

1.2.2: Percentage of Programmes in which Choice Based Credit System (CBCS)/elective course system has been implemented

Choice Based Credit System (CBCS)

These Regulations shall be called Marwadi University Regulations governing Academic Programmes under the Choice Based Credit System (CBCS).

Choice Based Credit System (CBCS)

UGC Directives

The UGC has directed that the universities in the country should implement recommendations which are aimed at focusing on the following aspects:

- Semester System
- Choice Based Credit System
- Curriculum Development
- Examination Reforms
- Administrative Reforms

The Semester System encourages students to study round the year and get the benefit of continuous evaluation and end-semester university examinations rather than examinations conducted annually.

The Marwadi University has opted for a bi-semester system wherein an academic year is divided into two semesters, with Odd Semester (I, III ... Semesters) scheduled from mid-June to mid-December, and Even Semester (II, IV ... Semesters) from mid-December to mid-June every year.

The Choice Based Credit System is a flexible system of acquisition and imparting of knowledge based on the choices. It provides opportunities to students and teachers to have more space for choosing courses suiting their academic preferences and interest. These preferences ensure freedom as value in education. The essential ingredients of good education process include freedom, quality, excellence and relevance. More explicitly, the CBCS has the following advantages:

- Enhancing learning opportunities.
- Abilities to match students' scholastic needs and aspirations.
- Inter / Intra institutional transferability of students.
- Part completion of an academic programme in the institution of enrolment and part in a specialised institution.
- Improvement of educational quality towards excellence.
- Standardisation and compatibility across the country.

Just as the students need to study round the year with more responsibility for their own learning, so do the teachers need to update themselves constantly and shift their teaching-learning paradigms vis-à-vis classroom practices. The focus now is on learning, rather than teaching. So, teachers will be required to evolve and adapt such patterns of interaction that lead to real learning on the part of the learners.


Registrar
Marwadi University



1.2.2: Percentage of Programmes in which Choice Based Credit System (CBCS) / elective course system has been implemented

Contents

1. Any additional information

Choice Based Credit System (CBCS) is implemented at Marwadi University in following programs.

Programme Code	Programme name	Year of implementation of CBCS / Elective Course System (ECS)
01CI	B.Tech in Civil Engineering	2016-17
01ME	B.Tech in Mechanical Engineering	2016-17
01CH	B.Tech in Chemical Engineering	2016-17
01AE	B. Tech in Automobile Engineering	2016-17
02MB	B.Sc. Microbiology	2016-17
02MB	M.Sc. Microbiology	2016-17
02CY	M.Sc. Chemistry	2016-17
02PY	M.Sc. Physics	2016-17
04BB	Bachelor of Business Administration (BBA)	2016-17
04BB	Bachelor of Business Administration Honors (BBA Hons)	2016-17
04MB	Master of Business Administration (MBA)	2016-17
02CY	B.Sc. Chemistry	2017-18
01CE	B.Tech in Computer Engineering	2018-19
01CY	M.Tech in Computer Engineering	2018-19
01ST	M.Tech in Civil Engineering	2018-19
01CA	M. Tech in Mechanical Engineering	2018-19
01CM	M. Tech in Chemical Engineering	2018-19
01IT	B.Tech in Information Technology	2018-19
33	B.Tech in Information and Communication Technology	2018-19
10BA	BA LLB (Honors) (Bachelor of Arts - Bachelor of Legislative Law)	2018-19
10BC	BCom LLB (Honors) (Bachelor of Commerce and Bachelor of Legislative Law)	2018-19
13PH	Bachelor of Pharmacy (B. Pharm)	2018-19
01EV	M. Tech in Electrical Engineering	2019-20
05BC	Bachelor of Computer Application (BCA)	2019-20
17PT	Bachelor of Physiotherapy (BPT)	2019-20
01EE	B. Tech in Electrical Engineering	2020-21
04BC	Bachelor in Commerce (B.Com)	2021-22

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MARWADI UNIVERSITY

TEACHING & EXAMINATION SCHEME FOR B TECH PROGRAMME IN INFORMATION TECHNOLOGY (2018-2022) (CBCS)

Level	Course Code	Course Title	Category	Teaching Scheme				Credits	Examination Scheme					Total Marks	
				Contact Hours			Total		Theory Marks			Tutorial/ Practical Marks			
				Theory	Tutorial	Practical			ESE	IA	CSE	Viva	Term Work		
Level1	01CE0102	COMPUTER WORKSHOP	ES-UC	0	0	2	2	1	0	0	0	25	25	50	
	01CR0103	VALUE EDUCATION	GN-UC	2	0	0	2	2	0	0	0	50	50	100	
	01EC0101	BASICS OF ELECTRONICS ENGINEERING	ES-UC	3	0	2	5	4	50	30	20	25	25	150	
	01EE0101	ELEMENTS OF ELECTRICAL ENGINEERING	ES-UC	3	0	2	5	4	50	30	20	25	25	150	
	01MA1101	DIFFERENTIAL AND INTEGRAL CALCULUS	ES-UC	4	2	0	6	5	50	30	20	25	25	150	
	01ME0101	ELEMENTS OF MECHANICAL ENGINEERING	ES-UC	3	0	2	5	4	50	30	20	25	25	150	
	01PE0101	PHYSICAL EDUCATION/SPORTS/YOGA	NCC	0	0	2	2	1	0	0	0	0	0	0	
	01SL01XX	(UNIVERSITY ELECTIVE) 01SL0102 - READING & WRITING FOR TECHNOLOGY 01SL0103 - SPEAKING & PRESENTATION SKILLS	GN-UE	2	0	0	2	2	0	30	20	25	25	100	
	Total				17	2	10	29	23	200	150	100	200	200	850
	01CE0101	COMPUTER PROGRAMMING	ES-UC	3	0	2	5	4	50	30	20	25	25	150	
	01EC0102	DIGITAL ELECTRONICS	ES-UC	3	0	2	5	4	50	30	20	25	25	150	
	01EN0101	BASICS OF ENVIRONMENTAL STUDIES	ES-UC	2	0	0	2	2	50	30	20	0	0	100	
	01GS0101	PHYSICS	BS-UC	3	0	2	5	4	50	30	20	25	25	150	
	01MA1151	MATRIX ALGEBRA AND VECTOR CALCULUS	BS-UC	4	2	0	6	5	50	30	20	25	25	150	
01ME0103	ENGINEERING DRAWING	ES-UC	2	0	4	6	4	50	30	20	25	25	150		
Total				17	2	10	29	23	300	180	120	125	125	850	
Level2	01CE0301	DATA STRUCTURE	PC	4	0	2	6	5	50	30	20	25	25	150	
	01CE0304	DESIGN THINKING AND PROBLEM SOLVING SKILLS	EE	0	0	2	2	1	0	0	0	25	25	50	
	01CE1302	DATABASE MANAGEMENT SYSTEM	PC	3	0	2	5	4	50	30	20	25	25	150	
	01CE1303	OBJECT ORIENTED DESIGN AND PROGRAMMING	PC	3	0	2	5	4	50	30	20	25	25	150	
	01CR0302	PROFESSIONAL ETHICS	GN-UC	1	0	0	1	1	0	0	0	50	50	100	
	01IT0301	DATA COMMUNICATION AND NETWORKING	PC	3	0	2	5	4	50	30	20	25	25	150	
	01MA0231	DISCRETE MATHEMATICS AND GRAPH THEORY	BS-UC	4	2	0	6	5	50	30	20	25	25	150	
	Total				18	2	10	30	24	250	150	100	200	200	900
	01CE0401	OPERATING SYSTEM	PC	4	0	2	6	5	50	30	20	25	25	150	
	01CE0402	COMPUTER ORGANIZATION AND ARCHITECTURE	PC	3	2	0	5	4	50	30	20	25	25	150	
	01CE0403	OBJECT ORIENTED PROGRAMMING WITH JAVA	PC	4	0	2	6	5	50	30	20	25	25	150	
	01CE0405	HUMAN CENTRIC DESIGN APPROACH	EE	0	0	2	2	1	0	0	0	25	25	50	
	01IT0401	COMPUTER NETWORK	PC	4	0	2	6	5	50	30	20	25	25	150	
	01MA1281	STATISTICAL AND NUMERICAL METHODS	IEC	3	2	0	5	4	50	30	20	25	25	150	
Total				18	4	8	30	24	250	150	100	150	150	800	
01IT0501	LINUX ADMINISTRATION	PC	3	0	2	5	4	50	30	20	25	25	150		
01CE0502	ADVANCED JAVA PROGRAMMING	PC	4	0	2	6	5	50	30	20	25	25	150		

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Level3	01CE0503	DESIGN AND ANALYSIS OF ALGORITHM	PC	4	3	2	6	5	50	30	20	25	25	150	
	01CE0504	THEORY OF AUTOMATA AND FORMAL LANGUAG	PC	3	3	0	3	3	50	30	20	0	0	100	
	01XXXXXX	[DEPARTMENT ELECTIVE - 1] 01IT0503 - Advance Computer Network 01CE0506 - Distributed Operating System 01CE0507 - Image Processing	PEC	4	3	2	6	5	50	30	20	25	25	150	
	01CE0508	REVERSE ENGINEERING	EE	0	3	2	2	1	0	0	0	25	25	50	
	01IT0502	SEMINAR	PC	0	3	2	2	1	0	0	0	25	25	50	
	Total				18	0	12	30	24	250	150	100	150	150	800
	01CE0601	COMPILER DESIGN	PC	3	3	2	5	4	50	30	20	25	25	150	
	01CE0602	.NET TECHNOLOGIES	PC	4	3	2	6	5	50	30	20	25	25	150	
	01CE06XX	[DEPARTMENT ELECTIVE - 2] 01CE0603 - Computer Security 01CE0604 - Cyber Security 01CE0605 - Network Security	PEC	4	3	2	6	5	50	30	20	25	25	150	
	01CE0606	DESIGN ENGINEERING AND PROJECT MANAGE	EE	0	3	2	2	1	0	0	0	25	25	50	
	01CR0601	BUSINESS BENCHMARK	GN-UC	1	3	0	1	1	0	0	0	50	50	100	
	01IT0601	SOFTWARE ENGINEERING	PC	3	3	2	5	4	50	30	20	25	25	150	
	01IT0602	WEB TECHNOLOGY	PC	3	3	2	5	4	50	30	20	25	25	150	
	Total				18	0	12	30	24	250	150	100	200	200	900
Level4	01CE07XX	[DEPARTMENT ELECTIVE - 3] 01CE0703 - IOS Programming 01CE0704 - Android Programming 01CE0705 - Programming with Python 01CE0706 - Advanced .Net Technologies	PEC	4	3	2	6	5	50	30	20	25	25	150	
	01CE07XX	[DEPARTMENT ELECTIVE - 4] 01CE0702 - Artificial Intelligence 01CE0707 - Data Mining and Information Retrieval 01CE0709 - Computational Intelligence	PEC	4	3	2	6	5	50	30	20	25	25	150	
	01CE0701	MOBILE COMPUTING	PC	3	3	2	5	4	50	30	20	25	25	150	
	01IT0701	ADVANCED WEB TECHNOLOGIES	PC	3	3	2	5	4	50	30	20	25	25	150	
	01IT0702	SOFTWARE TESTING	PC	4	3	2	6	5	50	30	20	25	25	150	
	01IT1703	MAJOR PROJECT - I	PC	0	3	8	8	4	0	0	0	50	50	100	
	Total				14	0	16	30	27	200	120	80	150	150	700
	01CE08XX	[DEPARTMENT ELECTIVE - 5] 01CE0801 - Natural Language Processing 01CE0802 - Big Data and Analytics 01CE0803 - Cloud Computing	PEC	4	3	2	6	5	50	30	20	25	25	150	
	01CE08XX	[DEPARTMENT ELECTIVE - 6] 01CE0804 - Machine Learning 01CE0805 - Business Intelligence 01CE0806 - Internet of Things	PEC	4	3	2	6	5	50	30	20	25	25	150	
	01IT0801	MAJOR PROJECT - II	PC	0	3	18	18	9	0	0	0	200	200	400	
Total				8	0	22	30	19	100	60	40	250	250	700	
Total Credits								188	Total Marks				6500		

T.P.S

MARWADI UNIVERSITY

TEACHING & EXAMINATION SCHEME FOR B TECH PROGRAMME IN INFORMATION TECHNOLOGY (2019-2023) (CBCS)

