - transfer of technology – its forms, methods and features - time lags in technology – status of technology in India and its impact on Business –Overview of Technological Policies in India	10
V	SOCIAL ENVIRONMENT Business and Society, Changing Concepts and objectives of Business, Interdependence of business and society, technological development and	8

	social change, Consumers' rights & consumerism, Consumer protection Act; corporate governance.	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
1	Francis Cherunilam	Environment For Business	Himalaya Publishing House	2 nd edition 2011

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
1	Mishra, S.K. and Puri V.K	Economic Environment of Business	Himalaya Publishing House	1 st - 2011
2	Paul Justin	Business Environment- Text and Cases	TATA McGraw Hill Publishing	3 rd - 2010
3	Vivek Mittal	Business Environment	Excel Books	2 nd - 2010
4	Raj Agarwal	Business Environment	Excel Books	5 th - 2002
5	Francis Cherunilam	Business Environment, Text & Cases	Himalaya Publishing House	25 th - 2016
6	Aswathappa K	Essentials of Business Environment	Himalaya Publishing House	13 th - 2016
7	Morrison J	The International Business Environment	Palgrave	2 nd - 2006
8	Richard G. Lipsey	An Introduction to Positive Economics	ELBS, Oxford	7 th - 1989

List of Journals /Periodicals/ Magazines/ Newspapers etc.



1. International Journal of Business Environment
2. International Journal of Entrepreneurship & Business Environment Perspectives
3. Journal of World Business
4. Economic & Political Weekly
5. Intellectual Property Rights
6. Corporate Governance
7. Business India / Business World
8. Banking & Finance
9. Industrial Economist
10. Fortune, Global Business Review,
11. Economic Survey- GOI
12. World Development Report
13. India Development Report (Latest Edition)
14. RBI Annual Report, etc

PROGRAM	Bachelors Of Commerce
SEMESTER	II
COURSE TITLE	Applications Of Spreadsheet
COURSE CODE	04LS0212
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

COURSE OUTCOMES:

- Able to perform routine organizational tasks using Spreadsheets.
- Can be able to understand about pivot tables and how to use it for routine purpose.
- Able to manage spreadsheet and be able to compare data in to different spreadsheet.
- Create a dynamic spreadsheet.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Manage Worksheet Data, Reorder and Summarize Data Understanding software for spreadsheet, learning basic menu items, Basic operations like create, open and save a file, worksheets and workbooks, Renaming Inserting Data in proper tabular format, Basic formatting like changing fonts, size, merging and splitting cells, Coloring cells, conditional formatting	06
II	Functions & Formulas Basic Arithmetic Functions , Conditional Functions, Lookup Functions, Sorting and Filtering Data, Paste Special, Data Validation, Converting Text to Table, Working with multiple sheets	09
III	Data Analysis and Printing Analyze data dynamically by using PivotTables , Filter, show, and hide PivotTable data, Edit PivotTables, Format PivotTables, Create PivotTables from external data, create dynamic charts by using Pivot Charts, Page Setup and Printing	09

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Cox et al	Step by Step 2007 Microsoft Office System	PHI Learning Private Limited	Second Edition, 2009

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Curtis Frye	Microsoft Excel 2016 Step by Step	Microsoft Press	Latest

PROGRAM	Bachelors Of Commerce
SEMESTER	II
COURSE TITLE	Macroeconomics
COURSE CODE	04LS1203
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Comprehend why household, business, government and global behavior determine the aggregate demand for goods and services.
- Understand the basics of national income accounting.
- Apply economic reasoning to understand the operation of an economy.

Course Contents:

Unit No	Unit/Sub-unit	Sessions
I	Introduction to Macroeconomics & National Income Nature and Scope of Macroeconomics, Circular Flow of Income and National Income Accounting, Concepts of GDP and NDP - Sectoral Composition of National Income - GDP measured at Factor Price and Constant Prices- Concept of GNP and NNP, Factor Cost and National Income-Per Capita income, Disposable Income and Personal Disposable Income- Measurement of National Income – Difficulties in measuring National Income	10
II	Keynesian Economic Theory Say's Law of Market and its criticism by Keynes. Simple Keynes Model of Income Determination. Concepts of Consumption Function, Saving Function and Investment Function. Average Propensity to consume, Marginal Propensity to Consume, Investment Multiplier–Marginal Efficiency of Capital and factors affecting MEC.	10
III	Money Supply and Central Bank Meaning and Evolution of Money- Definition of Money- Functions of Money – Demand for Money - Quantity Theory of Money- Fisher's Equation of	10

	Exchange-Cambridge Theory. Supply of Money – Determinants of Money Supply- Components of Money Supply- RBI’s Approach-M1, M2, M3, M4.	
IV	Business Cycle & Inflation Concepts of Business cycle – Four phases of Business Cycle – Interest rate – Loanable fund Theory and Liquidity preference theory- Motives for liquidity preference--Transaction Motive, Precaution Motive, Speculative Motive. Factors affecting interest Rate, Inflation-Meaning, Types, Causes, Effects- Inflation and Investment.	10
V	Open Economy Macroeconomics Balance of Payments –Meaning and assessment, Balance of payment and disequilibrium causes and remedies. Introduction to Foreign Exchange Rates- Fixed V/s Flexible foreign exchange rates. Exchange rate determination.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	H.L.Ahuja	Macro Ecoomics	S.Chand	20 th ,2015

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	D.M.Mithani and Prof. Nayak	Macroeconomics II	Himalaya Publication	1 st edition
R-02	D. N. Dwivedi	Macroeconomics Theory and policy	Tata Mcgraw Hill	4 th edition
R-03	Mankiw	Macroeconomics- Indian edition	Cengage	1st

PROGRAM	Bachelors Of Commerce
SEMESTER	II
COURSE TITLE	Fundamentals of Human Resource Management
COURSE CODE	04LS1209
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the various functions of the HR management and a range of practices employed by organizations.
- Develop appropriate methods for attracting, retaining, developing and engaging talent for the organization.
- Identify employment related challenges faced by the organization

Course Contents:

Unit No.	Unit / Sub Unit	Sessions
I	INTRODUCTION TO HUMAN RESOURCE MANAGEMENT Introduction – Meaning - Objectives of Human Resource Management- Importance of HRM – Functions and Process of HRM- HR Manager - Duties and Responsibilities – Recent trends in HRM	10
II	PROCUREMENT OF HUMAN RESOURCE Human Resource Planning – Significance and Process, Job Analysis - Process- Job Description & Job Specification, Recruitment –Sources– Methods of Recruitment, Selection – Steps in Selection Process – Placement and Induction	12
III	TRAINING AND HUMAN RESOURCE DEVELOPMENT Training- Significance of training - identification of training needs - methods of training – Difference between Training & Development- Design of Training Programme- Evaluation of Training Effectiveness	07
IV	COMPENSATION AND MAINTAINENCE Job Evaluation – Concept, Process and Significance- Components of Employee Remuneration – Base and Supplementary- types of employee benefits and services; Performance Appraisal – Concept and Objectives- Traditional and Modern Methods	09
V	INTRODCUTION TO INDUSTRIAL RELATIONS Industrial Relation – Objectives – Approaches of Industrial Relations – Collective Bargaining – Grievance Process	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Pravin Durai	HumanResource Management	Pearson Publication	Second Edition
T-02	Gary Dessler and Biju Varkkery	Human Resources Management	Pearson Publication	Thirteenth Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	V. S. P. Rao	Human Resource Management– Text and Cases	Excel Books	Third Edition
R-02	K. Aswasthapa	Human Resource	Tata Mc Graw Hill	Sixth Edition
R-03	P. Subba Rao	Essential of Human Resource Management and Industrial relations	Himalaya Publishing House	Fifth Edition
R-04	Sinha, Sinha and Shekhar .	Industrial Relations, Trade unions and Labour Legislations	Pearson Education	Second Edition

PROGRAM	Bachelors Of Commerce
SEMESTER	III
COURSE TITLE	Cost Accounting - I
COURSE CODE	04BC0301
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Students will understand how to bifurcate the cost based on different classification
- Students will acquaint with various methods involved in cost ascertainment.
- Interpret the impact of the selected costs method
- Identify the specifics of different costing methods

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO COST ACCOUNTING Understanding of Cost, Costing, Cost Accounting and Cost Accountancy – Difference between Cost, Expense and Loss – Objectives of Cost Accounting– Elements of Cost – Fundamental understanding of Cost Unit, Cost Center, Cost Object, Cost Ascertainment & Cost Estimation – Methods and Techniques of Cost accounting – Advantage and Limitations of Cost Accounting – Classification of cost – Comparison between Financial Accounting and Cost Accounting	10
II	ELEMENTS OF COST (DIRECT EXPENSE) MATERIAL Meaning of Material (Direct & Indirect) – Material Control (Inventory Control) – Techniques of Inventory Control – EOQ – ABC Analysis – Setting Stock Levels – Treatment of Material losses – Normal loss and Abnormal loss – Accounting treatment for waste, scrap, spoilage & defectives	10
III	LABOUR Meaning & Types of Labour (Direct & Indirect) – Timekeeping – Time booking - Idle Time – Overtime – Labour Turn Over. Methods of Remuneration - Time Rate System – Piece Rate System – Incentive – Halsey plan – Rowan Plan- Taylor's differential Piece Rate System and Merrick's Differential Piece Rate System –	10