Level	Course Code	Course Title	Category	Teaching Scheme				Credits	Examination Scheme					Total Marks	
				Contact Hours			Total		Theory Marks			Tutorial/ Practical Marks			
				Theory	Tutorial	Practical			ESE	IA	CSE	Viva	Term Work		
Level1	01CE0102	COMPUTER WORKSHOP	ES-UC	0	0	2	2	1	0	0	0	25	25	50	
	01EC0101	BASICS OF ELECTRONICS ENGINEERING	ES-UC	3	0	2	5	4	50	30	20	25	25	150	
	01EE0101	ELEMENTS OF ELECTRICAL ENGINEERING	ES-UC	3	0	2	5	4	50	30	20	25	25	150	
	01MA1101	DIFFERENTIAL AND INTEGRAL CALCULUS	ES-UC	4	2	0	6	5	50	30	20	25	25	150	
	01ME0101	ELEMENTS OF MECHANICAL ENGINEERING	ES-UC	3	0	2	5	4	50	30	20	25	25	150	
	01SL01XX	(UNIVERSITY ELECTIVE) 01SL0102 - READING & WRITING FOR TECHNOL 01SL0103 - SPEAKING & PRESENTATION SKILLS	GN-UE	2	0	0	2	2	0	30	20	25	25	100	
	Total				15	2	8	25	20	200	150	100	150	150	750
	01CE0101	COMPUTER PROGRAMMING	ES-UC	3	0	2	5	4	50	30	20	25	25	150	
	01CR0103	VALUE EDUCATION	GN-UC	2	0	0	2	2	0	0	0	50	50	100	
	01EC0102	DIGITAL ELECTRONICS	ES-UC	3	0	2	5	4	50	30	20	25	25	150	
	01EN0101	BASICS OF ENVIRONMENTAL STUDIES	ES-UC	2	0	0	2	2	50	30	20	0	0	100	
	01GS0101	PHYSICS	BS-UC	3	0	2	5	4	50	30	20	25	25	150	
	01MA1151	MATRIX ALGEBRA AND VECTOR CALCULUS	BS-UC	4	2	0	6	5	50	30	20	25	25	150	
	01ME0103	ENGINEERING DRAWING	ES-UC	2	0	4	6	4	50	30	20	25	25	150	
01PE0101	PHYSICAL EDUCATION/SPORTS/YOGA	NCC	0	0	2	2	1	0	0	0	0	0	0		
Total				19	2	12	33	26	300	180	120	175	175	950	
Level2	01CE0301	DATA STRUCTURE	PC	4	0	2	6	5	50	30	20	25	25	150	
	01CE0304	DESIGN THINKING AND PROBLEM SOLVING SKI	EE	0	0	2	2	1	0	0	0	25	25	50	
	01CE1302	DATABASE MANAGEMENT SYSTEM	PC	3	0	2	5	4	50	30	20	25	25	150	
	01CE1303	OBJECT ORIENTED DESIGN AND PROGRAMMIN	PC	3	0	2	5	4	50	30	20	25	25	150	
	01CR0302	PROFESSIONAL ETHICS	GN-UC	1	0	0	1	1	0	0	0	50	50	100	
	01IT0301	DATA COMMUNICATION AND NETWORKING	PC	3	0	2	5	4	50	30	20	25	25	150	
	01MA0231	DISCRETE MATHEMATICS AND GRAPH THEORY	BS-UC	4	2	0	6	5	50	30	20	25	25	150	
	Total				18	2	10	30	24	250	150	100	200	200	900
	01CE0401	OPERATING SYSTEM	PC	4	0	2	6	5	50	30	20	25	25	150	
	01CE0402	COMPUTER ORGANIZATION AND ARCHITECTUR	PC	3	2	0	5	4	50	30	20	25	25	150	
	01CE0403	OBJECT ORIENTED PROGRAMMING WITH JAVA	PC	4	0	2	6	5	50	30	20	25	25	150	
	01CE0405	HUMAN CENTRIC DESIGN APPROACH	EE	0	0	2	2	1	0	0	0	25	25	50	
	01IT0401	COMPUTER NETWORK	PC	4	0	2	6	5	50	30	20	25	25	150	
	01MA1281	STATISTICAL AND NUMERICAL METHODS	IEC	3	2	0	5	4	50	30	20	25	25	150	
Total				18	4	8	30	24	250	150	100	150	150	800	
01IT0501	LINUX ADMINISTRATION	PC	3	0	2	5	4	50	30	20	25	25	150		
01CE0502	ADVANCED JAVA PROGRAMMING	PC	4	0	2	6	5	50	30	20	25	25	150		

T. P. S.


Level3	01CE0503	DESIGN AND ANALYSIS OF ALGORITHM	PC	4	3	2	6	5	50	30	20	25	25	150	
	01CE0504	THEORY OF AUTOMATA AND FORMAL LANGUAG	PC	3	3	0	3	3	50	30	20	0	0	100	
	01XXXXXX	[DEPARTMENT ELECTIVE - 1] 01IT0503 - Advance Computer Network 01CE0506 - Distributed Operating System 01CE0507 - Image Processing	PEC	4	3	2	6	5	50	30	20	25	25	150	
	01CE0508	REVERSE ENGINEERING	EE	0	3	2	2	1	0	0	0	25	25	50	
	01IT0502	SEMINAR	PC	0	3	2	2	1	0	0	0	25	25	50	
	Total				18	0	12	30	24	250	150	100	150	150	800
	01CE0601	COMPILER DESIGN	PC	3	3	2	5	4	50	30	20	25	25	150	
	01CE0602	.NET TECHNOLOGIES	PC	4	3	2	6	5	50	30	20	25	25	150	
	01CE06XX	[DEPARTMENT ELECTIVE - 2] 01CE0603 - Computer Security 01CE0604 - Cyber Security 01CE0605 - Network Security	PEC	4	3	2	6	5	50	30	20	25	25	150	
	01CE0606	DESIGN ENGINEERING AND PROJECT MANAGE	EE	0	3	2	2	1	0	0	0	25	25	50	
	01CR0601	BUSINESS BENCHMARK	GN-UC	1	3	0	1	1	0	0	0	50	50	100	
	01IT0601	SOFTWARE ENGINEERING	PC	3	3	2	5	4	50	30	20	25	25	150	
	01IT0602	WEB TECHNOLOGY	PC	3	3	2	5	4	50	30	20	25	25	150	
	Total				18	0	12	30	24	250	150	100	200	200	900
Level4	01IT0701	ADVANCED WEB TECHNOLOGIES	PC	3	3	2	5	4	50	30	20	25	25	150	
	01IT0702	SOFTWARE TESTING	PC	4	3	2	6	5	50	30	20	25	25	150	
	01CE07XX	[DEPARTMENT ELECTIVE - 3] 01CE1703 - iOS Programming 01CE1704 - Android Programming 01CE1705 - Programming with Python 01CE1706 - Advanced .NET Technologies	PEC	4	3	2	6	5	50	30	20	25	25	150	
	01CE07XX	[DEPARTMENT ELECTIVE - 4] 01CE1707 - Data Mining and Information Retrieval 01CE1708 - Software Architecture 01CE1709 - Computational Intelligence 01CE0701 - Mobile Computing	PEC	4	3	2	6	5	50	30	20	25	25	150	
	01CE07XX	[DEPARTMENT ELECTIVE - 5] 01CE0710 - Cloud Computing 01CE0711 - Machine Learning 01CE0712 - Internet of Things 01CE0713 - Natural Language Processing	PEC	4	3	2	6	5	50	30	20	25	25	150	
	01IT1703	MAJOR PROJECT - I	PC	0	3	6	8	4	0	0	0	50	50	100	
	Total				19	0	18	37	28	250	150	100	175	175	850
	01IT1801	MAJOR PROJECT - II	PC	0	3	30	30	15	0	0	0	200	200	400	
	Total				0	0	30	30	15	0	0	0	200	200	400
	Total Credits								185	Total Marks				6350	

d. P. S.

MARWADI UNIVERSITY

TEACHING & EXAMINATION SCHEME FOR B TECH PROGRAMME IN INFORMATION TECHNOLOGY (2020-2024) (CBCS)

Level	Course Code	Course Title	Category	Teaching Scheme				Credits	Examination Scheme					Total Marks	
				Contact Hours			Total		Theory Marks			Tutorial/ Practical Marks			
				Theory	Tutorial	Practical			ESE	IA	CSE	Viva	Term Work		
Level1	01CE0102	COMPUTER WORKSHOP	ES-UC	0	0	2	2	1	0	0	0	25	25	50	
	01EC0101	BASICS OF ELECTRONICS ENGINEERING	ES-UC	3	0	2	5	4	50	30	20	25	25	150	
	01EE0101	ELEMENTS OF ELECTRICAL ENGINEERING	ES-UC	3	0	2	5	4	50	30	20	25	25	150	
	01MA1101	DIFFERENTIAL AND INTEGRAL CALCULUS	ES-UC	4	2	0	6	5	50	30	20	25	25	150	
	01ME0101	ELEMENTS OF MECHANICAL ENGINEERING	ES-UC	3	0	2	5	4	50	30	20	25	25	150	
	01SL01XX	(UNIVERSITY ELECTIVE) 01SL0102 - READING & WRITING FOR TECHNOL 01SL0103 - SPEAKING & PRESENTATION SKILLS	GN-UE	2	0	0	2	2	0	30	20	25	25	100	
	Total				15	2	8	25	20	200	150	100	150	150	750
	01CE0101	COMPUTER PROGRAMMING	ES-UC	3	0	2	5	4	50	30	20	25	25	150	
	01CR0103	VALUE EDUCATION	GN-UC	2	0	0	2	2	0	0	0	50	50	100	
	01EC0102	DIGITAL ELECTRONICS	ES-UC	3	0	2	5	4	50	30	20	25	25	150	
	01EN0101	BASICS OF ENVIRONMENTAL STUDIES	ES-UC	2	0	0	2	2	50	30	20	0	0	100	
	01GS0101	PHYSICS	BS-UC	3	0	2	5	4	50	30	20	25	25	150	
	01MA1151	MATRIX ALGEBRA AND VECTOR CALCULUS	BS-UC	4	2	0	6	5	50	30	20	25	25	150	
	01ME0103	ENGINEERING DRAWING	ES-UC	2	0	4	6	4	50	30	20	25	25	150	
	01PE0101	PHYSICAL EDUCATION/SPORTS/YOGA	NCC	0	0	2	2	1	0	0	0	0	0	0	
Total				19	2	12	33	26	300	180	120	175	175	950	
Level2	01CE0301	DATA STRUCTURE	PC	4	0	2	6	5	50	30	20	25	25	150	
	01CE0304	DESIGN THINKING AND PROBLEM SOLVING SKI	EE	0	0	2	2	1	0	0	0	25	25	50	
	01CE1302	DATABASE MANAGEMENT SYSTEM	PC	3	0	2	5	4	50	30	20	25	25	150	
	01CE1303	OBJECT ORIENTED DESIGN AND PROGRAMMIN	PC	3	0	2	5	4	50	30	20	25	25	150	
	01CR0302	PROFESSIONAL ETHICS	GN-UC	1	0	0	1	1	0	0	0	50	50	100	
	01IT0301	DATA COMMUNICATION AND NETWORKING	PC	3	0	2	5	4	50	30	20	25	25	150	
	01MA0231	DISCRETE MATHEMATICS AND GRAPH THEORY	BS-UC	4	2	0	6	5	50	30	20	25	25	150	
	Total				18	2	10	30	24	250	150	100	200	200	900
	01CE0401	OPERATING SYSTEM	PC	4	0	2	6	5	50	30	20	25	25	150	
	01CE0402	COMPUTER ORGANIZATION AND ARCHITECTUR	PC	3	2	0	5	4	50	30	20	25	25	150	
	01CE0403	OBJECT ORIENTED PROGRAMMING WITH JAVA	PC	4	0	2	6	5	50	30	20	25	25	150	
	01CE0408	CREATIVITY, PROBLEM SOLVING AND INNOVATI	EE	0	0	2	2	1	0	30	0	20	0	50	
	01IT0401	COMPUTER NETWORK	PC	4	0	2	6	5	50	30	20	25	25	150	
01MA1281	STATISTICAL AND NUMERICAL METHODS	IEC	3	2	0	5	4	50	30	20	25	25	150		
Total				18	4	8	30	24	250	180	100	145	125	800	
01IT0501	LINUX ADMINISTRATION	PC	3	0	2	5	4	50	30	20	25	25	150		
01CE0502	ADVANCED JAVA PROGRAMMING	PC	4	0	2	6	5	50	30	20	25	25	150		


 Head of the Department
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Level3	01CE0503	DESIGN AND ANALYSIS OF ALGORITHM	PC	4	0	2	6	5	50	30	20	25	25	150	
	01CE0504	THEORY OF AUTOMATA AND FORMAL LANGUAG	PC	3	0	0	3	3	50	30	20	0	0	100	
	01XXXXXX	[DEPARTMENT ELECTIVE - 1] 01IT0503 - Advance Computer Network 01CE0506 - Distributed Operating System 01CE0507 - Image Processing	PEC	4	0	2	6	5	50	30	20	25	25	150	
	01CE0508	REVERSE ENGINEERING	EE	0	0	2	2	1	0	0	0	25	25	50	
	01IT0502	SEMINAR	PC	0	0	2	2	1	0	0	0	25	25	50	
	Total				18	0	12	30	24	250	150	100	150	150	800
	01CE0601	COMPILER DESIGN	PC	3	0	2	5	4	50	30	20	25	25	150	
	01CE0602	.NET TECHNOLOGIES	PC	4	0	2	6	5	50	30	20	25	25	150	
	01CE06XX	[DEPARTMENT ELECTIVE - 2] 01CE0603 - Computer Security 01CE0604 - Cyber Security 01CE0605 - Network Security	PEC	4	0	2	6	5	50	30	20	25	25	150	
	01CE0606	DESIGN ENGINEERING AND PROJECT MANAGE	EE	0	0	2	2	1	0	0	0	25	25	50	
	01CR0601	BUSINESS BENCHMARK	GN-UC	1	0	0	1	1	0	0	0	50	50	100	
	01IT0601	SOFTWARE ENGINEERING	PC	3	0	2	5	4	50	30	20	25	25	150	
	01IT0602	WEB TECHNOLOGY	PC	3	0	2	5	4	50	30	20	25	25	150	
Total				18	0	12	30	24	250	150	100	200	200	900	
Level4	01IT0701	ADVANCED WEB TECHNOLOGIES	PC	3	0	2	5	4	50	30	20	25	25	150	
	01IT0702	SOFTWARE TESTING	PC	4	0	2	6	5	50	30	20	25	25	150	
	01CE07XX	[DEPARTMENT ELECTIVE - 3] 01CE1703 - iOS Programming 01CE1704 - Android Programming 01CE1705 - Programming with Python 01CE1706 - Advanced .NET Technologies	PEC	4	0	2	6	5	50	30	20	25	25	150	
	01CE07XX	[DEPARTMENT ELECTIVE - 4] 01CE1707 - Data Mining and Information Retrieval 01CE1708 - Software Architecture 01CE1709 - Computational Intelligence 01CE0701 - Mobile Computing	PEC	4	0	2	6	5	50	30	20	25	25	150	
	01CE07XX	[DEPARTMENT ELECTIVE - 5] 01CE0710 - Cloud Computing 01CE0711 - Machine Learning 01CE0712 - Internet of Things 01CE0713 - Natural Language Processing	PEC	4	0	2	6	5	50	30	20	25	25	150	
	01IT1703	MAJOR PROJECT - I	PC	0	0	8	8	4	0	0	0	50	50	100	
	Total				19	0	18	37	28	250	150	100	175	175	850
	01IT1801	MAJOR PROJECT - II	PC	0	0	30	30	15	0	0	0	200	200	400	
	Total				0	0	30	30	15	0	0	0	200	200	400
	Total Credits									185	Total Marks				6350

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CBCS Course Structure

For B.Tech. Programme - Information Technology (2018-2022)

Total Credits: 188

Contact Hours: 30 Hours/Week

Subjects Category	Core	Elective	Core	Elective
General (11%)	University Core (7%)	University Elective (4%)	1. 01PE0101 - PHYSICAL EDUCATION / SPORTS / YOGA 2. 01CR0103 - VALUE EDUCATION 3. 01CR0302 - PROFESSIONAL ETHICS 4. 01CR0601 - BUSINESS BENCHMARK	1. 01SL0102 - READING & WRITING FOR TECHNOLOGY 2. 01SL0103 - SPEAKING & PRESENTATION SKILLS
Basic Sciences (6%)	University Core (6%)	-	1. 01GS0101 - PHYSICS 2. 01MA1151 - MATRIX ALGEBRA AND VECTOR CALCULUS 3. 01MA0231 - DISCRETE MATHEMATICS AND GRAPH THEORY	
Engineering Sciences (26%)	University Core (26%)	-	1. 01CE0102 - COMPUTER WORKSHOP 2. 01EC0101 - BASICS OF ELECTRONICS	

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			<p>ENGINEERING</p> <ol style="list-style-type: none"> 3. 01EE0101 - ELEMENTS OF ELECTRICAL ENGINEERING 4. 01MA1101 - DIFFERENTIAL AND INTEGRAL CALCULUS 5. 01ME0101 - ELEMENTS OF MECHANICAL ENGINEERING 6. 01CE0101 - COMPUTER PROGRAMMING 7. 01EC0102 - DIGITAL ELECTRONICS 8. 01EN0101 - BASICS OF ENVIRONMENTAL STUDIES 9. 01ME0103 - ENGINEERING DRAWING 10. 01CE0304 - DESIGN THINKING AND PROBLEM SOLVING SKILLS 11. 01CE0405 - HUMAN CENTRIC DESIGN APPROACH 12. 01CE0508 - REVERSE ENGINEERING 13. 01CE0606 - DESIGN ENGINEERING AND PROJECT MANAGEMENT 	
Professional Subjects (57%)	Programme/Institutional Core (43%)	Programme/Institutional Core (14%)	<ol style="list-style-type: none"> 1. 01CE0301 - DATA STRUCTURE 2. 01CE1302 - DATABASE MANAGEMENT SYSTEM 3. 01CE1303 - OBJECT ORIENTED DESIGN AND PROGRAMMING 4. 01IT0301 - DATA 	<ol style="list-style-type: none"> 1. 01MA1281 - STATISTICAL AND NUMERICAL METHODS 2. 01XXXXXX - DEPARTMENT ELECTIVE - 1 [01IT0503- Advance Computer Network 01CE0506 - Distributed Operating System 01CE0507 - Image Processing]

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			<p>COMMUNICATION AND NETWORKING</p> <p>5. 01CE0401 - OPERATING SYSTEM</p> <p>6. 01CE0402 - COMPUTER ORGANIZATION AND ARCHITECTURE</p> <p>7. 01CE0403 - OBJECT ORIENTED PROGRAMMING WITH JAVA</p> <p>8. 01IT0401 - COMPUTER NETWORK</p> <p>9. 01IT0501 - LINUX ADMINISTRATION</p> <p>10. 01CE0502 - ADVANCED JAVA PROGRAMMING</p> <p>11. 01CE0503 - DESIGN AND ANALYSIS OF ALGORITHM</p> <p>12. 01CE0504 - THEORY OF AUTOMATA AND FORMAL LANGUAGES</p> <p>13. 01IT0502 - SEMINAR</p> <p>14. 01CE0601 - COMPILER DESIGN</p> <p>15. 01CE0602 - .NET TECHNOLOGIES</p> <p>16. 01IT0601 - SOFTWARE ENGINEERING</p> <p>17. 01IT0602 - WEB TECHNOLOGY</p> <p>18. 01CE0701 - MOBILE COMPUTING</p> <p>19. 01IT0701 - ADVANCED WEB TECHNOLOGIES</p> <p>20. 01IT0702 - SOFTWARE TESTING</p>	<p>3. 01CE06XX - DEPARTMENT ELECTIVE - 2 [01CE0603 – Computer Security01CE0604– Cyber Security01CE0605 – Network Security]</p> <p>4. 01CE07XX - DEPARTMENT ELECTIVE - 3 [01CE0703 – iOS Programming01CE0704 – Android Programming01CE0705 – Programming with Python01CE0706 – Advanced .Net Technologies]</p> <p>5. 01CE07XX - DEPARTMENT ELECTIVE - 4 [01CE0702 – Artificial Intelligence01CE0707 – Data Mining and Information Retrieval01CE0709 – Computational Intelligence]</p> <p>6. 01CE08XX - DEPARTMENT ELECTIVE - 5 [01CE0801 – Natural Language Processing01CE0802 – Big Data and Analytics01CE0803 – Cloud Computing]</p> <p>7. 01CE08XX - DEPARTMENT ELECTIVE - 6 [01CE0804 – Machine Learning01CE0805 – Business Intelligence01CE0806 – Internet of Things]</p>
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d.p.s
 Head of the Department
 Information Technology Engineering
 Marwadi University

			21. 01IT1703 - MAJOR PROJECT - I 22. 01IT0801 - MAJOR PROJECT - II	
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CBCS Course Structure

For B.Tech. Programme - Information Technology (2019-2023)

Total Credits: 185

Contact Hours: 30 Hours/Week

Subjects Category	Core	Elective	Core	Elective
General (11%)	University Core (7%)	University Elective (4%)	1. 01PE0101 - PHYSICAL EDUCATION / SPORTS / YOGA 2. 01CR0103 - VALUE EDUCATION 3. 01CR0302 - PROFESSIONAL ETHICS 4. 01CR0601 - BUSINESS BENCHMARK	1. 01SL0102 - READING & WRITING FOR TECHNOLOGY 2. 01SL0103 - SPEAKING & PRESENTATION SKILLS
Basic Sciences (6%)	University Core (6%)	-	1. 01GS0101 - PHYSICS 2. 01MA1151 - MATRIX ALGEBRA AND VECTOR CALCULUS 3. 01MA0231 - DISCRETE MATHEMATICS AND GRAPH THEORY	
Engineering Sciences (26%)	University Core (26%)	-	1. 01CE0102 - COMPUTER WORKSHOP 2. 01EC0101 - BASICS OF ELECTRONICS	

d.p.s

			<p>ENGINEERING</p> <ol style="list-style-type: none"> 3. 01EE0101 - ELEMENTS OF ELECTRICAL ENGINEERING 4. 01MA1101 - DIFFERENTIAL AND INTEGRAL CALCULUS 5. 01ME0101 - ELEMENTS OF MECHANICAL ENGINEERING 6. 01CE0101 - COMPUTER PROGRAMMING 7. 01EC0102 - DIGITAL ELECTRONICS 8. 01EN0101 - BASICS OF ENVIRONMENTAL STUDIES 9. 01ME0103 - ENGINEERING DRAWING 10. 01CE0304 - DESIGN THINKING AND PROBLEM SOLVING SKILLS 11. 01CE0405 - HUMAN CENTRIC DESIGN APPROACH 12. 01CE0508 - REVERSE ENGINEERING 13. 01CE0606 - DESIGN ENGINEERING AND PROJECT MANAGEMENT 	
Professional Subjects (57%)	Programme/Institutional Core (43%)	Programme/Institutional Core (14%)	<ol style="list-style-type: none"> 1. 01CE0301 - DATA STRUCTURE 2. 01CE1302 - DATABASE MANAGEMENT SYSTEM 3. 01CE1303 - OBJECT ORIENTED DESIGN AND PROGRAMMING 4. 01IT0301 - DATA 	<ol style="list-style-type: none"> 1. 01MA1281 - STATISTICAL AND NUMERICAL METHODS 2. 01XXXXXX - DEPARTMENT ELECTIVE - 1 [01IT0503 – Advance Computer Network, 01CE0506 – Distributed Operating System, 01CE0507 – Image Processing]

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			<p>COMMUNICATION AND NETWORKING</p> <p>5. 01CE0401 - OPERATING SYSTEM</p> <p>6. 01CE0402 - COMPUTER ORGANIZATION AND ARCHITECTURE</p> <p>7. 01CE0403 - OBJECT ORIENTED PROGRAMMING WITH JAVA</p> <p>8. 01IT0401 - COMPUTER NETWORK</p> <p>9. 01IT0501 - LINUX ADMINISTRATION</p> <p>10. 01CE0502 - ADVANCED JAVA PROGRAMMING</p> <p>11. 01CE0503 - DESIGN AND ANALYSIS OF ALGORITHM</p> <p>12. 01CE0504 - THEORY OF AUTOMATA AND FORMAL LANGUAGES</p> <p>13. 01IT0502 - SEMINAR</p> <p>14. 01CE0601 - COMPILER DESIGN</p> <p>15. 01CE0602 - .NET TECHNOLOGIES</p> <p>16. 01IT0601 - SOFTWARE ENGINEERING</p> <p>17. 01IT0602 - WEB TECHNOLOGY</p> <p>18. 01CE0701 - MOBILE COMPUTING</p> <p>19. 01IT0701 - ADVANCED WEB TECHNOLOGIES</p> <p>20. 01IT0702 - SOFTWARE TESTING</p>	<p>3. 01CE06XX - DEPARTMENT ELECTIVE - 2 [01CE0603 – Computer Security, 01CE0604– Cyber Security, 01CE0605 – Network Security]</p> <p>4. 01CE07XX - DEPARTMENT ELECTIVE - 3 [01CE1703 - iOS Programming, 01CE1704 - Android Programming, 01CE1705 - Programming with Python, 01CE1706 - Advanced .NET Technologies]</p> <p>5. 01CE07XX - DEPARTMENT ELECTIVE - 4 [01CE1707 - Data Mining and Information Retrieval, 01CE1708 - Software Architecture, 01CE1709 - Computational Intelligence, 01CE0701 - Mobile Computing]</p> <p>6. 01CE08XX - DEPARTMENT ELECTIVE - 5 [01CE0710 - Cloud Computing, 01CE0711 - Machine Learning, 01CE0712 - Internet of Things, 01CE0713 - Natural Language Processing]</p>
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D. N. S.
 Head of the Department
 Information Technology Engineering
 Marwadi University

			21. 01IT1703 - MAJOR PROJECT - I 22. 01IT1801 - MAJOR PROJECT - II	
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CBCS Course Structure

For B.Tech. Programme - Information Technology (2020-2024)

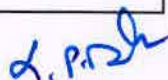
Total Credits: 185

Contact Hours: 30 Hours/Week

Subjects Category	Core	Elective	Core	Elective
General (11%)	University Core (7%)	University Elective (4%)	<ol style="list-style-type: none"> 1. 01PE0101 - PHYSICAL EDUCATION / SPORTS / YOGA 2. 01CR0103 - VALUE EDUCATION 3. 01CR0302 - PROFESSIONAL ETHICS 4. 01CR0601 - BUSINESS BENCHMARK 	<ol style="list-style-type: none"> 1. 01SL0102 - READING & WRITING FOR TECHNOLOGY 2. 01SL0103 - SPEAKING & PRESENTATION SKILLS
Basic Sciences (6%)	University Core (6%)	-	<ol style="list-style-type: none"> 1. 01GS0101 - PHYSICS 2. 01MA1151 - MATRIX ALGEBRA AND VECTOR CALCULUS 3. 01MA0231 - DISCRETE MATHEMATICS AND GRAPH THEORY 	
Engineering Sciences (26%)	University Core (26%)	-	<ol style="list-style-type: none"> 1. 01CE0102 - COMPUTER WORKSHOP 2. 01EC0101 - BASICS OF ELECTRONICS 	

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			<p>ENGINEERING</p> <ol style="list-style-type: none"> 3. 01EE0101 - ELEMENTS OF ELECTRICAL ENGINEERING 4. 01MA1101 - DIFFERENTIAL AND INTEGRAL CALCULUS 5. 01ME0101 - ELEMENTS OF MECHANICAL ENGINEERING 6. 01CE0101 - COMPUTER PROGRAMMING 7. 01EC0102 - DIGITAL ELECTRONICS 8. 01EN0101 - BASICS OF ENVIRONMENTAL STUDIES 9. 01ME0103 - ENGINEERING DRAWING 10. 01CE0304 - DESIGN THINKING AND PROBLEM SOLVING SKILLS 11. 01CE0408 - CREATIVITY, PROBLEM SOLVING AND INNOVATION 12. 01CE0508 - REVERSE ENGINEERING 13. 01CE0606 - DESIGN ENGINEERING AND PROJECT MANAGEMENT 	
Professional Subjects (57%)	Programme/Institutional Core (43%)	Programme/Institutional Core (14%)	<ol style="list-style-type: none"> 1. 01CE0301 - DATA STRUCTURE 2. 01CE1302 - DATABASE MANAGEMENT SYSTEM 3. 01CE1303 - OBJECT ORIENTED DESIGN AND PROGRAMMING 4. 01IT0301 - DATA 	<ol style="list-style-type: none"> 1. 01MA1281 - STATISTICAL AND NUMERICAL METHODS 2. 01XXXXXX - DEPARTMENT ELECTIVE - 1 [01IT0503– Advance Computer Network, 01CE0506 – Distributed Operating System, 01CE0507 – Image Processing]