	Gantt's task and bonus plan – Emerson's Efficiency plan	
IV	ELEMENTS OF COST (INDIRECT EXPENSE) Meaning Definition and Classification of Overheads — Allocation of Overheads – Apportionment of Overheads – Primary & Secondary Overhead Distribution Summary – Repeated Distribution Method – Simultaneous Equations Method – Absorption of Overheads – Under & Over Absorption – Methods of Absorption – Treatment of Absorption – Machine Hour Rate	10
V	Unit Costing Meaning of Unit Costing – Preparation of Cost Sheet - Estimated Cost Sheet – Treatment of Raw- Material, Work in Progress and Closing Stock in Cost Sheet – Treatment of scrap	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M. N. Arora	Cost and Management Accounting	Vikas Publication	10/e

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	P.C.Tulsian	Cost Accounting	S Chad	8e
R-02	S.N.Maheswari	Cost & Management Accounting	Sultan Chand & Sons	14/e
R-03	M.Y.Khan	Cost Accounting	Tata McGraw Hill	2/e

PROGRAM	Bachelors Of Commerce
SEMESTER	III
COURSE TITLE	E COMMERCE
COURSE CODE	04BC0302
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

- detail what is meant by the term 'e-commerce'
- examine some typical electronic commerce applications
- detail some of the problems that are encountered when developing e commerce applications
- describe briefly some of the technologies that are used to support online applications
- show how some of the technologies detailed in the course are used in concert to realise a typical commercial system

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO E COMMERCE Introduction to E-Commerce – History of E-commerce, types of E-Commerce - Comparison of traditional commerce and e-commerce. Business models under E-Commerce – Business to Business (B2B) - Business to Customer model (B2C), Consumer-to-Consumer (C2C) - Consumer-to-Business (C2B) model - Peer to-Peer (P2P) model – emerging trends - Advantages and Disadvantages of e-commerce - web auctions, virtual communities - portals - e-business revenue generation models.	10
II	HOW TO SET UP E COMMERCE BUSINESS Why do I want to set up an E-Commerce enterprise? competition, global research, customer service, value edition, operations oriented process, 'pettish' products; What do I want to do on the net? Web development and maintenance, static web pages, integration with operational database, dynamic web site, customer transaction, transaction processing/ payment, merchant account, transaction processing, online credit card frauds, full E-Commerce.	10
III	PAYMENTS IN E – BUSINESS	10

	E-payment systems – An introduction - B to C payments - B to B payments - Types of E- payment system – Credit card - debit cards - accumulating balance - online stored value payment systems - Secure Electronic Transaction (SET) protocol - payment gateways - digital cash - digital wallets - agile wallet - smart cards and digital cheques.	
IV	SECURITY OPERATIONS FOR E-BUSINESS Possible Security threats – implementation of E-commerce security – encryption – Decryption - protecting client computers - E-Commerce Communication channels and web servers Encryption - SSL protocol – Firewalls - Cryptography methods – VPNs - protecting networks - policies and procedures	10
V	MARKETING OF E-BUSINESS E-Commerce and marketing - B to B and B to C marketing and branding strategies - Web transaction logs – cookies - shopping cart database – DBMS – SQL - data mining - CRM (customer relationship Management) system – permission marketing - affiliate marketing - viral marketing.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	K. Bajaj & D. Nag	E-Commerce: The cutting edge of business	McGraw Hill Education (India) Private Limited	2005

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Becker, S. Ann (ed.),	Electronic Commerce: Concepts, Methodologies, Tools and Applications		2007

PROGRAM	Bachelors Of Commerce
SEMESTER	III
COURSE TITLE	Financial Management -I
COURSE CODE	04BC0303
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Get acquainted with basic understanding of financing, investing, dividend and working capital decisions of an enterprise.
- Compute the cost of capital.
- Identify various techniques of capital budgeting.
- Understand dividend and its models

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Financial Management: Meaning & definition, nature, scope and functions; profit vs. wealth maximization, Finance function in an organization and role of finance manager. Time Value of Money - present value and future value, annuity, Loan Amortization, real and nominal value.	8
II	Financing Decision & Cost of Capital: Sources of Financing: Equity, Preferred, Debt and other sources, Cost of Capital - cost of equity capital, preferred capital, debt capital and retained earnings and overall cost of capital (WACC). An overview of equity & debt financing pattern in corporate India.	12
III	Investment Decisions: Importance of capital budgeting decision, Estimation of cash flows, Capital Budgeting appraisal method – payback period, Average rate of return, NPV, IRR and profitability index. Investment appraisal methods in practice by corporate world.	12
IV	Dividend Decision: Meaning and forms of dividend, factors affecting dividend decision, Models of	8

	dividend: Walter's Model, Gordon's Model and MM Hypothesis.	
V	Liquidity Decision: Meaning, concept, components, determinants and need of working capital; types of working capital, estimation of working capital requirement, operating cycle period.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Prasanna Chandra	Financial Management – Theory & Practices	New Delhi, TMH	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	I.M. Pandey	Financial Management	Vikas Publication	Latest Edition
R-02	M.Y. Khan and P.K. Jain	Financial Management – Text, Problems & cases	New Delhi, TMH	Latest Edition
R-03	Rajiv Srivastava and Anil Sharma	Financial Management	Oxford University Press	Latest Edition
R-04	Horne, James C Van.	Financial Management And Policy	Phi Learning Pvt Ltd	Latest Edition



PROGRAM	Bachelors Of Commerce
SEMESTER	III
COURSE TITLE	Principles of Marketing
COURSE CODE	04BC0304
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand Fundamental Marketing Concepts and marketing environment.
- Understand the concepts of Basic 4Ps of Marketing.
- Understand and apply the concepts of Segmenting and Targeting Customers.
- Comprehend various channels of distribution and various means of promotion.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION TO MARKETING MANAGEMENT Nature, Scope & Importance of Marketing, Concepts of Marketing, Marketing Mix, Environmental Factors Affecting Marketing, Wants, Demands, Customer Value, Satisfaction - Marketing post LPG	08
II	CONSUMER BEHAVIOUR & SEGMENTATION Overview of Consumer Behavior, Factors affecting Consumer Buying Decisions, Consumer Buying Process Market segmentation: Concept, Importance and Bases; Target market selection; Positioning concept, importance and bases; differentiation strategies - an overview	10
III	PRODUCT AND PRICING Product: Product Mix, Product Life Cycle, New Product Development, Overview of Brand Pricing: Significance, Factors affecting price of a product, Pricing policies and strategies.	10
IV	PLACE AND PROMOTION Distribution: meaning and importance, Types of distribution channels; Wholesaling and retailing (Only Overview), Factors affecting choice of distribution channel, Logistics-Overview & Importance	12

	Promotion: Nature and importance, Promotion Tools: advertising, 5 Ms of Advertising, personal selling, public relations, Direct Marketing & sales promotion – concept and characteristics, Communication process, Promotion mix	
V	CONTEMPORARY ISSUES IN MARKETING Overview of Social Media Marketing; Online Marketing, Overview of Services Marketing and Additions Ps of Marketing, Overview of Green Marketing, Overview of Rural Marketing.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Philip Kotler & Kevin Lane Keller	A Framework for Marketing Management	Pearson Education.	Sixth Edition (2016)

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Philip Kotler; Kevin Lane Keller; Abraham Koshy; MithileshwarJha	Marketing Management: A South Asian Perspective	Pearson Education	Latest Edition
R-02	Karunakaran	Marketing Management (Text and Cases in Indian Context)	Himalaya Publishing House	Latest Edition
R-03	Rajan Saxena	Marketing Management	TMGH	Fourth Edition



PROGRAM	Bachelors Of Commerce
SEMESTER	III
COURSE TITLE	LEGAL ASPECTS OF BUSINESS
COURSE CODE	04BC0305
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the legal provisions in India related to Business.
- Understand provisions regarding Indemnity, Guarantee and others.
- Gain in-depth knowledge about sale and agreement to sell
- Examine the features of partnerships and registrations process of the partnership
- Understand various provisions related to Negotiable Instruments in Business
- Apply theoretical and practical learning to problems related to legal matters in their business.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INDIAN CONTRACT ACT, 1872: GENERAL PRINCIPLE OF LAW OF CONTRACT Introduction, Agreement, Object of the Law of Contract, Nature of Contract, Essential fundamentals of a Valid Contract, Classification of Contract, and Kinds of Contracts, including E-contract, Distinguish between Agreement and Contract. Tender (Offer or Proposal), Acceptance, Promise, Revocation. Capacity to Contract, Free Consent, Consideration, Void Agreements, (Conditional Contract) Contingent Contract, Quasi Contract, Performance of Contract, Discharge of Contract, Remedies for breach of Contract,	12
II	INDIAN CONTRACT ACT, 1872: SPECIAL CONTRACTS A. Indemnity and Guarantee: Introduction, Essential Features, difference between Indemnity and Guarantee, Extent of Surety's liability, Kinds of Guarantee, Rights of Surety, Discharge of Surety	12

	<p>B. Bailment :Introduction, Classification of Bailment, Duties and Rights of Bailor and Bailee - Law relating to Lien, Rights of bailor and bailee against wrong doer, Finder of loss goods, Termination of bailment</p> <p>C. Pledge:Introduction, Difference between bailment and pledge, rights and duties of pawnor and pawnee, pledge by non-owners</p> <p>D. Contract of Agency:Introduction, Essentials of agency, Rules of agency, who can employ an agent?, who may be an agent?, Agent and servant, Agent and independent contractor, Test of agency, Creation of agency, Classification of agent, Relations of principals and agent, Duties and rights of principal, Delegation of authority, Relations of principal with third parties, Liabilities, Termination of agency</p>	
III	<p>SALE OF GOODS ACT, 1930</p> <p>Introductory Concepts, kinds of Goods, (Development) Formation of Contract of Sale, Difference between sale and agreement to sell, Sale and hire purchaser agreement, Subject matter of contract of sale, Effects of destruction as to time</p> <p>Condition and warranties, caveat emptor, transfer of property, performance of contracts, rights and duties of buyer and seller, rights of an unpaid seller, remedies for breach of contract of sale, Auction sale.</p>	08
IV	<p>INDIAN PARTNERSHIP ACT, 1932,</p> <p>Introduction, Salient features of partnership, formation of partnership, test of partnership, registration of partnership, relations of partners to third parties, types of partners, dissolution of firm, Amendments of 2008, 2011, 2013</p>	06
V	<p>NEGOTIABLE INSTRUMENTS ACT, 1881</p> <p>Introduction, Characteristics of Negotiable Instrument, Types of Negotiable Instrument, Classification of Negotiable Instrument, parties to a Negotiable Instrument, holder and holder in due course, liability of parties, Negotiation, presentation of Negotiable Instrument, Dishonor of Negotiable Instrument, Discharge of Negotiable Instrument, penalties and procedure, Amendments in 2015</p>	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:**Text Books:**

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M.C. Kuchhal & Vivek Kuchhal	Mercantile Laws	Vikas Publication	6 th Edition 2016
T-02	N.D.Kappor	Elements of Mercantile Laws	Sultan Chand and Sons.	Latest Edition

Reference Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	S.S. Gulshan	Business Law	New Age International Publishers	Latest Edition
R-02	Avtar Singh	Principles of Mercantile Laws	Eastern Book Co,	Latest Edition
R-03	Dr.G.K. Kappor	Companies Law and practice	Taxman	Edition 21 st , July 2016
R-04	Shushma Arora	Business Law	Taxman	Edition in Nov, 2015

PROGRAM	Bachelors Of Commerce
SEMESTER	III
COURSE TITLE	Indian Financial System
COURSE CODE	04BC0306
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Describe the financial system, Define and illustrate key financial terms
- Explain the key roles played in a modern society by the financial products, markets and institutions and describe the relative standing of the major financial centers;
- Discuss the changes that have taken place in the way financial services are provided;

Course Contents:

Unit No	Unit / Sub Unit	Sessions
Unit I	An Introduction to the financial system Overview of financial system: Formal and Informal- Difference, Advantages and Disadvantages. Formal financial system: its Constituents and inter-relationships among the components. Functions of a financial system. Role of Financial System in Economic Development Financial regulation and regulatory Agencies (Primarily RBI, SEBI & IRDA): Meaning, features and their kinds (tabular representation of the various regulators, the markets they regulate). Role and functions of RBI, SEBI and IRDA as regulator.	10
Unit II	Financial Institutions Meaning, classification and types of financial institutions: Intermediary financial institutions and non-intermediary financial institutions ; banking and non- banking. Features, Role/ functions Structure, participants and	10

	importance of each kind of institution.	
Unit III	Financial Markets Meaning and Classification of financial markets (multiple ways to classify)-, Money market, Capital Market- Primary And Secondary Market, Forex Market, Debt Market . Features, Importance, Role/functions, structure and participants of each market. Recent Development in Indian Money Market and Capital Market. Interlink between Money Market and Capital Market Overview of Debt Market in India ,Stock holding Corporation of India and Major stock exchange: NSE, BSE, OTCEI,	10
Unit IV	Financial Instruments Meaning , classification and types of financial instruments : Money market instruments, capital market instruments and hybrid instruments - Call money market, T- Bills, Commercial bills, Commercial papers and Certificates of deposits, Government (Gilt- Edged) securities and Industrial securities); Characteristics of financial instruments; New financial instruments; Evaluation of financial instruments (risk return trade-off)	10
Unit V	Financial services Concept of financial services, difference between financial and non financial services, features and importance of financial services; Role/ functions of financial services; Kinds of financial services: fund based and fee based.	08

Learning Outcomes

After studying this course, student should be able to:

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

		Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Pathak Bharati	The Indian Financial System –Markets, Institutions, and Services,	Pearson Education, New Delhi.	4 th Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Bhole L. M	Financial Institutions and Markets, Growth and Innovation,	Tata McGraw-Hill, New Delhi	5 th Edition.
R-02	Khan M. Y	Financial Services,	Tata McGraw Hill	7 th Edition
R-03	Anil Agashe	Financial Services, Markets and Regulations,	Himalaya	1 st Edition
R-04	H.R. Machiraju	Indian Financial System,	Vikas,	4 th Edition.
R-05	Clifford Gomez	Financial Markets, Institutions and financial Services,	PHI,	6 th Edition
R-06	Meir Kohn	Financial Institutions and Markets,.	Tata McGraw Hill,	2 nd Edition
R-07	A Datta	Indian Financial System,	Excel Books	(2012)
R-08	P N Varshney& D K Mittal	Indian Financial System,	Sulthan Chand & Sons.	11 th Edition
R-09	E Gardon& K Natarajan	Financial Markets & Services,	HPH,	10 th Edition.

PROGRAM	Bachelours Of Commerce
SEMESTER	III
COURSE TITLE	Understanding Financial Statements
COURSE CODE	04BC0307
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

OBJECTIVES

- To provide basic understanding of financial statements.
- To explain use of financial information to Value and Analyse firms.
- To enhance understanding and analytical skills for representation of findings and conclusions of Financial Statements.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
Unit I	Introduction of Financial statements & Income Statement: Financial Statements, Importance, Various users of Financial Statements, Presentation of Financial Statements. Interrelation between Income Statement and Balance Sheet Income Statement: manufacturing vs. Trade organizations. Vertical Vs Horizontal form, Components – Sales (Top line), Income from other sources, cost of goods sold, gross margin, EBITDA, EBITA, EBIT, EBT, EAT, Provisions, Earnings available to owners (Bottom Line).	8
Unit II	Statement of Financial Position: Meaning, Definition and purpose, horizontal vs. vertical form. Assets - Fixed, tangible, Intangible assets. Current Assets – Cash, Debtors, Bills receivables, deferred payments, Bank balance, Stock/ Inventory, Tangible & Intangible Assets, Gross block, Net Block, Investments. Current assets: accounts receivables, Inventory, Loans and advances and others. Shareholders 'funds, Long term Loans. Current liabilities. Understand organisations internal perspective and external perspective, comparative study between two organizations, (Report), Owners v/s lenders perspective,	8

	Comparison between two years of same organizations. Common size, Comparative and Trend Analysis of Financial statement with a simple case study	
Unit III	<p>Cash flow statement: Meaning Definition, Analysis and Applications.</p> <ol style="list-style-type: none"> 1. Cash flow from Operations – Production, Sales, and Delivery of products, collecting payments from customers. 2. Cash flow from investment activities - Purchase/ sales of assets, Loan made to suppliers and received from customers, Payments related to merger & acquisition. 3. Cash Flow from financing activities – Inflow of cash from Investors, banks and Shareholders. 	8

Learning Outcomes

After studying this course, student should be able to:

- Understand purpose of different financial statements
- Gain in-depth Knowledge about different components in the financial statement and their significance to assess the healthiness of the firm
- Examine different financial activities of the firm between two periods and understand how those activities influence on financial healthiness of the firm
- Compare financial statement of different firms through Cash flow Analysis.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Evaluation Criteria	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	N. Ramachandran and RamkumarKakakni	Finance made easy Series (Box set)	Mac-Graw hill publication	Second edition 2014

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition& Year of Publication
R-01	Vishal Thakkar	Finance for Non-Finance	TV18 Broad cast Ltd	Revised edition 2014
R-02	Anil Lamba	Romancing Balance sheet for anyone who owns, runs or manages a business	CNBCTV18 Drawbridge Publication,	Revised edition, 2016



PROGRAM	Bachelors Of Commerce
SEMESTER	IV
COURSE TITLE	Cost Accounting - II
COURSE CODE	04BC0401
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Learn the important cost concepts.
- Understand Application and implementation of costing methods

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Methods of Costing: Job and Batch Costing: Job Costing Procedure, Batch costing ,Economic Batch Quantity Contract Costing: Basics of Contract Costing, Procedure, Special Points in Contract Costing, Cost plus Contract.	10
II	Methods of costing Process Costing: Introduction, Essential Characteristics of Process Costing, Process Costing and Job Costing— A Comparison, Costing Procedure, Normal Loss and abnormal loss, Normal Gain and abnormal Gain, When Output is Partly Sold and Partly Transferred to the Next Process, equivalent production, Inter-process profits	11
III	Methods of costing Operating Costing: Cost unit, Transport costing, Transport costing procedure, Boiler house and power house costing ,Canteen costing	9
IV	Methods of costing Activity Based Costing: Basis Of ABC, Benefits Of ABC Over Absorption Costing, Other Concepts Related To ABC Joint and By-Product Costing; Accounting for joint products ,By- products ,Accounting for by-products, Limitations of joint cost analysis	11
V	Cost Audit and Cost Accounting Standard Cost Audit, Features, Functional Cost Audits, Cost Accounting Standards in	7