 Head of the Department
 Information Technology Engineering
 Marwadi University

			<p>COMMUNICATION AND NETWORKING</p> <p>5. 01CE0401 - OPERATING SYSTEM</p> <p>6. 01CE0402 - COMPUTER ORGANIZATION AND ARCHITECTURE</p> <p>7. 01CE0403 - OBJECT ORIENTED PROGRAMMING WITH JAVA</p> <p>8. 01IT0401 - COMPUTER NETWORK</p> <p>9. 01IT0501 - LINUX ADMINISTRATION</p> <p>10. 01CE0502 - ADVANCED JAVA PROGRAMMING</p> <p>11. 01CE0503 - DESIGN AND ANALYSIS OF ALGORITHM</p> <p>12. 01CE0504 - THEORY OF AUTOMATA AND FORMAL LANGUAGES</p> <p>13. 01IT0502 - SEMINAR</p> <p>14. 01CE0601 - COMPILER DESIGN</p> <p>15. 01CE0602 - .NET TECHNOLOGIES</p> <p>16. 01IT0601 - SOFTWARE ENGINEERING</p> <p>17. 01IT0602 - WEB TECHNOLOGY</p> <p>18. 01CE0701 - MOBILE COMPUTING</p> <p>19. 01IT0701 - ADVANCED WEB TECHNOLOGIES</p> <p>20. 01IT0702 - SOFTWARE TESTING</p>	<p>3. 01CE06XX - DEPARTMENT ELECTIVE - 2 [01CE0603 - Computer Security, 01CE0604 - Cyber Security, 01CE0605 - Network Security]</p> <p>4. 01CE07XX - DEPARTMENT ELECTIVE - 3 [01CE1703 - iOS Programming, 01CE1704 - Android Programming, 01CE1705 - Programming with Python, 01CE1706 - Advanced .NET Technologies]</p> <p>5. 01CE07XX - DEPARTMENT ELECTIVE - 4 [01CE1707 - Data Mining and Information Retrieval, 01CE1708 - Software Architecture, 01CE1709 - Computational Intelligence, 01CE0701 - Mobile Computing]</p> <p>6. 01CE08XX - DEPARTMENT ELECTIVE - 5 [01CE0710 - Cloud Computing, 01CE0711 - Machine Learning, 01CE0712 - Internet of Things, 01CE0713 - Natural Language Processing]</p>
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			21. 01IT1703 - MAJOR PROJECT - I 22. 01IT1801 - MAJOR PROJECT - II	
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K. P. S. J.

Head of the Department
Information Technology Engineering
Marwadi University



Bachelor of Pharmacy (B. Pharm)
CBCS Course Structure

www.marwadiuniversity.ac.in



Marwadi University
Rajkot

Department: Faculty of Pharmacy
Program Name: Bachelor of Pharmacy
Program code: 13 PH

A list of CBCS courses offered

B. Pharm. Year-I, Sem-I							Evaluation Scheme					
Subject Code	Subject Name	Category	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
			Theory	Tutorial	Practical		ESE (E)	IA	CSE	Viva (V)	Term Work (TW)	
13PH0101	Human Anatomy and Physiology I	PC	3	1	4	6	75	15	10	35	15	150
13PH0102	Pharmaceutical Analysis I	PC	3	1	4	6	75	15	10	35	15	150
13PH0103	Pharmaceutics I	PC	3	1	4	6	75	15	10	35	15	150
13PH0104	Pharmaceutical Inorganic Chemistry	PC	3	1	4	6	75	15	10	35	15	150
13CS0105	Communication skills *	PEC	2	0	2	3	75	15	10	35	15	150
13BI0101	Remedial Biology *	PEC	2	0	2	3	75	15	10	35	15	150
13MA0101	Remedial Mathematics*	PEC	2	0	0	2	75	15	10	--	--	100
	Total		18	4	20	32	525	105	70	210	90	850\$/900#

Applicable ONLY for the students who have studied Mathematics/ Physics/ Chemistry at HSC and appearing for Remedial Biology (RB) course.
 \$ Applicable ONLY for the students who have studied Physics/ Chemistry/ Botany/ Zoology at HSC and appearing for Remedial Mathematics (RM) course.
 * Non University Examination (NUE)

B. Pharm. Year-I, Sem-II							Evaluation Scheme					
Subject Code	Subject Name	Category	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
			Theory	Tutorial	Practical		ESE (E)	IA	CSE	Viva (V)	Term work (TW)	
13PH0201	Human Anatomy and Physiology II	PC	3	1	4	6	75	15	10	35	15	150
13PH0202	Pharmaceutical Organic Chemistry I	PC	3	1	4	6	75	15	10	35	15	150
13PH0203	Pharmaceutical Engineering	PC	3	1	4	6	75	15	10	35	15	150
13PH0204	Computer Applications in Pharmacy*	PEC	3	0	2	4	75	15	10	35	15	150
13EN0201	Environmental Sciences*	PEC	3	0	0	3	75	15	10	--	--	100
Total			15	3	14	25	375	75	50	140	60	700

* Non University Examination (NUE)

B. Pharm. Year-2, Sem-3							Evaluation Scheme					
Subject Code	Subject Name	Category	Teaching Scheme (Hours)			Credits	Theory Marks			Practical Marks		Total Marks
			Theory	Tutorial	Practical		ESE (E)	IA	CSE	Viva (V)	Term Work (TW)	
13PH0301	Pharmaceutical Organic Chemistry-II	PC	3	1	4	6	75	15	10	35	15	150
13PH0302	Physical Pharmaceutics-I	PC	3	1	4	6	75	15	10	35	15	150
13PH0303	Biochemistry	PC	3	1	4	6	75	15	10	35	15	150
13PH0304	Pathophysiology	PC	3	1	--	4	75	15	10	--	--	100
13PH0305	Pharmacognosy and Phytochemistry-I	PC	3	1	4	6	75	15	10	35	15	150
Total			15	5	16	28	375	75	50	140	60	700

B. Pharm. Year-2, Sem-4							Evaluation Scheme					
Subject Code	Subject Name	Category	Teaching Scheme (Hours)			Credits	Theory Marks			Practical Marks		Total Marks
			Theory	Tutorial	Practical		ESE (E)	IA	CSE	Viva (V)	Term work (TW)	
13PH0401	Pharmaceutical Organic Chemistry-III	PC	3	1	--	4	75	15	10	--	--	100
13PH0402	Medicinal Chemistry-I	PC	3	1	4	6	75	15	10	35	15	150
13PH0403	Physical Pharmaceutics-II	PC	3	1	4	6	75	15	10	35	15	150
13PH0404	Pharmacology-I	PC	3	1	4	6	75	15	10	35	15	150
13PH0405	Pharmaceutical Jurisprudence	PC	3	1	--	4	75	15	10	--	--	100
Total			15	5	12	26	375	75	50	105	45	650

B. Pharm. Year-3, Sem-5							Evaluation Scheme					
Subject Code	Subject Name	Category	Teaching Scheme (Hours)			Credits	Theory Marks			Practical Marks		Total Marks
			Theory	Tutorial	Practical		ESE (E)	IA	CSE	Viva (V)	Term Work (TW)	
13PH0501	Medicinal Chemistry-II	PC	3	1	-	4	75	15	10	-	-	100
13PH0502	Pharmacology-II	PC	3	1	4	6	75	15	10	35	15	150
13PH0503	Pharmacognosy and Phytochemistry-II	PC	3	1	4	6	75	15	10	35	15	150
13PH0504	Pharmaceutical Microbiology	PC	3	1	4	6	75	15	10	35	15	150
13PH0505	Pharmaceutical Biotechnology	PC	3	1	-	4	75	15	10	-	-	100
Total			15	5	12	26	375	75	50	105	45	650

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B. Pharm. Year-3, Sem-6							Evaluation Scheme					
Subject Code	Subject Name	Category	Teaching Scheme (Hours)			Credits	Theory Marks			Practical Marks		Total Marks
			Theory	Tutorial	Practical		ESE (E)	IA	CSE	Viva (V)	Term Work (TW)	
13PH0601	Medicinal Chemistry-III	PC	3	1	4	6	75	15	10	35	15	150
13PH0602	Pharmacology-III	PC	3	1	4	6	75	15	10	35	15	150
13PH0603	Herbal Drug Technology	PC	3	1	4	6	75	15	10	35	15	150
13PH0604	Biopharmaceutics and Pharmacokinetics	PC	3	1	0	4	75	15	10	0	0	100
13PH0605	Industrial Pharmacy-I	PC	3	1	4	6	75	15	10	35	15	150
	Total		15	5	16	28	375	75	50	140	60	700

B. Pharm. Year-4, Sem-7							Evaluation Scheme					
Subject Code	Subject Name	Category	Teaching Scheme (Hours)			Credits	Theory Marks			Practical Marks		Total Marks
			Theory	Tutorial	Practical		ESE (E)	IA	CSE	Viva (V)	Term Work (TW)	
13PH0701	Instrumental Methods of Analysis	PC	3	1	4	6	75	15	10	35	15	150
13PH0702	Industrial Pharmacy-II	PC	3	1	0	4	75	15	10	0	0	100
13PH0703	Pharmacy Practice	PC	3	1	0	4	75	15	10	0	0	100
13PH0704	Novel Drug Delivery Systems	PC	3	1	0	4	75	15	10	0	0	100
13PH0705	Quality Assurance	PC	3	1	0	4	75	15	10	0	0	100
13PH0706	Practice School	PC	0	0	12	6	0	0	0	150	0	150
	Total		15	5	4	28	375	75	50	185	15	700

Baldania

B. Pharm. Year-4, Sem-8												
Subject Code	Subject Name	Category	Teaching Scheme (Hours)			Credits	Theory Marks			Practical Marks		Total Marks
			Theory	Tutorial	Practical		ESE (E)	IA	CSE	Viva (V)	Term Work (TW)	
13PH0801	Biostatistics and Research Methodology	PC	3	1	0	4	75	15	10	0	0	100
13PH0802	Social and Preventive Pharmacy	PC	3	1	0	4	75	15	10	0	0	100
13PH0803	Pharma Marketing Management	PEC	3	1	0	4	75	15	10	0	0	100
13PH0804	Pharmaceutical Regulatory Science	PEC	3	1	0	4	75	15	10	0	0	100
13PH0805	Pharmacovigilance	PEC	3	1	0	4	75	15	10	0	0	100
13PH0806	Quality Control and Standardization of Herbals	PEC	3	1	0	4	75	15	10	0	0	100
13PH0807	Computer-Aided Drug Design	PEC	3	1	0	4	75	15	10	0	0	100
13PH0808	Cell and Molecular Biology	PEC	3	1	0	4	75	15	10	0	0	100
13PH0809	Cosmetic Science	PEC	3	1	0	4	75	15	10	0	0	100
13PH0810	Experimental Pharmacology	PEC	3	1	0	4	75	15	10	0	0	100
13PH0811	Advanced Instrumentation Techniques	PEC	3	1	0	4	75	15	10	0	0	100
13PH0812	Dietary Supplements and Nutraceuticals	PEC	3	1	0	4	75	15	10	0	0	100
13PH0813	Project Work	PC	0	0	12	6	0	0	0	100	50	150
	Total		36	12	0	54	900	180	120	100	50	1350

Baldania

Marwadi University								
Faculty of Management Studies								
Bachelor of Business Administration(Hons) - 2021-24								
TEACHING AND EVALUATION SCHEME								
Semester I								
Course Code	Course Name	Credits	Internal Marks		End Term Exam (Total 50)			Total Marks
			CSE	IA	Theory	Practical/ Viva	Term Work	
Compulsory Courses								
04BB0101	Principles of Management	4	20	30	50	0	0	100
04BB0102	Microeconomics	4	20	30	50	0	0	100
04BB0103	Fundamentals of Accounting	4	20	30	50	0	0	100
04BB0104	Computer Essentials & Office Applications	4	20	30	0	25	25	100
04BB0105	Business Laws	4	20	30	50	0	0	100
(Chose any one)								
04SL0102 /04SL0103	Reading and Writing for Business/ Speaking and Presentation Skills	2	20	30	0	25	25	100
Honours Courses								
04BH2101	Tally	4	0	0	100	0	0	100
Total Semester Credits		26						
Semester II								
Course Code	Course Name	Credits	Internal Marks		End Term Exam (Total 50)			Total Marks
			CSE	IA	Theory	Practical/ Viva	Term Work	
Compulsory Courses								
04BB0201	Macroeconomics	4	20	30	50	0	0	100
04BB0202	Organizational Behavior	4	20	30	50	0	0	100

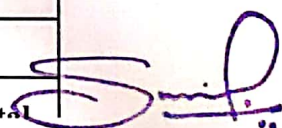
04BB0203	Statistics for Business	4	20	30	50	0	0	100
04BB0204	Human Resource Management	4	20	30	50	0	0	100
04BB0205	Business Environment	4	20	30	50	0	0	100
	(Chose any one)							
04SL0152/ 04SL0153	English for Workplace/ English through Movies	2	20	30	0	25	25	100
	Honours Courses							
04BH0202	Advanced Excel	3	0	50	0	50	0	100
	Total Semester Credits	25						