	India.	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M. N. Arora	A Textbook on Cost and Management	Vikas Publication	Latest Edition
T-02	Paresh Shah	Cost and Management Accounting	Oxford Publication	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Ravi M kishore	Cost and Management Accounting	Taxmann	Latest
R-02	V Rajshekharn & Lalitha	Cost Accounting	Pearson	Latest
R-03	CharlesT, Horngren, S M	Cost Accounting	Pearson	Latest
R-04	P C Tulsyani	Cost Accounting	S Chand	Latest
R-05	Khan and Jain	Management Accounting	TMH	Latest

PROGRAM	Bachelors Of Commerce
SEMESTER	IV
COURSE TITLE	Entrepreneurship
COURSE CODE	04BC0402
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Comprehend fundamental concepts for starting the business.
- Apprehend the concept of industrial environment and preparing basic plan.
- Understand available sources for raising funds for start- ups.
- Comprehend various challenges and possible solution for starting a business unit.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	ENTREPRENEURSHIP - AN INTRODUCTION: Meaning & Definition of Entrepreneurship, Common Entrepreneurial Characteristics, Required skills of an Entrepreneurs, Entrepreneurial Process, Role of Entrepreneurship in Economic Development of the Nation, Advantages & Drawbacks of Entrepreneurship, Introduction to Intrapreneurship	10
II	UNDERSTANDING INDUSTRIAL ENVIRONMENT: Industry - Large Scale - Small Scale - Tiny - Ancillary - Cottage, Challenges for Small Scale Industries, Registration process of SME, Definition & Symptoms of industrial sickness and suggested remedies for sick units, Domestic & International Entrepreneurship Options	12
III	PREPARING BUSINESS PLAN: Generation of Project Ideas, Sources of Business Ideas, Methods to generate business ideas, Feasibility Analysis: Economic, Managerial competency. Marketing, Financial & Technical, Environmental Scanning and SWOT analysis. Structure of a business plan, Importance of Business Plan, process of Preparation of Business Plan.	08
IV	SOURCES OF FINANCE FOR BUDDING ENTREPRENEURS Debt V/S Equity, Internal V/s External Funds, Options for Borrowing Funds,	08

	Various Financial Institutions Supporting entrepreneurial activities, Introduction to Venture Capital Funding, Managing Growth	
V	SUCCESS & FAILURE STORIES OF ENTREPRENEURSHIP: Discussions of various business stories & Cases of Successful Businesses, Lessons to be learnt from various organizational failures	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Kumar Arya,	Entrepreneurship,	Pearson,	Latest Edition
T-02	Desai Vasant,	The Dynamics of Entrepreneurial Development & Management	Himalaya Publishing House, Delhi	Latest Edition
T-02	Robert D. Hisrich, Michael P Peters and Dean A Shepherd,	Entrepreneurship	TMH	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
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R-01	Poornima M. Charnatimath, ,	Entrepreneurship Development And Small Business Enterprises	Pearson,	Second Edition
R-02	K Ramchandran,	Entrepreneurship – Indian Cases on Change Agents	TMGH	Latest Edition
R-03	Satish Taneja, S.L.Gupta	Entrepreneurship Development New Venture Creation	Galgotia Publishing Company	Latest Edition
R-04	Rashmi Bansal	Stay Hungry Stay Foolish	IIM Ahmedabad CIIE publication	Latest Edition
R-05	Longenecker, Moore, Petty and Palich,	Managing Small Business	Cengage Learning, India Edition	Latest Edition



PROGRAM	Bachelors Of Commerce
SEMESTER	IV
COURSE TITLE	Financial Management –II
COURSE CODE	04BC0403
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Students get acquainted with advance understanding of financial management, valuation concepts, advance capital budgeting and working capital policies.
- Evaluate the valuation of securities
- Understand the concepts of business valuations.
- Analyze theories of capital structure

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Financial Management and Valuation Concepts: Financial decisions in firm, Building blocks of modern finance, Financial System, Financial Planning. Valuation of Bonds and stocks – Bond valuation, YTM, YTC, valuation of preference and equity stocks. Concept of risk & return.	08
II	Capital Structure Decision and its determinants: Capital Structure theories and methods – NI Approach, NOI Approach, MM Approach, EPIT-EPS Analysis. Leverage Analysis – Operating, financing and combined leverage, and point of indifference.	10
III	Advanced Issues in Capital Budgeting: Capital Rationing, Comparison between IRR & NPV, MIRR, Risk analysis in capital budgeting (Certainty Equivalent method, Probability and sensitivity Analysis).	10
IV	Corporate Valuation: Business Valuation – Concept and approaches of valuation. Basic concept of Corporate restructuring, mergers & acquisition, EVA and MVA.	10

V	Working Capital Management and Policy: Cash Management - Meaning, Motives of holding cash, objectives of cash management, Cash budget. Receivables Management – Objectives, Credit policy, credit term and collection policies. Inventory Management - Meaning, Objectives, Factors affecting inventory, Techniques of inventory management: EOQ, ABC Analysis, Reorder point. Working Capital Financing.	10
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Prasanna Chandra	Financial Management – Theory & Practices	New Delhi, TMH	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	I.M. Pandey	Financial Management	Vikas Publication	Latest Edition
R-02	M.Y. Khan and P.K. Jain	Financial Management – Text, Problems & cases	New Delhi, TMH	Latest Edition
R-03	Rajiv Srivastava and Anil Sharma	Financial Management	Oxford University Press	Latest Edition
R-04	Horne, James C Van.	Financial Management And Policy	Phi Learning Pvt Ltd	Latest Edition



PROGRAM	Bachelors Of Commerce
SEMESTER	IV
COURSE TITLE	Auditing
COURSE CODE	04BC0404
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Trace the Evolution, Meaning, Features, Objectives, Principal aspects, Benefits and Limitations of Auditing.
- Audit Process, Audit Engagement Terms, Audit Planning,
- External Confirmation, Verification of Assets, Verification of Liabilities.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Auditing Meaning – Objects –Classification of Audit – Continuous Audit – Periodical or Final Audit – Internal Control – Internal Check – Auditors duty with regards to Internal Check – Difference between Auditing and Investigation	8
II	Procedure of Auditing Meaning of Vouching – Points to be noted in Voucher – Internal check with regards to Cash Transactions and Trading Transactions – Audit of impersonal ledger – Verification and Valuation of Assets and Liabilities	11
III	Audit of Limited Companies: Company Auditor: Qualifications and disqualifications – Appointment – Removal – Remuneration – Rights – Duties – Liabilities of an Auditor: Civil Liability and Criminal Liability of Auditor – Audit Committee – Audit of Banking Companies – Audit of Insurance companies	9
IV	Auditor's Report Content of Auditor's Report – Emphasis on Companies Auditor's Report Order, 2016 (CARO – 2016) – Applicability – Companies not	

	covered in CARO 2016 – Summary of all 16 Clauses.	11
V	Recent Trends in Auditing Cost Audit – Tax Audit – Management Audit – Audit of Computerized Accounts – Consideration of Audit in EDP Environment – Relevant Auditing and Assurance Standards	9

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Gupta, Kamal and Ashok Arora	Fundamentals of Auditing	Tata Mc-Graw Hill Publishing Co. Ltd., New Delhi	Latest Edition
T-02	Tandon, B. N., S. Sudharsanam and S. Sundharabahu	A Handbook of Practical Auditing	S. Chand and Co. Ltd., New Delhi	Latest Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Strawser R., Jerry. and Robert R Strawser	Auditing	Thomson Learning	Latest
R-02	Michael Chris Knapp	Contemporary Auditing: Real Issues and Cases	Thomson Learning	Latest
R-03	Alvin, S.A. Arens and K. Loebbecke James	Auditing: An Integrated Approach	Prentice Hall	Latest



PROGRAM	Bachelors Of Commerce
SEMESTER	IV
COURSE TITLE	Income Tax- Law and Practice-I
COURSE CODE	04BC0405
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the basic provisions of Income Tax Law in India
- Calculate income under the head of Income from Salary
- Calculate income under the head of Income from House Property.
- Calculate income under the head of Income from Profits and Gains of Business and Profession

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION : History – Background - Levy of income tax - Rates of tax & slab – Important Definitions - Agricultural income RESIDENTIAL STATUS : Relevance and significance of residential status - Types of residential status and its Determination - Incidence of tax based on residential status EXEMPT INCOME: Income which do not form part of total income -Conditions to be satisfied for availing exemptions	08
II	INCOME UNDER THE HEAD SALARY Definition of Salary – Chargeability - Treatment of various Allowances - Perquisites and their valuation - Retirement benefits - Provisions regarding Provident Fund - Deductions from gross Salary - Computation of taxable salary (Practical Problems)	10
III	INCOME FROM HOUSE PROPERTY Chargeability of income from house property - Deemed ownership - Composite rent - Annual value and its determination - Deductions from annual value - Computation of taxable income under this head (Practical Problems)	10

IV	COMPUTATION OF ALLOWABLE DEPRECIATION Concept – Conditions to be satisfied – Computation of depreciation allowance	06
V	INCOME UNDER PROFITS AND GAINS OF BUSINESS AND PROFESSION Meaning of Business and Profession – Chargeability of income from profits and gains of business and profession - Allowable expenses – Expressly disallowed expenses - Deemed profits and incomes - Computation of taxable income under this head (Practical Problems)	14

Note: Any change in the provisions of Income Tax Act, 1961 as per budget or otherwise, shall be respectively made applicable to the syllabus. The syllabus of an academic year shall be the provisions of the relevant Assessment Year.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Dr. V. K. Singhania and Dr. Monica Singhania	Students' guide to Income Tax (University Edition)	Taxmann	Latest
T-02	Dr. Girish Ahuja and Dr. Ravi Gupta	Direct Tax Law and Practice	Bharat Publication	Latest
T-03	CA. T. N. Manoharan	Direct Tax Laws	Snow White Publication	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Dr. Girish Ahuja and Dr. Ravi Gupta	Practical Approach to Tax Laws and Practice	Bharat Publication	Latest
R-02	Dr. V. K. Singhanian and Dr. Monica Singhanian	Students' guide to Income Tax	Taxmann	Latest
R-03	Gaur, V. P. & Narang, B. K.	Income tax Law and practice	Kalyani Publishers, New Delhi	Latest
R-04	Prasad, B.	Income tax Law and practice	New Age Publications	Latest
R-05	B.B. Lal and N. Vashisht	Direct tax	I. K. International Publishing House	Latest

PROGRAM	Bachelors Of Commerce
SEMESTER	IV
COURSE TITLE	Trade Theories & Practices
COURSE CODE	04BC0406
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Students should be able to analyze changes and problems in light of trade theories and policies.
- Discuss the changes that have taken place in the composition of the trade in India over the time

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	INTRODUCTION Trade: Meaning and its types. Why do countries trade: Difference between internal and international trade. Characteristic of International Trade and domestic trade. Inter-regional and international Trade. Need and importance of Foreign Trade .Problems and Prospects in International Trade. International Trade Theories: Mercantilism, Absolute Cost Advantage, Comparative Cost Advantage, Heckscher-Ohlin Theory, Factor Endowment Theory, The Product Life-Cycle Theory, New Trade Theory- Theory of External Economies, National Competitive Advantage Porter's Diamond. Terms of Trade - Concept, Measurement, Types, Factors affecting Terms of Trade: Coastal trade prospects and Challenges: India's Internal Trade- Characteristics and Problems. Terminology and abbreviations in Trade practices	12
II	TRADE POLICY : Free Trade - concept and its merits and demerits; Protection - concept, Merits and Demerits, Methods of Protection. Tariffs barriers - Meaning, Types of Tariffs. Effects of Tariffs on International Trade. Non- Tariff Barriers -Import Quotas, Dumping, etc., Concepts of Trade Sanctions, Trade Barriers and Fair trade.	08
III	FORIEGN TRADE: INSTITUTIONAL ASSISTANCE IN INDIA	8

	Foreign Trade of India – Brief history & Recent trends. Composition of Imports and Exports – An overview of pattern of foreign trade in different five year plan periods. Direction of India’s Foreign Trade. Major trading partners. Recent Developments in India’s Trade. The Role of EXIM BANK, ECGC, STC, MMTC.	
IV	BALANCE OF PAYMENTS : Balance of Trade and Balance of Payments, Equilibrium and Disequilibrium in Balance of Payments, India’s Balance of Payments during Planning Period and Trends: Problems of BOT, BOP and corrective measures. Trade Policy in India – General Developments during planning period. Import substitution and Export promotion. Recent changes in trade policy, Trade agreements: GATT & WTO, UNCTAD	10
V	Regional Blocs and International Institutions: Regional Economic Groupings: EU, SAARC, OPEC, ASEAN. International Institutions : IBRD, IMF, ADB, NDB	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Anil Arora	International Trade: Theories and Current trends in the Globalised world	Deep and Deep publications	Latest
T-01	Francis Cherunilam	international trade and export management	Himalaya Publishing House	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Haberler G	Theory of International Trade	Augustus M Kelley Pubs	Latest
R-02	Salvi P.G	New Directions on India's Trade policy	The university of Michigan Press	Latest
R-03	Plaekar	Trade of India	The University of Michigan Press	Latest
R-04	Jacob Viner	Studies in Theory of International Trade	Routledge Library Edition	Latest

Online Resources:

WTO: <http://www.wto.org>

UNCTAD: <http://www.unctad.org>

OECD: <http://www.oecd.org>

International Center for Trade and Sustainable Development: <http://www.ictsd.org>

The World Bank: <http://www.worldbank.org>

PROGRAM	Bachelors Of Commerce
SEMESTER	IV
COURSE TITLE	Fundamentals of Investments
COURSE CODE	04BC0407
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

COURSE OUTCOMES:

- The students should be familiar with different investment alternatives,
- Should be familiar with the framework of their analysis and highlight the role of investor protection.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Investment Environment & Avenues: Meaning and Concept, Saving V/S Investment, Traders, Speculators, Gambler, Investors, Investment Avenues: Deposits – Bank and Post office; Government Saving Schemes – PPF, NSC, SCSS, Recent Govt. Securities Schemes; Bond and Debentures; Equity Share Market; Mutual Fund – Various Schemes, Insurance Product; Retirement Product; Money Market Instrument – T- bills, CP,COD,CBLO, Repos ; Real Estate ; Precious Assets Market; Financial Derivatives Instruments; New Investment Avenues – ETFs, TIPS, STRIPS,Souvenir Gold Scheme	8
II	Stock Market & Indices Participants in Securities market, Primary and Secondary equity market, Buying and Selling of Share in Market, payment Settlement System, Indian Stock Exchanges, Foreign Stock Exchanges, Stock Indices in India and abroad-Composition of Stocks in Stock indices (Nifty, BSE, Sector Specific), Computation of Indices (BSE And NSE), Factors affecting Change in Stock Indices, Role of SEBI and stock exchanges in investor protection; Investor grievances and their redressal system, insider trading, investors' awareness and activism.	8
III	Security Analysis – Risk and Return	8

	The Concepts of Risk and Return, The Components of Return, Measurement of Rate of Return, Measuring historical return, Sources of Risk, Measuring Historical Risk, Risk in a Portfolio Context, Diversification, Diversifiable and Non-diversifiable Risk, The Relation between Risk and Expected Rate of Return Measuring Expected Risk and Return, Measurement of Non-diversifiable Risk, Practice Study of Calculation of Risk and Return of Securities from Nifty and BSE in Microsoft Excel.	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Sanjay Matai	Your Guide to Finance and Investments	CNBC 18	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Prasanna Chandra	Investment Analysis and Portfolio Management	McGrow-Hill Publication	Fourth Edition
R-02	Shalini Amarnani	Everything You Wanted to Know About Investing (A New Perspective)	CNBC 18	Latest

PROGRAM	Bachelors Of Commerce
SEMESTER	V
COURSE TITLE	Research Methodology
COURSE CODE	04BC0501
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- To gain basic knowledge on research methods.
- To make decisions based on actual business conditions using statistical method.
- To demonstrate knowledge in different types of research methods and techniques.
- To perform statistical analysis and compile structured reports that reflect appropriate decision making.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Business Research Business Research Methods : Introduction, Basic Research, Applied Research, Business Research Methods, Business Research Process Design(10-Steps)	12
II	Research Process Introduction to Qualitative and Quantitative Research, Sampling Design – Census and Sample survey, Characteristics of good sample design, Sampling Methods – Random sampling and non-random Sampling, Sampling and non-sampling Errors.	06
III	Data Collection, Measurement and Scaling Data collection methods – Primary and Secondary Data , Measurement in Research, Measurement Scale, Meaning of Scaling, Scaling Techniques and their construction , Questionnaire Design.	12
IV	Analysis of Data and Hypothesis Testing Excel for Data Preparation and Analysis, Formulation and statement of hypothesis, confidence interval, Type-I error, Type-II error, one-tailed & two tailed tests , Testing of hypothesis(z-test & t-test for single population)	12
V	Preparing Reports Technical and Academic Report Writing, Significance of Report writing, Layout of Research Report, Precaution for writing Research Report and Conclusion.	06

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
TEXT BOOKS:-

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Naval Bajpai	Business Research Methods	Pearson	2/e, 2017
T-02	C.R.Kothari And Gaurav Garg	Research Methodology: Methods And Techniques	New Age International	3/e, 2014

REFERENCE BOOKS:-

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Deepak Chawla & Neena Sodhi	Research Methodology, Concepts And Cases	Vikas Publication	2/e,2016
R-02	Cooper And Schindler	Business Research Methods	Mcgraw-Hill Publication	12/e,2014
R-03	D.K. Bhattacharya	Research Methodology	Excel Books	2/e,2006
R-04	J K Sachdeva	Business Research Methodology	HPH	2/e,2011
R-05	Uma Sekaran & Roger Bougie	Research Methods For Business – A Skill Building Approach	Wiley	6/e,2013
R-06	Naresh K Malhotra	Marketing Research	Pearson Education	5/e,2007

PROGRAM	Bachelors Of Commerce
SEMESTER	V
COURSE TITLE	GST And Its Practices
COURSE CODE	04BC0502
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the Constitutional provisions relating to Indirect Taxation in India;
- Understand the taxable event for levy of GST;
- Understand Supplies covered by Negative List and Exemptions from GST;
- Make Valuation of Taxable Supply and understand about Time of Supply;
- Understand about various returns to be filed by GST Dealer and Modes of Payment of GST;
- Basic understandings of GST portal.