Semester III

Course Code	Course Name	Credits	Internal Marks		End Term Exam (Total 50)			Total Marks
			CSE	IA	Theory	Practical/ Viva	Term Work	
	Compulsory Courses							
04BB0301	Marketing Management	4	20	30	50	0	0	100
04BB1304	Research Methodology	4	20	30	50	0	0	100
04BB0305	Financial Management	4	20	30	50	0	0	100
04BB0308	Indian Financial System	4	20	30	50	0	0	100
04CR0301	Career Readiness Programme - I	2	0	0	0	50	50	100
	General Elective (any one)							
04BB1307	Fundamentals of Digital Marketing	4	20	30	0	25	25	100
04BB0309	Cost Accounting	4	20	30	50	0	0	100
	Honours Courses							
04BH0302	Logistics Management	3	0	50	50	0	0	100
	University Elective	3						
	Total Semester Credits	28						

Semester IV

Course			Internal Marks	End Term Exam (Total 50)	Total
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Course Code	Course Name	Credits	CSE	IA	Theory	Practical/ Viva	Term Work	Total Marks
Compulsory Courses								
04BB0401	Production & Operations Management	4	20	30	50	0	0	100
04BB0403	Income Tax – Law and Practice	4	20	30	50	0	0	100
04BB2405	Entrepreneurship	4	0	60	0	40	0	100
04BB0408	Management Accounting	4	20	30	50	0	0	100
04BB0409	Environmental Studies	2	20	30	50	0	0	100
General Elective (any one)								
04BB0406	Management of Services	4	20	30	50	0	0	100
04BB0410	Mathematics for Business	4	20	30	50	0	0	100
04BB0411	International Business	4	20	30	50	0	0	100
Honours Courses								
04BH0402	Project Management	3	0	50	50	0	0	100
University Elective		3						
Total Semester Credits		28						

Semester V

Course Code	Course Name	Credits	Internal Marks		End Term Exam (Total 50)			Total Marks
			CSE	IA	Theory	Practical/ Viva	Term Work	
Compulsory Courses								
04BB1501	Operations Research	4	20	30	50	0	0	100
04BB1502	Strategic Management	4	20	30	50	0	0	100
04BB0506	Summer Internship	4	0	50	0	0	50	100
04CR1501	Career Readiness Program - II	2	0	50	0	0	50	100
Honours Courses								
04BH0509	Basics of Business Analytics	3	0	50	0	50	0	100
Specialization (Choose any one)								
Finance								
04BB0507	Management of Financial Markets	4	20	30	50	0	0	100

04BB1508	Fundamentals of Banking	4	20	30	50	0	0	100
04BH0510	GST and Customs Duty	3	0	50	50	0	0	100
	Marketing							
04BB0509	Consumer Behaviour	4	20	30	50	0	0	100
04BB0510	Retail Marketing	4	20	30	50	0	0	100
04BH0511	Sales Management	3	0	50	50	0	0	100
	HR							
04BB1511	Labour Welfare & Social Securities	4	20	30	50	0	0	100
04BB1512	Compensation Management	4	20	30	50	0	0	100
04BH0512	Talent Acquisition	3	0	50	50	0	0	100
	International Business							
04BB0513	International Marketing	4	20	30	50	0	0	100
04BB0514	International Human Resource Management	4	20	30	50	0	0	100
04BH0504	Fundamentals of International Business	3	0	50	50	0	0	100
	Banking & Insurance Specialization							
04BB0515	Modern Banking Theory & Practices	4	20	30	50	0	0	100
04BB0524	Fundamentals of Insurance	4	20	30	50	0	0	100
04BH0505	Fundamentals of Operational Banking	3	0	50	50	0	0	100
	Logistics Management							
04BB0518	Inventory Management	4	20	30	50	0	0	100
04BB0519	Warehousing, Distribution & Transportation Management	4	20	30	50	0	0	100
04BH0507	Packaging Management	3	0	50	50	0	0	100
	Digital Marketing							
04BB0520	Essentials of Digital Marketing	4	20	30	0	25	25	100
04BB0521	Applications of SEO, SEM & Web Analytics	4	20	30	0	25	25	100
04BH0508	Website Development	3	20	30	0	25	25	100
	Entrepreneurship							
04BB0522	Innovation & Start-Up Management	4	20	30	50	0	0	100
04BB0523	Social Entrepreneurship and Corporate Entrepreneurship	4	20	30	50	0	0	100
04BH0506	International Business Procedures	3	0	50	50	0	0	100
	Total Semester Credits	28						

Semester VI								
Course Code	Course Name	Credits	Internal Marks		End Term Exam (Total 50)			Total Marks
			CSE	IA	Theory	Practical / Viva	Term Work	
Compulsory Courses								
04BB1601	Business Ethics & Corporate Governance	4	20	30	50	0	0	100
04BB0613	Understanding Corporate Financial Statements	3	20	30	50	0	0	100
04BB0614	Management Information System	4	20	30	50	0	0	100
04BB1604	Research Project	4	0	50	0	50	0	100
Honours Courses								
04BH0601	Six Sigma	3	0	50	50	0	0	100
Specialization (Choose any one)								
Finance								
04BB1605	Advanced Financial Management	4	20	30	50	0	0	100
04BH1602	Asset Management	3	0	50	50	0	0	100
Marketing								
04BB0606	Advertising Management	4	20	30	50	0	0	100
04BH1603	Social Media Marketing	3	0	50	0	50	0	100
HR								
04BB1607	Change Management	4	20	30	50	0	0	100
04BH1604	Payroll Management	3	0	50	50	0	0	100
International Business								
04BB0608	International Supply Chain Management	4	20	30	50	0	0	100
04BH0605	International Trade Finance & Forex Risk Management	3	0	50	50	0	0	100
Banking & Insurance								
04BB1609	Rural Banking and Micro Finance	4	20	30	50	0	0	100
04BH1606	Investment Banking	3	0	50	50	0	0	100
Logistics								
04BB0610	IT in Logistics Management	4	20	30	50	0	0	100

04BH0607	International Logistics	3	0	50	50	0	0	100
	Digital Marketing							
04BB0611	Contemporary Practices of Digital Marketing	4	0	50	0	50	0	100
04BH0609	Marketing Through Social Media Platforms	3	0	50	0	50	0	100
	Entrepreneurship							
04BB0612	Legal Aspects of Startups and IPR	4	20	30	50	0	0	100
04BH0608	Funding for Start-Ups	3	0	50	50	0	0	100
	Total Semester Credits	25						
	Total Programme Credits	160						



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Marwadi
University

Faculty of Science
Department of Physics

CBCS Course Structure of M.Sc. Physics Programme

Semester-I

Subject Code	Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
		Theory	Tutorial	Practical		ESE	IA	CSE	Viva	Term Work	
02PY0401	ATOMIC & MOLECULAR PHYSICS	4	0	0	4	50	30	20	25	25	150
02PY0403	MATHEMATICAL PHYSICS-I	4	0	0	4	50	30	20	25	25	150
02PY0406	LABORATORY PRACTICALS I	0	0	4	2	0	0	0	25	25	50
02PY0407	LABORATORY PRACTICALS 2	0	0	4	2	0	0	0	25	25	50
02PY0408	CLASSICAL MECHANICS	4	0	0	4	50	30	20	25	25	150
02PY0409	NANOMATERIALS -SYNTHESIS AND DEPOSITION	4	0	0	4	50	30	20	25	25	150
02PY0410	ELECTRONICS-I	4	0	0	4	50	30	20	25	25	150

Semester-II

Subject Code	Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
		Theory	Tutorial	Practical		ESE	IA	CSE	Viva	Term Work	
02PY0451	ELECTROMAGNETIC THEORY	4	0	0	4	50	30	20	25	25	150
02PY0453	MATERIAL CHARACTERIZATION	4	0	0	4	50	30	20	25	25	150
02PY0455	QUANTUM MECHANICS	4	0	0	4	50	30	20	25	25	150
02PY0456	ELECTRONICS LAB.	0	0	4	2	0	0	0	25	25	50
02PY0457	LABORATORY PRACTICALS 3	0	0	4	2	0	0	0	25	25	50
02PY0458	MATHEMATICAL PHYSICS-II	4	0	0	4	50	30	20	25	25	150
02PY0459	ELECTRONICS-II	4	0	0	4	50	30	20	25	25	150

Semester-III

Subject Code	Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
		Theory	Tutorial	Practical		ESE	IA	CSE	Viva	Term Work	
02PY0502	COMMUNICATION PHYSICS	4	0	0	4	50	30	20	25	25	150
02PY0503	SOLID STATE PHYSICS	4	0	0	4	50	30	20	25	25	150
02PY0504	RESEARCH METHODOLOGY	0	2	2	2	0	0	0	25	25	50
02PY0505	MATERIAL SCIENCE LAB	0	0	2	1	0	0	0	25	25	50
02PY0506	LABORATORY PRACTICALS 4	0	0	2	1	0	0	0	25	25	50
02PY0507	THERMODYNAMICS AND STATISTICAL MECHANICS	4	0	0	4	50	30	20	25	25	150
02PY0531	PLASMA PHYSICS	4	2	0	5	50	30	20	25	25	150
02PY0532	FUNCTIONAL OXIDES	4	2	0	5	50	30	20	25	25	150

Semester-IV

Subject Code	Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
		Theory	Tutorial	Practical		ESE	IA	CSE	Viva	Term Work	
02PY0551	APPLIED OPTICS	4	0	0	4	50	30	20	25	25	150
02PY0552	NUCLEAR PHYSICS	4	0	0	4	50	30	20	25	25	150
02PY0553	PROJECT	0	0	16	8	0	0	0	200	100	300
02PY0581	THIN FILMS AND SOLAR CELLS	4	2	0	5	50	30	20	25	25	150
02PY0582	ATMOSPHERIC AND SPACE PHYSICS	4	2	0	5	50	30	20	25	25	150
02PY0583	ANALOG AND DIGITAL COMMUNICATIONS	4	2	0	5	50	30	20	25	25	150
02PY0584	MICROWAVE COMMUNICATIONS	4	0	2	5	50	30	20	25	25	150



Head,
 Department of Physics,
 Marwadi University, Rajkot

B. Tech. Year I, Sem I															
Level - 1	Subject Code	Subject Name	Category	Category	Teaching Scheme (Hours)			Total	Credits	Examniation Scheme					Total Marks
					L	T	P			Theory marks			Practical Marks		
										ESE	IA	CSE	TW	Viva	
	01MA1101	Differential and Integral Calculus	BSC	BS-UC	4	2	0	6	5	50	30	20	25	25	150
	01EE0104	Electrical Circuits	ESC	ES-UC	4	0	2	6	5	50	30	20	25	25	150
	01EC0101	Basics of Electronics Engineering	ESC	ES-UC	3	0	2	5	4	50	30	20	25	25	150
	01SL0102 /01SL0103	Reading & Writing for Technology / Speaking & Presentation Skills	HSMC	GN-UE	2	0	0	2	2	0	30	20	25	25	100
	01CT0101	Introduction to Computer Programming	ESC	ES-UC	3	0	2	5	4	50	30	20	25	25	150
	01CT0103	Foundation skills in sensor interfacing	PCC-ICT	EE	0	0	2	2	1	0	0	0	25	25	50
	01CT0104	ICT Workshop	ESC	ES-UC	0	0	2	2	1	0	0	0	25	25	50
	01PE0101	Physical Education/Sports/Yoga	MC	NCC	0	0	2	2	1	0	0	0	0	0	0
		Total			16	2	12	30	23	200	150	100	175	175	800

B. Tech. Year I, Sem II															
Level - 1	Subject Code	Subject Name	Category	Category	Teaching Scheme (Hours)			Total	Credits	Examniation Scheme					Total Marks
					L	T	P			Theory marks			Practical Marks		
										ESE	IA	CSE	TW	Viva	
	01MA1151	Matrix Algebra and Vector Calculus	BSC	BS-UC	4	2	0	6	5	50	30	20	25	25	150
	01EC0102	Digital Electronics	ESC	ES-UC	3	0	2	5	4	50	30	20	25	25	150
	01ME0105	Engineering Drawing and Computer Aided Design	ESC	ES-UC	2	0	4	6	4	50	30	20	25	25	150
	01CT0105	Object Oriented Programming	PCC-ICT	PC	3	0	2	5	4	50	30	20	25	25	150
	01EN0101	Basics of Environmental Studies	ESC	ES-UC	2	0	0	2	2	50	30	20	0	0	100
	01CT0106	Introduction to R and RStudio	PCC-ICT	PC	0	0	2	2	1	0	0	0	25	25	50
	01CR0103	Value Education	HSMC	GN-UC	2	0	0	2	2	0	0	0	50	50	100
		Total			16	2	10	28	22	250	150	100	175	175	850

B. Tech. Year II, Sem III															
Level - 2	Subject Code	Subject Name	Category	Category	Teaching Scheme (Hours)			Total	Credits	Examniation Scheme					Total Marks
					L	T	P			Theory marks			Practical Marks		
										ESE	IA	CSE	TW	Viva	
	01MA0231	Discrete Mathematics and Graph Theory	BSC	BS-UC	4	2	0	6	5	50	30	20	25	25	150
	01CT0301	Computer Organisation and Architecture	PCC-ICT	PC	3	0	2	5	4	50	30	20	25	25	150
	01CT0302	Signals and Systems	PCC-ICT	PC	3	0	2	5	4	50	30	20	25	25	150
	01CR0302	Professional Ethics	HSMC	GN-UC	1	0	0	1	1	0	0	0	50	50	100
	01CT0303	Introduction to Communication Engineering	PCC-ICT	PC	3	0	2	5	4	50	30	20	25	25	150
	01CT0307	Data Structure and Algorithm	PCC-ICT	PC	4	0	2	6	5	50	30	20	25	25	150
	01CT0306	Design Engineering	PROJ-ICT	EE	0	0	2	2	1	0	0	0	25	25	50
		Total			18	2	10	30	24	250	150	100	200	200	900