COURSE CONTENTS:-

Unit No	Unit / Sub Unit	Sessions
I	Introduction Of GST Introduction of Indirect Tax - Basics of GST – Brief History of GST - Constitutional provisions on GST- Central and State Government Powers on Taxing GST – GST Council – Advantages and Disadvantages of GST	4
II	Supply Taxable event in case of GST- Importance of Supply in the context of GST- Definitions of Goods and Service - Meaning and Definition of Supply- Scope of Supply - Inclusions and Exclusions from Supply- Important elements of Supply.	10
III	Non Taxable Supply - Negative List And Exemptions Overview of Supplies covered by Negative list- Overview of Supplies covered by Exemptions.	12
IV	Valuation And Time Of Supply Valuation of Supply by Transaction Value Method- Overview of Time of Supply	10
V	Returns Filings And Payments In GST Returns under GST- GST Portal - Frequency and general content of Returns- Due dates for filing GST Returns - Payment of GST.	12

NOTE:-Provisions of the GST Act as amended from time to time shall be the part of syllabus.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

TEXT BOOKS:-

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	V.S.Datey	GST	Taxman	2018

REFERENCE BOOKS:-

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Prakhar Jain	The Simplified Indian Gst Law	White Falcon Publishing	2018
R-02	Board Of Study- Icai	Study Material Of Gst	Bos-Icai	2018

PROGRAM	Bachelors Of Commerce
SEMESTER	V
COURSE TITLE	Corporate Accounting
COURSE CODE	04BC0503
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Account for the transactions related to equity shares of a company
- Account for the transactions related to preference shares of a company
- Account for the transactions related to debentures
- Prepare financial statements of company
- Calculate the value of shares of a company

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Accounting For Equity Share Capital Journal entries for issue of equity shares at par, at premium and at discount, Calls in arrears, Calls in advance, Pro-rata allotment of shares, Forfeiture of shares, Re-issue of forfeited shares, Buy back of shares	08
II	Accounting For Preference Share Capital Journal entries for issue of preference shares at par, at premium and at discount, Meaning of redemption, Conditions for redemption, Journal entries for redemption, Creation of Capital Redemption Reserve Account	10
III	Accounting For Debentures Journal entries for issue of debentures at par, at premium and at discount, Redemption of debentures by installment, by purchase from open market, by conversion, Accounting for Debenture Redemption Fund/ Sinking Fund	08
IV	Corporate Final Accounts Corporate Profit and Loss A/c, Corporate Balance Sheet (as per Vertical Format of Schedule III of Companies Act, 2013); along with all the schedules.	14
V	Valuation Of Shares Need of valuation of Shares, Practical sums for valuation of shares: Net	08

	Assets Method, Yield Method and Fair Value Method	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	S.N. Maheshwari and S.K. Maheshwari	Advanced Accountancy Volume II	Vikas Publication	2015
T-02	P. C. Tulsian and Bharat Tulsian	Corporate Accounting	S. Chand	2017

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Mukherjee and Hanif	Corporate Accounting	Tata McGraw Hill	2005
R-02	J. R. Monga	Basic Corporate Accounting	Mayur Paperbacks	2014
R-03	Ashok Sehgal and Deepak Sehgal	Advanced Accounting Volume II	Taxman	6 th edition, 2008

PROGRAM	Bachelors Of Commerce
SEMESTER	V
COURSE TITLE	Business Ethics & Corporate Governance
COURSE CODE	04BC0504
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the dynamics of business ethics.
- Identify ethical dilemmas in business & suggest solutions to overcome the problems.
- Learn the concept of corporate governance and its relevance to ethical business activity.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Ethics and Values Meaning and classification of Ethics, Ethical Deficit and Erosion, Concern about Ethics: Personal Ethics and Integrity, Definition of Ethics, Relevance of Ethics in Business, Arguments for and against Business Ethics, Ethical Principles in Business, Ethics, Morality, Law, Religion. Values Concept and Types: Model based on Rokeach Value Survey, Ethics and Values, Nature of ethics as moral value; types of value.	09
II	History Of Indian And Western Ethics: Brief History of Indian (Vedas, Ramayana and Gita) and Western Ethos(Bible, Aristotle and Plato) : Areas of Convergence and Divergence Contributions of Rabindranath Tagore, Swami Vivekananda, Mahatma Gandhi, Sri Aurobindo in Indian Ethos.	10
III	Ethical Dilemma and Essence of Decision Making Ethic Meaning and structure of Ethical Dilemma in business, Sources of	10

	Ethical Problems, Managing Ethical Dilemmas; Understanding Decision making, Model of Cognitive Moral Development, The Process of Making Good Ethical Decision; Dynamics of Ethical Leadership.	
IV	Ethical Issues in Financial Management, Marketing & HRM Introduction to Ethics in Finance, Ethical issues in Financial Markets, Financial service industry and by Financial people in organizations . Case study on Strategic failure of Satyam Computer Service. Role of Marketing, Areas in Marketing Ethics, Truth and Advertising; Functional Areas of HRM, Need for Workplace ethics, HR related ethical issues, Rights and duties of Employees .	11
V	Introduction to Corporate Governance Concept, Need for Governance in Business, Objectives of Corporate Governance, Definition and attributes of good corporate governance, Corporate governance theories – Agency, Stewardship, Shareholder, stake holder theory , Role of Board of Governors, Factors influencing quality of Corporate Governance. Indian Committees and Guidelines on Corporate Governance	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	A. C. Fernando	Business Ethics and Corporate Governance	Pearson	2 nd edition, 2012

T-02	Daniel Albuquerque	Business Ethics: Principles and practice	Oxford Uni. Press	2010
T-03	Andrew Crane, Dirk Matten	Business Ethics	Oxford Uni. Press	2010

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	S.K.Chakraborty	Management by Values	Oxford University Press	1991
R-02	Murthy C.S.V.	Business Ethics and Corporate Governance	Himalaya Publishing	1 st edition, 2017
R-03	S K Mandal	Ethics in Business and Corporate Governance	Tata McGraw Hill	2 nd edition, 2012
R-04	Ferrell, Fraedrich, Ferrell	Business Ethics	Cengage Learning	11 th edition, 2017
R-05	Rupani Riya	Business Ethics and Corporate Governance	Himalaya Publishing	4 th edition, 2015

PROGRAM	Bachelors Of Commerce
SEMESTER	V
COURSE TITLE	Income Tax Law and Practice – II
COURSE CODE	04BC0505
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Compute income under the head Capital Gains;
- Compute income under the head Income From Other Sources;
- Compute deductions available to Individuals and HUFs from Gross Total Income and understand the provisions of setoff and carry forward of losses and Clubbing of Income;
- Compute Tax Payable by Individual, HUF and Firm and understand the applicability of TDS, TCS and Advance tax;
- Understand the provisions relating to Filing of Return of Income and Self-Assessment.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Capital Gains Chargeability- Types of Capital Assets-Transfer of Capital Asset- Rates of Capital Gain Tax- Overview of Exemptions available from Capital Gains- Computation of income chargeable under the head Capital Gains.	12
II	Income From Other Sources Chargeability- Incomes covered under other sources- Principle of Grossing Up- Deductions allowed- Inadmissible deductions - Computation of Income from other sources.	6
III	A) Set Off And Carry Forward Of Losses& Clubbing Of Income B) Deductions Available From Gross Total Income Setoff and Carry Forward of Losses – Clubbing of Income - Basics of Deductions- Difference between deduction and exemption- Various deductions available to Individuals and HUFs from Gross Total Income.	10
IV	Tax Payable, TDS, TCS And Advance Tax Computation of Total Income and Tax Payable by Individual, HUF and Firm [excluding LLP & Chapter XIIB of the Income Tax Act,1961) – Tax Deduction at Source- Concept of Tax Collection at Source - Persons liable to pay Advance Tax- Due dates of various installments of advance tax.	12
V	Filing Of Return Of Income& Self-Assessment Persons required to file return of income- Due dates of Filing Return of	8

	Income- Overview of Revised Return and Belated Return- Signing of Return and Self-Assessment. (including filing returns online/ e- returns)	
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Note: Any change in the provisions of the Income Tax Act, 1961 as per budget or otherwise, shall be respectively made applicable to the syllabus. The syllabus of an academic year shall be the provisions of the relevant Assessment Year.

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:

TEXT BOOKS:-

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Dr. Vinod K Singhania	Income Tax Law and Practice	Taxmann	Latest
T-02	Dr.Girish Ahuja	Systematic Approach to Income Tax	Bharat Prakashan	Latest

REFERENCE BOOKS:-

Sr.No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	CA. T. N. Manoharan	Direct Tax Laws	Snow White Publication	Latest
R-02	Gaur, V. P. & Narang, B. K.	Income tax Law and practice	Kalyani Publishers, New Delhi	Latest
R-03	Prasad, B.	Income tax Law and practice	New Age Publications	Latest
R-04	B.B. Lal and N. Vashisht	Direct tax	I. K. International Publishing House	Latest

PROGRAM	Bachelors Of Commerce
SEMESTER	V
COURSE TITLE	Company Law
COURSE CODE	04BC0506
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Demonstrate knowledge of the theories, concepts and principles related to the structure and regulation of company organizations.
- Analyze the likely impact of these trends and developments on the major topics in Company Law.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction: Joint stock Company –Meaning- definition - Nature and characteristics of a company- kinds of a company- advantages and disadvantages. History Of Company Law (1956 ACT IN BRIEF). Conversion private company to public ltd company and vice- versa. -lifting of corporate veil - formation of a company [meaning duties and liabilities of promoters]. - Administration of Company Law [including National Company Law Tribunal (NCLT), Appellate Tribunal (NCLAT)-limited liability of partnership -Comparison with partnerships and limited liability partnership	10
II	Documents: Memorandum of Association(MOA): meaning- content -doctrine of ultra-virus- doctrine of constructive notice-doctrine of indoor management-alteration in memorandum of association – Article of Association (AOA)- meaning- content -difference between MOA & AOA. Prospectus- definition- object- conditions for the issue of the prospectus-statement in lieu of prospectus –Types of Prospectus (Abridged prospectus, Shelf Prospectus, Red Herring Prospectus and Deemed prospectus) -misrepresentation and penalties in case of	10

	misrepresentation in prospectus.	
III	<p>Shares Capital</p> <p>Shares: Definition- share Vs stock- Classification- kinds of share capital- alteration of share capital-Reduction of share capital- guidelines for issue of fresh capital- public issue- private placement- underwriting of shares capital- bonus issues-right issues- employees stock action plans- buyback- public share at par, premium and discount- forfeiture, rules for valid forfeiture- transfer& transmission- buy back.</p> <p>Share allotment & share certificate Share allotment- meaning- statutory provisions- irregular allotment- consequences of irregular allotment- rules regarding issue of share certificates- distinction between share certificate and share warrants</p>	10
IV	<p>Management and Meetings</p> <p>Directors Directors: meaning- position- classification, additional, alternate and adhoc director; women directors, independent director, small shareholders' director; director identity number (DIN) - who can appoint a director, qualification & disqualification- appointment of directors- rights, powers, duties and liabilities of a director- number of director & directorship- vacation of office of directors- removal of a director- resignation of a director- interested directors- managing directors</p> <p>Meetings Meetings of shareholders and board; types of meeting, convening and conduct of meetings, requisites of a valid meeting; postal ballot, meeting through video conferencing, e-voting; —Statutory, Annual general meeting and Extra-ordinary General meeting. Company Meetings (Directors) : —Requisites of valid Board Meeting- notice, quorum, Chairman, resolutions, minutes. —Procedure of convening & conducting a Board meeting.</p>	10
V	<p>Winding up of companies</p> <p>Concept - modes of winding up – who can apply for winding-up - effects of winding upon antecedent and other transactions-appointment of liquidators - winding up of unregistered companies</p>	8

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	G.K. Kapoor Sanjay Dhamija	Company Law	Taxmann's University Edition.	20th Edition 2017

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Bare Act	Companies Act 2013	Bharat Law House Pvt. Ltd.	26 th Edition
R-02	G.K. Kapoor Sanjay Dhamija	Company Law and Practice (Paperback): A Comprehensive Text Book on Companies Act 2013	Taxman	22nd Edition 2017

w.e.f 2019

PROGRAM	Bachelors Of Commerce
SEMESTER	V
COURSE TITLE	Tally ERP 9.0
COURSE CODE	04BC1507
COURSE CREDITS	02
COURSE DURATION	24 Hrs (24 sessions of 60 minutes each)

Course Outcomes:

- Gain complete knowledge of Tally software, theoretically as well as practically.
- Generate various reports and statements using Tally.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	<p>Computerized Accounting Systems using Tally ERP 9</p> <p>Fundamentals of Tally ERP 9 Need of Computerized Accounting – Components of Gateway of Tally – Keyboard Conventions – Closing Tally ERP 9 – Creation of a company – Selection of a Company – Shut a Company – Alteration of Company Details in Tally ERP 9 – Highlights of Features and Configurations in Tally ERP 9.</p> <p>Inventory Management in Tally ERP 9 Meaning of Inventory and Inventory Management – Inventory Master Creation in Tally ERP 9: Creation of Stock Group, Stock Item, Godown and Unit of Measurement – Defining stock opening balance in Tally ERP 9</p> <p>Maintaining Chart of Accounts in Tally ERP 9 Creation of Accounting Ledgers and Groups – Altering, Displaying and Deleting Ledgers and Groups – Defining Ledger opening balance in Tally ERP 9</p> <p>Recording of Day to Day Transactions in Tally ERP 9 Meaning of Source Document or Voucher – Accounting Vouchers: Contra Voucher, Payment Voucher, Receipt Voucher, Purchase Voucher, Sales Voucher, Credit Note Voucher, Debit Note Voucher, and Journal Voucher</p>	14
II	<p>Getting started with GST in Tally ERP 9 Introduction – Enabling GST and Defining Tax Details – Accounting of Supply of Goods: Intrastate Inward and Outward Supply of Goods, Interstate Inward and Outward Supply of Goods, Purchase and Sales Return of Goods – Accounting of Supply of Services: Intrastate Inward and Outward Supply of Services and Interstate Inward and Outward Supply of Services.</p>	08

III	Generating Reports in Tally ERP 9 MIS Reports - <ul style="list-style-type: none"> • Accounting Reports - Statements - Trial Balance, Profit and Loss Account, Balance Sheet , Cash Flow Statement and Fund Flow Statement -Books and Registers - Day Book, Receipts and Payments , Bills Receivable, Bills Payable , Purchase Register and Sales Register • Inventory Reports Stock Summary ,Stock Transfer , Movement Analysis: Stock group and Stock Item Analysis 	02
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

		Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.E.C.)
B	Internal Assessment(Practical)	30% (I.A.)
C	End-Semester Examination(Practical and VIVA with 50% Weightage for each)	50% (External Assessment)

SUGGESTED READINGS:
Text Book:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Tally Education Pvt Ltd, Bengaluru	Official Guide to Financial Accounting using Tally.ERP 9 with GST	BPB Publications	4 th Revised & Updated Edition 2018

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Shraddha Singh	Tally ERP 9 (Power of Simplicity): Software for Business and Accounts	Comprehensive Computer Learning	2014
R-02	Rajesh Chheda	Learn Tally.ERP 9 with GST	Ane's Student Edition	2 nd Edition-2017

PROGRAM	Bachelors Of Commerce
SEMESTER	VI
COURSE TITLE	Management Accounting
COURSE CODE	04BC0601
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the scope of management accounting
- Understand the importance of marginal costing in decision making.
- Apply the control mechanism on all the element of cost that affect production.
- Understand the role of Budgetary control in framing the financial plan.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Management Accounting Meaning, Definition, Nature, Scope, Functions and Limitations of Management Accounting. Relationship and difference between Management Accounting to Cost Accounting and Financial Accounting. Description of Tools and Techniques in Management Accounting.	8
II	Marginal and Absorption Costing Marginal Costing- Meaning, Characteristics, Advantages and Limitations, Difference between Marginal Costing and Absorption Costing. Income determination under Marginal Costing and Absorption Costing. CVP/BEP Analysis, Safety Margin and Key factors that involves decision making.	12
III	Budgeting and Budgetary Control Meaning, Objectives, Advantages and Limitations, Essentials of effective budgeting in management process, Installation of Budget System Budgetary Control: Types of budgets preparation, Zero Base Budgeting; Performance Budgeting.	10
IV	Standard Costing Meaning, Difference between Standard Costing and Budgetary Control; Merits and Demerits of Standard costing, Prerequisite for establishment of standard costing, Efficiency and Activity Ratios, Material, Labour and Overhead Variance Analysis and Control.	10

V	Short Term Decision Making Meaning, Importance of relevant cost, Role of managerial costing in short-term decision making, Role of differential cost analysis, cost a non-cost factor in decision making.	08
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
T-01	M. N. Arora	Cost and Management Accounting	Vikas Publishing House	10 th Edition
T-02	P.C. Tulsian	Cost and Management Accounting	S Chand	3 rd Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Jawahar Lal	Cost Accounting	Tata McGraw Hill Publication	5 th Edition
R-02	Paresh Shah	Management Accounting	Oxford Publication	2 nd Edition
R-03	Ravi Kishor	Cost Management Accounting	Taxman	6 th Edition
R-04	Bhattacharya	Management Accounting	Pearson Publication	3 rd Edition
R-05	Hilton, Maher and Selto	Cost Management: Strategies for Business Decision	TMH	4 th Edition