B. Tech. Year II, Sem IV															
Level - 2	Subject Code	Subject Name	Category	Category	Teaching Scheme (Hours)			Total	Credits	Examniation Scheme					Total Marks
					L	T	P			Theory marks			Practical Marks		
										ESE	IA	CSE	TW	Viva	
	01CT0401	Probability and Statistics	PCC-ICT	IE	3	2	0	5	4	50	30	20	25	25	150
	01CT0402	Problem solving using Python	PCC-ICT	PC	3	0	2	5	4	50	30	20	25	25	150
	01CT0403	Microcontroller and Interfacing	PCC-ICT	PC	3	0	2	5	4	50	30	20	25	25	150
	01CT0404	Analog and Digital Communication	PCC-ICT	PC	3	0	2	5	4	50	30	20	25	25	150

Level - 2	01CT0405	Engineering Electrodynamics	PCC-ICT	PC	3	0	0	3	3	50	30	20	0	0	100
Level - 2	01CE0401	Operating System	PCC-ICT	PC	4	0	2	6	5	50	30	20	25	25	150
Level - 2	01CT0406	Technical Writing	HSMC	GN-UE	1	0	0	1	1	0	0	0	25	25	50
Total					20	2	8	30	25	300	180	120	150	150	900

B. Tech. Year III, Sem V

Level	Subject Code	Subject Name	Category	Category	Teaching Scheme (Hours)			Total	Credits	Examination Scheme					Total Marks
					L	T	P			Theory marks			Practical Marks		
										ESE	IA	CSE	TW	Viva	
Level - 3	01CT0501	Optimization Techniques	PCC-ICT	PC	3	0	0	3	3	50	30	20	0	0	100
Level - 3	01CT0502	Database Management System	PCC-ICT	PC	3	0	2	5	4	50	30	20	25	25	150
Level - 3	01CT0503	Computer Networks	PCC-ICT	PC	3	0	2	5	4	50	30	20	25	25	150
Level - 3	01CT0504	Internet and Web Technology	PCC-ICT	PC	3	0	2	5	4	50	30	20	25	25	150
Level - 3	01CT0505	Introduction to Single Board Computer Programming	PCC-ICT	PC	0	0	2	2	1	0	0	0	25	25	50
Level - 3	01CT0506	Human Centered Design	PROJ-ICT	EE	0	0	2	2	1	0	0	0	50	50	100
Level - 3	01CT05XX	Department Elective - 1	PEC-ICT	PEC	4	0	2	6	5	50	30	20	25	25	150
Level - 3	01GS0501	Cognitive Aptitude -1	MC	NCC	2	0	0	2	0	0	0	0	0	0	0
Total					18	0	12	30	22	250	150	100	175	175	850

Department Elective – 1

Level - 3	01CT0507	Advanced Microprocessor
Level - 3	01CT0508	Optical Communication
Level - 3	01CT0509	Linux Administration
Level - 3	01CT0510	Applied Linear algebra
Level - 3	01CT0511	Theory of Computation

B. Tech. Year III, Sem VI

Level	Subject Code	Subject Name	Category	Category	Teaching Scheme (Hours)			Total	Credits	Examination Scheme					Total Marks
					L	T	P			Theory marks			Practical Marks		
										ESE	IA	CSE	TW	Viva	
Level - 3	01CT0601	Digital Signal Processing	PCC-ICT	PC	3	0	2	5	4	50	30	20	25	25	150
Level - 3	01CT0602	Wireless Communication and Mobile Computing	PCC-ICT	PC	3	0	2	5	4	50	30	20	25	25	150
Level - 3	01IT0601	Software Engineering	PCC-ICT	PC	3	0	2	5	4	50	30	20	25	25	150
Level - 3	01CT0603	Reverse Engineering	PROJ-ICT	EE	0	0	2	2	1	0	0	0	50	50	100
Level - 3	01CT06XX	Department Elective - 2	PEC-ICT	PEC	4	0	2	6	5	50	30	20	25	25	150
Level - 3	01CT06XX	Department Elective - 3	PEC-ICT	PEC	4	0	2	6	5	50	30	20	25	25	150
Level - 3	01CR0601	Business Benchmark	HSMC	UC	1	0	0	1	1	0	0	0	50	50	100
Level - 3	01GS0601	Cognitive Aptitude -2	MC	NCC	2	0	0	2	0	0	0	0	0	0	0
Total					20	0	12	32	24	150	90	100	225	225	950

Department Elective – 2,3

Level - 3	01CT0604	Embedded System Design
Level - 3	01CT0605	RF and Microwave Communication
Level - 3	01CT0606	Advanced Computer Networks
Level - 3	01CT0607	Machine learning
Level - 3	01CT0608	Compiler Design
Level - 3	01CT0609	VLSI Designs
Level - 3	01CT0610	Satellite Communication
Level - 3	01CT0611	Cloud Computing

Level - 3	01CT0612	Data Warehousing and Data mining
Level - 3	01CT0613	.NET Technology

B. Tech. Year IV, Sem VII															
Level	Subject Code	Subject Name	Category	Category	Teaching Scheme (Hours)			Total	Credits	Examniation Scheme					Total Marks
					L	T	P			Theory marks			Practical Marks		
										ESE	IA	CSE	TW	Viva	
Level - 4	01CT0701	Cryptography and Network Security	PCC-ICT	PC	3	0	2	5	4	50	30	20	25	25	150
Level - 4	01CT0702	Information Theory and Coding	PCC-ICT	PC	3	0	2	5	4	50	30	20	25	25	150
Level - 4	01CT0703	Artificial intelligence	PCC-ICT	PC	3	0	2	5	4	50	30	20	25	25	150
Level - 4	01CT0704	Management Information System	HSMC	GN-UE	3	0	0	3	3	50	30	20	0	0	100
Level - 4	01CT07XX	Department Elective - 4	PEC-ICT	PEC	4	0	2	6	5	50	30	20	25	25	150
Level - 4	01CT07XX	Department Elective - 5	PEC-ICT	PEC	4	0	2	6	5	50	30	20	25	25	150
		Total			20	0	10	30	25	300	180	120	125	125	850

Department Elective - 4,5		
Level - 4	01CT0705	Digital Design using Verilog
Level - 4	01CT0706	Computer Vision
Level - 4	01CT0707	Multimedia computing
Level - 4	01CT0708	Big Data Analytics
Level - 4	01CT0709	Advance Java
Level - 4	01CT0710	Embedded Operating System
Level - 4	01CT0711	Wireless System Design
Level - 4	01CT0712	Internet of Things
Level - 4	01CT0713	Programming for Application Development
Level - 4	01CT0714	Human Computer Interaction

B. Tech. Year IV, Sem VIII															
Level	Subject Code	Subject Name	Category	Category	Teaching Scheme (Hours)			Total	Credits	Examniation Scheme					Total Marks
					L	T	P			Theory marks			Practical Marks		
										ESE	IA	CSE	TW	Viva	
Level - 4	01CT0801	Project	PROJ-ICT	PROJ-ICT	0	0	28	28	14	0	0	0	100	100	200
Level - 4	01CT08XX	Department Elective - 6	PEC-ICT	PEC-ICT	3	0	0	3	3	50	30	20	25	25	150
		Total			3	0	28	31	17	50	30	20	125	125	350

Department Elective - 6 (MOOC)		
Level - 4	01CT0802	Cross-Platform Mobile Development
Level - 4	01CT0803	SEO and Digital Marketing
Level - 4	01CT0804	VLSI Physical Design
Level - 4	01CT0805	Data Visualization
Level - 4	01CT0806	Advance Database
Level - 4	01CT0807	Network Administration
Level - 4	01CT0808	FPGA Based System Design
Level - 4	01CT0809	Advance C++ Programming
Level - 4	01CT0810	Game Development
Level - 4	01CT0811	Introduction to DevOps Tools
Level - 4	01CT0812	Deep Learning for Computer Vision
Level - 4	01CT0813	Embedded Linux
Level - 4	01CT0814	Spread Spectrum communications
Level - 4	01CT0815	Advance Web Technology



Marwadi
University

Faculty of Technology

Curriculum

2018-22

M.Tech in

Mechanical Engineering



Master of Technology
Mechanical Engineering - Sem -1 - 2018-19
M.Tech Teaching and Examination Scheme

M. Tech. Year I, Sem I							Evaluation Scheme					
Subject Code	Subject Name	Category	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
			Theory	Tutorial	Practical		ESE(E)	IA	CSE	Viva (V)	Term work (TW)	
01RM0101	Research Methodology	PC	2	2	0	3	50	30	20	0	0	100
01CA0101	Computational Methods in Mechanical Engineering	PC	3	2	0	4	50	30	20	25	25	150
01CA0102	Advanced Machine Design	PC	4	0	2	5	50	30	20	25	25	150
01CA0103	Computer Aided Design	PC	4	0	2	5	50	30	20	25	25	150
01CA010*	Program Elective-I (Advanced Materials Processing Techniques)	PE	4	0	2	5	50	30	20	25	25	150
	Total		17	4	6	22	250	150	100	100	100	700
Elective-I												
01CA0104	Advanced Material Processing Techniques											
01CA0105	Design for Manufacturing and Assembly											
01CA0106	Advanced Stress Analysis											



Master of Technology
Mechanical Engineering - Sem-2 - 2018-19
M.Tech Teaching and Examination Scheme

M. Tech. Year I, Sem II							Evaluation Scheme					
Subject Code	Subject Name	Category	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
			Theory	Tutorial	Practical		ESE(E)	IA	CSE	Viva (V)	Term work (TW)	
01CA0201	Computer Aided Manufacturing	PC	3	0	2	4	50	30	20	25	25	150
01CA0202	Computer Aided Production Management	PC	3	0	2	4	50	30	20	25	25	150
01CA0203	Finite Element Analysis	PC	3	0	2	4	50	30	20	25	25	150
01CA0204	Optimization Techniques	PC	3	0	2	4	50	30	20	25	25	150
01CA020*	Program Elective-II (Oil Hydraulics and Paematics)	PE	3	0	2	4	50	30	20	25	25	150
	Total		15	0	10	20	250	150	100	125	125	750
Elective-II												
01CA0205	Oil Hydraulics and Pneumatics											
01CA0206	Noise and Vibration											
01CA0207	Multibody dynamics											



Master of Technology
Mechanical Engineering - Sem-3 - 2019-20
M.Tech Teaching and Examination Scheme

M. Tech. Year II, Sem III							Evaluation Scheme					
Subject Code	Subject Name	Category	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
			Theory	Tutorial	Practical		ESE(E)	IA	CSE	Viva (V)	Term work (TW)	
01CA0301	Seminar	PC	0	0	4	2	0	0	0	75	25	100
01CA0302	Dissertation Phase-I	PROJ	0	0	20	10	0	0	0	200	200	400
01CA030*	Program Elective-III	PE	3	0	2	4	50	30	20	25	25	150
	Total		3	0	26	16	50	30	20	300	250	650
Elective-III												
01CA0303	Robotics Engineering											
01CA0304	Mechanics and Manufacturing of Composites											
01CA0305	Rapid prototyping and Tooling											



Master of Technology Mechanical Engineering - Sem-4- 2019-20 M.Tech Teaching and Examination Scheme

M. Tech. Year II, Sem IV							Evaluation Scheme					
Subject Code	Subject Name	Category	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
			Theory	Tutorial	Practical		ESE(E)	IA	CSE	Viva (V)	Term work (TW)	
01CA0401	Seminar	PC	0	0	4	2	0	0	0	75	25	100
01CA0402	Dissertation Phase-II	PROJ	0	0	20	10	0	0	0	200	200	400
01CA040*	Program Elective-IV (IOT for Mfe)	PE	3	0	2	4	50	30	20	25	25	150
Total			3	0	26	16	50	30	20	300	250	650
Elective-IV												
01CA0403	IoT for Manufacturing											
01CA0404	Pressure Vessel and Piping Design											
01CA0405	Micro and Nano Manufacturing											



Master of Technology - Sem-1- 2020-21 Mechanical Engineering M.Tech Teaching and Examination Scheme

M. Tech. Year I, Sem I							Evaluation Scheme					
Subject Code	Subject Name	Category	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
			Theory	Tutorial	Practical		ESE(E)	IA	CSE	Viva (V)	Term work (TW)	
01RM0101	Research Methodology	PC	2	2	0	3	50	30	20	0	0	100
01CA0101	Computational Methods in Mechanical Engineering	PC	3	2	0	4	50	30	20	25	25	150
01CA01*/01TH01*	Program Elective-I	PC	4	0	2	5	50	30	20	25	25	150
01CA01*/01TH01*	Program Elective-II	PC	4	0	2	5	50	30	20	25	25	150
01CA01*/01TH01*	Program Elective-III	PE	4	0	2	5	50	30	20	25	25	150
Total			17	4	6	22	250	150	100	100	100	700
Elective-I			Elective-II			Elective-III						
01CA0102	Advanced Machine Design	01CA0103	Computer Aided Design	01CA0104	Advanced Material Processing Techniques							
01TH0102	Advanced Thermodynamics and Heat Transfer	01TH0104	Advanced Fluid Mechanics	01TH0106	Design of Heat Exchanger							



Master of Technology - Sem-2- 2020-21 Mechanical Engineering M.Tech Teaching and Examination :