PROGRAM	Bachelors Of Commerce
SEMESTER	VI
COURSE TITLE	International Business
COURSE CODE	04BC0602
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the problems in the implementation of dispute settlement mechanism.
- Correlate the culture, religion and language and its importance in the world market.
- Understand the tools for selecting the countries for doing business.
- Examine the trade invoicing process, implications on exporters, importers and trade.
- Learn and compare the established theories of international business.
- To integrate and apply frameworks, models, tools, and concepts from various perspectives to a real world global setting.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Overview of Globalization: - Frame work for International Business Globalization: Concept and Factors Affecting globalization and related issues, Globalization a Boon or Bane, Different dimensions of international business.	10
II	International Business Environment: Legal aspects, Cultural Differences and Cross-cultural factors, International trade theories policy framework and INDIA's trade policy, Regional trade blocks. Foreign Direct Investment, Country Evaluations and Sections.	10
III	Global Financial Markets and Strategy: - Global monetary systems, foreign exchange market, currency crisis Choice of strategy, global market entry strategies, types & forms of international marketing & Human resources.	10
IV	International Trade Operations and WTO: - Export Import Trends, Documents, Pre-&Post shipment documents Letter of Credit & Its types, Types of Economic Zones, Reforms for the growth of Foreign Trade, Agreements, Challenges & Opportunities, WTO Intellectual Property Rights, and Industrial Sectors, WTO&GATTs, Business sectors wise	10

	analysis.	
V	International Structure: - International Marketing Planning, Organizing and Control, International Marketing through Internet; Environmental affairs.	08

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Book:-

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	Justin Paul	International Business	PHI learning Private Limited	6 th Edition
T-02	Charles W. L. Hill and Arun Kumar Jain	International Business	Tata McGraw-Hill	10 th Edition

References Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	Daniels John, D. Lee H. Radebaugh and David P.	International Business	PearsonEducation	16 th Edition

	Sullivan.			
R-02	Cherunilam, Francis	International Business:	Prentice Hall of India Ltd.	5 th Edition
R-03	Mike Peng and Deepak Srivastava	GlobalBusiness	Cengage Publications	1 st Edition
R-04	Rakesh Mohan Joshi	International Business	Oxford University	1th Edition
R-05	Sundaram, Anant K. and Black, J. S	The International Business Environment	Prentice Hall.	1 st Edition.

Suggested Reading: -

1. Economic Survey, Govt. of India.
2. Export-import Policy and Other Documents, Govt. Of India.
3. Hazari, R. Bharat, Micro Economic Foundations of International Trade, Croom
4. Helm, London and Sydney.
5. Terpstra, V. and R. Sarathy, International Marketing, 8 th ed., Harcourt Asia PTE Ltd., Singapore, 2005.
6. Customs and Excise Law, various issues. 2.
7. Excise Law Times, various issues. 3.
8. IIFT, various publications. 4.
9. IMPEX Times, various issues. 5.
10. Ministry of Commerce, Export import Policy, Government of India, New Delhi.
11. Ministry of Commerce, Handbook of Procedures, Volumes I and II, Government of India, New Delhi.
12. Apte, P. G., Multinational Financial Management, Tata -McGraw Hill, New Delhi, 1998. Baker, J.C., International Finance: Management, Markets and Institutions, Prentice Hall, Englewood Cliffs, 1998. 2. Eitemean, David K., Arthur Stone -hill.

PROGRAM	Bachelors Of Commerce
SEMESTER	VI
COURSE TITLE	Insurance and Risk Management
COURSE CODE	04BC0603
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the basic aspects of Insurance sector.
- Understand the Role of IRDA.
- Know about Risk Management techniques in Insurance sector.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction to Insurance Sector: Meaning, Definition and Types of Insurance, The Evolution of Insurance, Insurance contract, Principles of Insurance. Regulatory Framework of Insurance: Role, IRDA: Power, Functions and IRDA Act, 1999.	10
II	Insurance Markets and Strategies: The evolving Markets and Strategies, Opportunities, Challenges and Marketing Strategies of Insurance, Liability and Payment Protection Insurance, PPI Claims, Insurance Law and Patents, Industry Standard Form, Omnibus Clause, Insurance Fraud: Causes, Types of Fraud, Annuity and New Reforms in Insurance Sector in India.	12
III	Insurance Techniques: Life Insurance Techniques: Applications- Life insurance with Benefits Linked to Investment Performance, Pension Funds and Occupational Pension Schemes. Non-life Insurance Techniques: The Basics- Actuarial Model for Calculation of Premium Rates, Risk Classification.	10
IV	Mitigating Risk Via Insurance: Meaning, Objectives and Tools of Risk Management, Risk Management Process, Risk Adjusted Performance Measures, Fraud and Abuse, Portfolio Evaluation tools Risks and Solvency.	8
V	Financial Aspects of Insurance Management: Insurance Companies and functions, Mutual Funds, Housing Finance. Important Life Insurance Products and General Insurance Products Determination of Premiums, Bonuses and Various Distribution Channels, Current case study in the market.	8

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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	O.P. Agrawal	Banking & Insurance	Himalaya Publishing House	2012
T-02	P. K. Gupta	Insurance and Risk Management	Himalaya Publishing House	2017
T-03	M. N. Mishra	Principles and Practices of Insurance	S. Chand and Sons	2016

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	Neelam C Gulati,	Principles of Insurance Management	Excel	2012
R-02	Dr. Dhiresk Kulshrestha	Indian Insurance Sector in Globalised Era	A. K Publication	2014
R-03	Emmett J. Vaughan and Therese Vaughan	Fundamentals of Risk and Insurance	Wiley	2013
R-04	D.C. Shrivastava Shashank	Indian Insurance Industry Transition & Prospects	New Century Publications, Delhi	2013

PROGRAM	Bachelors Of Commerce
SEMESTER	VI
COURSE TITLE	Financial Markets and Services
COURSE CODE	04BC0604
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand procedures of raising capital from primary market and awareness about various legal aspects in Public Issue Management.
- Have knowledge of functionality of secondary market operations and the role of different players in the market
- Capture essence of various fund based and fee based financial services
- Understand legal and regulatory aspects of financial services in India

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction Financial Markets: Introduction, Functions Classification, Role of Financial Market in Economic Development, Capital Market, Money Market, Introduction, Concept, Role, Importance, Evolution process in India, Financial Services: Meaning, importance, Types of financial services, Financial services and economic environment.	10
II	Primary Market Meaning, Functions, Different Participants, Public Issue, IPO, FPO, Right Issue, Private Placement, Offer for sale, IPO Mechanism, Pricing of IPO, Fixed pricing, Book Building and Auctions.	9
III	Secondary Market Stock Exchange, Functions, Listing Norms, Trading&settlement systems, key participants – brokers, Dealers, Clearing houses, Depositories, Role of SEBI for Investors protection.	9
IV	Fee based Financial Services Merchant Banking, underwriting, Loan Syndication, Stock Broking Services – Meaning, Functions and Mechanism of Services. Credit Rating: Credit rating Agencies, Rating process and Methodology, Rating Symbols and grades. Regulatory frame work.	10
V	Fund Based Financial Services:	10

	Leasing: Concept, Classification, and Mechanism. Hire Purchase: Conceptual Framework, Mechanism, difference between Hire Purchase and Leasing. Factoring and forfeiting: Introduction, theoretical Frame work, factoring in India, Mutual fund: introduction, Products/Schemes. Venture Capital: Introduction, theoretical frame work, Indian Venture Capital Scenario, Private Equity.	
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Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr.No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	M Y Khan	Financial Services	Tata McGraw Hill	Fifth Edition

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
R-01	Vasant Desai	The Indian financial system and Development	Himalaya Publishing House	5 th edition 2017
R-02	BhartiPathak	Indian Financial System	Pearson	4 th Edition
R-03	Vijay dhawan,	Merchant Banking &Financial services	McGraw Hill,	2 nd Edition
R-04	Tripathy, NalinePrava,.	Financial Services,	PHI Learning,	1 st Edition
R-05	Agrawal, O.P.,	Management of Financial services,	Himalaya Publishing House.	1 st Edition

PROGRAM	Bachelors Of Commerce
SEMESTER	VI
COURSE TITLE	Production And Operations Management
COURSE CODE	04BC0605
COURSE CREDITS	04
COURSE DURATION	48 Hrs (48 sessions of 60 minutes each)

COURSE OUTCOMES:

- Understand the relevance of Production and Operations Management
- Apply the techniques of material management and quality management in an organization.

Course Contents:

Unit No	Unit / Sub Unit	Sessions
I	Introduction Meaning, Nature and Scope of Production and Operation Management, Importance of Production Function, Types of production processes, Difference between Manufacturing and Service Operations	08
II	Plant location and Lay out Factors considered in location, Methods to decide location, Layout: Meaning, factors affecting facility layout, principles of layout, Types of Layout.	10
III	Materials Management Importance of Materials Management, Concept of Purchasing, Principles and Process of Purchasing. Types of purchasing, Inventory management, Objectives and Importance of Inventory management, Inventory costs, EOQ- models	10
IV	Methods Study Work Study – Method study and work measurement, objectives of work study, method analysis, motion study, productivity and productivity measurement	10
V	Quality Management Lean Manufacturing, JIT, Kaizen, ISO series, TQM (Only concepts)	10

Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weight age
A	Continuous Evaluation Component (Assignments / Presentations/ Quizzes / Class Participation/ etc.)	20% (C.S.E.)
B	Internal Assessment	30% (I.A.)
C	End-Semester Examination	50% (External Assessment)

SUGGESTED READINGS:
Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year of Publication
T-01	K. Aswathappa and K. Shridhara Bhat	Production and Operation Management	Himalaya Publishing House	Second Edition, 2008

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year of Publication
R-01	S.A.Chunawalla and D.R. Patel	Production and Operation Management	Himalaya Publishing House	Ninth Edition, 2016
R-02	Kanishka Bedi	Production and Operation management	Oxford higher education	Third Edition, 2013



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