M. Tech. Year I, Sem II							Evaluation Scheme					
Subject Code	Subject Name	Category	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
			Theory	Tutorial	Practical		ESE(E)	IA	CSE	Viva (V)	Term work (TW)	
01CA020*/ 01TH020*	Program Elective-I	PC	3	0	2	4	50	30	20	25	25	150
01CA020*/ 01TH020*	Program Elective-II	PC	3	0	2	4	50	30	20	25	25	150
01CA020*/ 01TH020*	Program Elective-III	PC	3	0	2	4	50	30	20	25	25	150
01CA020*/ 01TH020*	Program Elective-IV	PC	3	0	2	4	50	30	20	25	25	150
01CA020*/ 01TH020*	Program Elective-V	PE	3	0	2	4	50	30	20	25	25	150
Total			15	0	10	20	250	150	100	125	125	750
Elective-I			Elective-II			Elective-III						
01CA0102	Computer Aided Manufact	01CA0103	Computer Aided Pro	01CA0104	Finite Element Analysis							
01TH0102	Experimental Techniques and Instrumentation In Thermal Engineering	01TH0104	Computational Fluid Dynamics	01TH0106	Solar Energy Engineering							
Elective-IV			Elective-V									
01CA0102	Optimization Techniques	01CA0102	Oil Hydraulics and Pneumatics									
01TH0102	Design and Optimization of the Thermal Systems	01TH0102	Energy Conservation & Management									



Master of Technology - Sem-1- 2021-22

Mechanical Engineering

M.Tech Teaching and Examination Scheme

M. Tech. Year I, Sem I							Evaluation Scheme					
Subject Code	Subject Name	Category	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
			Theory	Tutorial	Practical		ESE(E)	IA	CSE	Viva (V)	Term work (TW)	
01CA11*/01TH01*	Program Elective-I	PC	3	0	0	3	50	30	20	0	0	100
01CA11*/01TH01*	Program Elective-II	PC	3	0	0	3	50	30	20	0	0	100
01CA11*/01TH01*	Program Elective-III	PE	3	0	0	3	50	30	20	0	0	100
01CA01*/01TH11*	Program Elective-IV	PE	3	0	0	3	50	30	20	0	0	100
01CA11*/01TH11*	Program Elective-V	LC	0	0	4	2	0	0	0	50	50	100
01CA11*/01TH11*	Program Elective-V	LC	0	0	4	2	0	0	0	50	50	100
01OE900*	Open Elective	OEC	3	0	0	3	0	0	0	50	50	100
01AU900*	Audit Course	AUC	2	0	0	0	0	0	0	50	50	100
Total			12	0	8	16	200	120	80	100	100	600
Elective-I			Elective-II			Elective-III						
01CA1101	Program Core-I (CAD)	01CA1102	Program Core-II (AMD)	01CA1103	Lab I: Program Core (CAD Lab)							
01TH0102	Program Core-I (Advanced Heat Transfer)	01TH0104	Program Core-II (Advanced Fluid Mechanics)	01TH0106	Lab I: Program Core (Heat Exchanger Design)							
Elective-IV			Elective-V			Elective-VI						
01CA0104	Lab-II: Program Core (AMD Lab)	01CA1111	Computational Methods in Mechanical Engg.	01CA1121	Advanced Material Processing Techniques							
01TH1104	Lab-II: Program Core (Thermal Engg. Lab)	01TH1111	Computational Methods in Mechanical Engineering	01TH1121	Advanced Refrigeration Engineering							
List of Open Electives and Audit Courses												
Subject Code	Subject Name	Category	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
			Theory	Tutorial	Practical		ESE(E)	IA	CSE	Viva (V)	Term work	
01OE900*	Open Elective	OEC	3	0	0	3	0	0	0	50	50	100
01AU900*	Audit Course	AUC	2	0	0	0	0	0	0	50	50	100
Code	Open Electives (3 Credits)	Code	Audit course									
01OE9001	Management	01AU9001	English for Technical writings									
01OE9002	Sustainable Energy	01AU9002	Value Education									
01OE9003	Industrial Safety	01AU9003	Constitution of India									
01OE9004	Programming for everyone	01AU9004	Stress Management by Yoga									
01OE9005	Climatic Change and Sustainable	01AU9005	Sanskrit for Technical Knowledge									



Master of Technology - Sem-2- 2021-22

Mechanical Engineering

M.Tech Teaching and Examination Scheme

M. Tech. Year I, Sem II							Evaluation Scheme					Total Marks
Subject Code	Subject Name	Category	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		
			Theory	Tutorial	Practical		ESE(E)	IA	CSE	Viva (V)	Term work (TW)	
01CA020*/ 01TH020*	Program Elective-I	PC	3	0	0	3	50	30	20	0	0	100
01CA020*/ 01TH020*	Program Elective-II	PC	3	0	0	3	50	30	20	0	0	100
01CA020*/ 01TH020*	Program Elective-III	PE	3	0	0	3	50	30	20	0	0	100
01CA020*/ 01TH020*	Program Elective-IV	PE	3	0	0	3	50	30	20	0	0	100
01CA020*/ 01TH020*	Program Elective-V	LC	0	0	4	2	0	0	0	50	50	100
01CA020*/ 01TH020*	Program Elective-VI	LC	0	0	4	2	0	0	0	50	50	100
01SL1210	Research Methodology & IPR	PC	2	0	0	2	0	0	0	25	25	50
Total			14	0	8	18	200	120	80	125	125	650

Elective-I		Elective-II		Elective-III	
01CA1201	Program Core-III (CAM)	01CA1202	Program Core-IV (FEM)	01CA1203	Lab III: Program Core (CAM Lab)
01TH1201	Program Core-III (Design and Optimization of Thermal)	01TH1202	Program Core-IV (Solar Energy Engg.)	01TH1203	Lab III: Program Core (HVAC Lab)
Elective-IV		Elective-V		Elective-VI	
01CA1204	Lab-IV: Program Core (FEM Lab)	01CA1211	Computer Aided Production Management	01CA1221	Optimization Techniques
01TH1204	Lab-IV: Program Core (Computational Fluid Flow & Heat Transfer Lab)	01TH1211	Energy Conservation & Management	01TH1221	Computational Fluid Dynamics


 Head of the Department
 Mechanical Engineering
 Marwadi University

B. Tech. Year I, Sem I

Subject Code	Subject Name	Category	Teaching Scheme (Hours)				Credits	Theory Marks				Tutorial/ Practical Marks		Total Marks
			Theory		Practical			ESE(E)	IA	CSE	Viva (V)	Term work (TW)		
			Theory	Tutorial	Practical									
01MA2101	Differential and Integral Calculus	BSC	3	2	0	5	50	30	20	25	25	150		
01CI1101	Elements of Civil Engineering	ESC	3	0	2	4	50	30	20	25	25	150		
01ME1101	Elements of Mechanical Engineering	ESC	3	0	2	4	50	30	20	25	25	150		
01GS2101	Engineering Physics / Chemistry	BSC	3	0	2	4	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		
01EN1101	Basics of Environmental Studies	MC NC	2	0	0	0	50	30	20	-	-	100		
01CR1103	Value Education	HSMC	2	0	0	0	-	-	-	50	50	100		
01GS0103	Indian Constitution	MC NC	1	0	0	0	-	-	-	-	-	-		
Total		27	19	2	6	19	250	180	120	175	175	900		

01AU0101 N.C.C.-1

Audit Course

1 0 2

2

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B. Tech. Year I, Sem II

Subject Code	Subject Name	Category	Teaching Scheme (Hours)				Credits	Theory Marks				Tutorial/ Practical Marks		Total Marks
			Theory		Practical			ESE(E)	IA	CSE	Viva (V)	Term work (TW)		
			Theory	Tutorial	Practical									
01MA0103	Matrix Algebra and Vector Space	BSC	3	2	0	5	50	30	20	25	25	150		
01CE1101	Computer Programming	ESC	4	0	2	5	50	30	20	25	25	150		
01ME1102	Engineering Graphics	ESC	3	0	4	5	50	30	20	25	25	150		
01EE1101	Basics of Electrical & Electronics Engineering	ESC	4	0	2	5	50	30	20	25	25	150		
01ME1104	Workshop	ESC	0	0	2	1	-	-	-	50	-	50		
01PY0101	Physical Education/Sports/Yoga	MC	0	0	2	0	-	-	-	-	-	-		
Total		28	14	2	12	21	200	120	80	100	150	650		

01AU0102 N.C.C.-2

Audit Course

1 0 2

2

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Note - Students opting for N.C.C. will get credit on and above regular credits earned in the program.

B. Tech. Year II, Sem III

Subject Code	Subject Name	Category	Teaching Scheme (Hours)			Credits	Theory Marks				Tutorial/ Practical Marks		Total Marks
			Theory	Tutorial	Practical		ESE(E)	IA	CSE	Viva (V)	Term work (TW)		
												Evaluation Scheme	
01MA0301	Applied Differential Equations	BSC	4	2	0	5	30	20	25	25	150		
01CI0301	Mechanics of Solids	PCC-CE	4	0	2	5	30	20	25	25	150		
01CI0302	Building Planning & Drawing	PCC-CE	2	0	2	3	30	20	25	25	150		
01CI0303	Surveying	PCC-CE	2	0	2	3	30	20	25	25	150		
01CI0304	Fluid Mechanics	PCC-CE	4	0	2	5	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 Services - I	PROJ-CE	0	0	2	1	-	-	25	25	50		
	Total	30	16	2	12	23	250	150	175	175	850		

B. Tech. Year II, Sem IV

Subject Code	Subject Name	Category	Teaching Scheme (Hours)			Credits	Theory Marks				Tutorial/ Practical Marks		Total Marks
			Theory	Tutorial	Practical		ESE(E)	IA	CSE	Viva (V)	Term work (TW)		
												Evaluation Scheme	
01CR0401	Professional Ethics	HSMC	1	0	0	1	-	-	50	50	100		
01CI1401	Materials, Testing & Evaluation	PCC-CE	3	0	4	5	30	20	25	25	150		
01CI0402	Structural Analysis-I	PCC-CE	4	2	0	5	30	20	25	25	150		
01CI1403	Basics of Geology & Geotechnical Engineering	PCC-CE	3	0	2	4	30	20	25	25	150		
01CI1404	Advanced Surveying & Geomatics	PCC-CE	3	0	4	5	30	20	25	25	150		
01CI1405	Software Applications in Civil Engineering - II	LC-CE	0	0	2	1	-	-	25	25	50		
01CI0408	Creativity, Problem Solving and Innovation	HSMC	0	0	2	1	-	-	20	-	50		
	Total	30	14	2	14	22	200	150	195	175	800		



B.Tech. Draft Teaching and Examination Scheme Semester V & VI

Subject Code	Subject Name	Category	Teaching Scheme (Hours)				Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
			Theory		Practical			ESE(E)	IA	CSE	Viva (V)	Term work (TW)	
			Theory	Tutorial	Practical	Practical							
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	LE-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

Subject Code	Subject Name	Category	Teaching Scheme (Hours)				Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
			Theory		Practical			ESE(E)	IA	CSE	Viva (V)	Term work (TW)	
			Theory	Tutorial	Practical	Practical							
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
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Signature

B.Tech. Draft Teaching and Examination Scheme Semester VII & VIII

B. Tech. Year IV, Sem VII

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)	
01C10701	Design of Concrete Structure	PCC-CE	4	2	0	5	50	30	20	25	25	150
01C10702	Irrigation Engineering	PCC-CE	2	0	2	3	50	30	20	25	25	150
01C10703	Construction Project Management	PCC-CE	3	0	2	4	50	30	20	25	25	150
01C10704	Project - I	PROJ-CE	0	0	10	10	-	-	-	50	50	100
	Department Elective - II	PEC-CE	3	0	2	4	50	30	20	25	25	150
	Total	30	12	2	16	26	200	120	80	150	150	700

Department Elective - II

01C10705	Earthquake Engineering
01C10706	Smart Cities
01C10707	Modern Transportation Systems
01C10708	Environment Impact Assessment

B. Tech. Year IV, Sem VIII

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)	
01C10801	Foundation Engineering	PCC-CE	3	0	2	4	50	30	20	25	25	150
01C10802	Design of Steel Structure	PCC-CE	3	2	0	4	50	30	20	25	25	150
01C10803	Project - II	PROJ-CE	0	0	10	10	-	-	-	50	50	100
	Department Elective - III	PEC-CE	3	0	2	4	50	30	20	25	25	150
	Department Elective - IV	PEC-CE	2	0	2	3	50	30	20	25	25	150
	Total	29	11	2	16	25	200	120	80	150	150	700

Department Elective - III

01C10804	Advanced Structural Analysis
01C10805	Rehabilitation & Retrofitting of Structures
01C10806	Bridge Engineering
01C10807	Solid Waste Management

Department Elective - IV

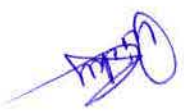
01C10808	Sustainable Building Technologies
01C10809	Prestressed Concrete Technology
01C10810	Infrastructure Engineering & Management
01C10811	Design of Formwork
01C10812	Masonry Structures

Teaching and Examination Scheme

W.E.F. 2017-18

B. Sc. Year I (Semester-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)	
02CY0101	CHEMISTRY -I	BS	4	0	2	5	50	30	20	25	25	150
02CY0102	FUNDAMENTAL CHEMISTRY - I	BS	4	0	2	5	50	30	20	25	25	150
02ES0131	ENVIRONMENTAL STUDIES	BS	3	0	2	4	50	30	20	25	25	150
02PY0132	PHYSICS -I	BS	4	0	2	5	50	30	20	25	25	150
02SL010X	ENGLISH (Elective)	BS	2	0	0	2	0	30	20	25	25	100
Total			17	0	08	21	200	150	100	125	125	700

Subject Code	English Elective	Teaching Scheme (Hours per week)		Evaluation Scheme						Total Marks
		Theory		ESE	IA	CSE	Viva	Term Work		
02SL0102	READING AND WRITING FOR SCIENCE	2 Hours		00	30	20	25	25	100	
02SL0103	SPEAKING AND PRESENTATION	2 Hours		00	30	20	25	25	100	



Teaching and Examination Scheme

W.E.F. 2017-18

B. Sc. Year I (Semester-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)		
02CY0101	CHEMISTRY-I	BS	4	0	2	5	50	30	20	25	25	150
02CY0102	FUNDAMENTAL CHEMISTRY -I	BS	4	0	2	5	50	30	20	25	25	150
02ES0131	ENVIRONMENTAL STUDIES	BS	3	0	2	4	50	30	20	25	25	150
02PY0132	PHYSICS-I	BS	4	0	2	5	50	30	20	25	25	150
02SL010X	ENGLISH (Elective)	BS	2	0	0	2	0	30	20	25	25	100
Total			17	0	08	21	200	150	100	125	125	700

Subject Code	English Elective	Teaching Scheme (Hours per week)		Evaluation Scheme						Total Marks
		Theory	ESE	IA	CSE	Viva	Term Work	Term Work		
02SL0102	READING AND WRITING FOR SCIENCE	2 Hours	00	30	20	25	25	25	100	
02SL0103	SPEAKING AND PRESENTATION	2 Hours	00	30	20	25	25	25	100	



SKILLS			
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Teaching and Examination Scheme

W.E.F. 2017-18

B. Sc. Year I (Semester-II)

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)		
02CY0151	CHEMISTRY –II	BS	4	0	2	5	50	30	20	25	25	25	150
02CY0152	FUNDAMENTAL CHEMISTRY –II	BS	4	0	2	5	50	30	20	25	25	25	150
02MA0181	CALCULUS AND STATISTICS	BS	4	2	0	5	50	30	20	25	25	25	150
02PY0182	PHYSICS –II	BS	4	0	2	5	50	30	20	25	25	25	150
02SL015X	ENGLISH (Elective)	BS	2	0	0	2	0	30	20	25	25	25	100
Total			18	2	6	22	200	150	100	125	125	125	700

Evaluation Scheme

Subject Code	English Elective	Teaching Scheme (Hours per week)		Evaluation Scheme					Total Marks
		Theory	ESE	IA	CSE	Viva	Term Work		
02SL0152	ENGLISH THROUGH FICTION	2 Hours	00	30	20	25	25	25	100
02SL0153	ENGLISH THROUGH MOVIES	2 Hours	00	30	20	25	25	25	100



Teaching and Examination Scheme
B. Sc. Year II (Semester-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)/Practicals	
02CY0201	CHEMISTRY-III	BS	5	0	2	6	50	30	20	25	25	150
02CY0202	FUNDAMENTAL CHEMISTRY-III	BS	5	0	2	6	50	30	20	25	25	150
02PY0231	PHYSICS-III	BS	4	0	2	5	50	30	20	25	25	150
01CR0301	CAREER READINESS PROGRAM	BS	2	0	0	2	0	0	0	50	50	100
02SL0201	ENGLISH THROUGH NON-FICTION	BS	2	0	0	2	0	30	20	25	25	100
	Total		18	0	06	21	150	120	80	125	125	650



Teaching and Examination Scheme
B. Sc. Year II (Semester-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) / Practicals		
02CY0251	CHEMISTRY -IV	BS	5	0	2	6	50	30	20	25	25	150	
02CY0252	FUNDAMENTAL CHEMISTRY -IV	BS	5	0	2	6	50	30	20	25	25	150	
02MB0253	BASIC BIOCHEMISTRY	BS	5	0	2	6	50	30	20	25	25	150	
02CR0401	CRP	BS	2	0	0	2	-	-	-	50	50	100	
02SI0251	ENGLISH FOR WORKPLACE	BS	2	0	0	2	-	30	20	25	25	100	
	Total		19	0	06	22	150	120	80	125	125	650	



B. Sc. Year III (Semester-V)

Subject Code	Subject Name	Type	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
			Theory	Tutorial	Practical		ESE(E)	Mid Sem	CSE	Viva (V)	Term work (TW)/Practicals	
02CY0301	INORGANIC & INDUSTRIAL CHEMISTRY	BS	5	0	2	6	50	30	20	25	25	150
02CY0302	ORGANIC CHEMISTRY	BS	5	0	2	6	50	30	20	25	25	150
02CY0303	PHYSICAL CHEMISTRY	BS	5	0	2	6	50	30	20	25	25	150
02CY0304	ANALYTICAL CHEMISTRY	BS	5	0	2	6	50	30	20	25	25	150
Total			20	0	8	24	200	120	80	100	100	600

Evaluation Scheme
B. Sc. Year III (Semester-VI)

Subject Code	Subject Name	Type	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
			Theory	Tutorial	Practical		ESE(E)	Mid Sem	CSE	Viva (V)	Term work (TW)/Practicals	
02CY0351	ADVANCED INORGANIC & INDUSTRIAL CHEMISTRY	BS	5	0	2	6	50	30	20	25	25	150
02CY0352	ADVANCED ORGANIC CHEMISTRY	BS	5	0	2	6	50	30	20	25	25	150
02CY0353	ADVANCED PHYSICAL CHEMISTRY	BS	5	0	2	6	50	30	20	25	25	150
02CY0354	ANALYTICAL SPECTROSCOPIC TECHNIQUES	BS	5	0	2	6	50	30	20	25	25	150
Total			20	0	8	24	200	120	80	100	100	600

Evaluation Scheme


Head,

 Department of Chemistry,
Marwadi University, Rajkot

MARWADI UNIVERSITY

TEACHING & EXAMINATION SCHEME FOR B TECH PROGRAMME IN ELECTRICAL ENGINEERING (CBCS)

Levels	Course Code	Course Title	Teaching Scheme					Credit	Examination Scheme					Total
			Contact Hours			ESE(E)	Theory		Practical		Term work (TW)			
			Theory	Practical	Tutorial		Total		IA	CSE		Viva (V)		
Sem-1	01EE1109	Basic Electrical Engineering	4	0	2	6	5	50	30	20	25	25	150	
	01EE1110	Engineering Workshop	0	2	0	2	2	0	0	0	50	50	100	
	01EN1109	Environmental Science	2	0	0	2	0	50	30	20	0	0	100	
	01GS1109	Physics	3	0	2	5	4	50	30	20	25	25	150	
	01MA1109	Mathematics I	4	1	0	5	5	50	30	20	25	25	150	
	01ME1109	Basic Mechanical Engineering	3	0	2	5	4	50	30	20	25	25	150	
	AU0001	National Cadet Cops-I/ National Social Service	0	0	2	2	0	0	0	0	0	0	0	
	01GS0103	Indian Constitutions	2	0	0		0	0	0	0	25	25	50	
	01PY0101	Physical Education/Sports/Yoga	0	0	2	2	0	0	0	0	25	25	50	
						29	20						900	
Sem-2	01CE1101	Computer Programming	4	0	2	6	5	50	30	20	25	25	150	
	01EC1109	Basic Electronics	3	0	2	5	4	50	30	20	25	25	150	
	01MA1110	Mathematics II	4	1	0	5	5	50	30	20	25	25	150	
	01ME1110	Engineering Graphics & Drawing	2	0	4	6	4	50	30	20	25	25	150	
	01SL1109	English	2	0	0	2	2	0	30	20	25	25	100	
	AU0002	National Cadet Cops-II/ National Social Service	0	0	2	2	0	0	0	0	25	25	50	
	01CR1102	Value Education	2	0	0	2	0	0	0	0	25	25	50	
						28	20						800	

	01MA1303	Applied Mathematics for Electrical Engineering	3	2	0	5	5	30	20	25	25	150	
	01EE1301	Electrical Circuit Analysis	4	0	2	6	5	30	20	25	25	150	
	01EE1302	Analog and Digital Electronics	3	0	2	5	4	30	20	25	25	150	
	01EE1303	Electrical Machines-I	3	0	2	5	4	30	20	25	25	150	
	01EE1304	Electrical and Electronic Instruments	2	0	2	4	3	30	20	25	25	150	
	01SL1401	Communication Skill for Engineers	2	0	0	2	2	0	0	25	25	50	
	01EE1305	Design Thinking and Problem Solving Skills	0	0	2	2	1	0	0	25	25	50	
Level 2	01EE1401	Power System-I	3	1	0	4	4	30	20	0	0	100	
	01EE1402	Power Electronics	3	0	2	5	4	30	20	25	25	150	
	01EE1403	Control System Engineering	4	0	2	6	5	30	20	25	25	150	
	01EE1404	Field Theory I	3	0	1	3	3	30	20	0	0	100	
	01EE1405	Field Theory Lab	0	0	2	2	1	0	0	25	25	50	
	01EE0408	Creativity, Problem Solving and Innovation	0	0	2	2	1	30	0	20	0	50	
		Institute Elective-I	3	0	0	3	3	30	20	0	0	100	
						54	45						1550
		01CR1502	Professional Ethics	2	0	0	2	2	0	0	50	50	100
		01GS1501	Cognitive Aptitude-I	2	0	0	2	0	0	0	0	0	0
	01EE1501	Power System-II	3	0	2	5	4	30	20	25	25	150	
	01EE1502	Signals and Systems	4	0	2	6	5	30	20	25	25	150	
	01EE1503	Electrical Machines- II	3	0	2	5	4	30	20	25	25	150	
		Professional Elective-I	3	0	0	3	3	30	20	0	0	100	
		Inst Elective-II	3	0	0	3	3	30	20	0	0	100	
Level 3	01GS1601	Cognitive Aptitude-II	2	0	0	2	0	0	0	0	0	0	
	01EE1601	Solid State Drives	3	0	2	5	4	30	20	25	25	150	

01EE1602	Microcontroller & Embedded Systems	3	0	2	5	4	50	30	20	25	25	150
01EE1603	Interconnected Power Systems	4	0	2	6	5	50	30	20	25	25	150
01EE1604	MOOC/ SEMINAR	0	0	4	4	2	0	0	0	25	25	50
	Professional Elective-II	3	0	0	3	3	50	30	20	0	0	100
	Institute Elective-III	3	0	0	3	3	50	30	20	0	0	100
					54	42	500	300	225	225	225	1450
01EE1701	Summer Internship	0	0	0	0	0	0	0	0	0	0	0
01EE1702	Mini Project	0	0	4	4	2	0	0	0	25	25	50
01EE1703	Switchgear and Protection	3	0	2	5	4	50	30	20	25	25	150
01EE1704	Electrical Machine Design	3	0	0	3	3	50	30	20	0	0	100
01EE1705	Electrical Machine Design Laboratory	0	0	2	2	1	0	0	0	25	25	50
01EE1711	DSP based control of Power Electronic Systems	0	0	4	4	2	0	0	0	25	25	50
	Professional Elective-III	3	0	0	3	3	50	30	20	0	0	100
	Professional Elective-IV	3	0	0	3	3	50	30	20	0	0	100
	Professional Elective-V	3	0	0	3	3	50	30	20	0	0	100
01EE1801	Project	0	0	30	30	15	0	0	0	100	100	200
					57	36						900

MARWADI UNIVERSITY

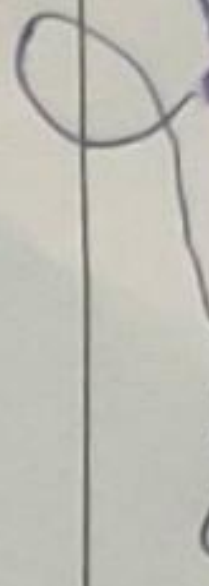
LIST OF ELECTIVES FOR B TECH PROGRAMME IN ELECTRICAL ENGINEERING

Electives for Level 3

	PROGRAMME ELECTIVE 1											
01EE1504	Electric and Hybrid Vehicles		01EE1605									Batteries and Battery Management Systems
01EE1505	Sustainable Energy		01EE1606									Distributed Energy Resources and Energy Storage Systems
01EE1506	Line Commutated and Active Rectifiers		01EE1607									Switch Mode Power Supplies

Head of the Department
Electrical Engineering
Marwadi University

01EE1507	High Voltage Engineering	01EE1608	Power System Practice and Design
Electives for Level 4			
PROGRAMME ELECTIVE 3		PROGRAMME ELECTIVE 4	
01EE1706	Battery Chargers for Electric Vehicles	01EE1712	Special Machines for Electric Vehicles
01EE1707	Power Electronic Converters for RES	01EE1713	Control Algorithms for PV and Wind Energy Systems
01EE1708	Converter Control	01EE1714	High Power Converter and Semiconductor Devices
01EE1709	Power System Operation and Control	01EE1715	FACTS & HVDC
01EE1710	Power Quality Management	01EE1716	Smart Grid
01EE1711	Restructured Power System		
01EE1717	Industrial Automation		
01EE1718	Advance control system		
01EE1719	Energy Audit		
Institute Electives for Level 2			
01CE1432	Object Oriented Programming with Java		
01EC1431	Fundamentals of Robotics		
01AE1409	Automobile Engineering		
01CE1431	Computer Networks		
01ME0411	Power Plant Engineering		
Institute Electives for Level 3			
	Python Programming		Data Structure and Algorithms
	Introduction to HDL		Artificial Intelligence
	Analog & Digital Communication		Big Data Analysis
			Internet of Things


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 Marwadi University

Marwadi University
Faculty of Management Studies
Bachelor in Commerce - 2021-24
TEACHING AND EVALUATION SCHEME

Semester I

Course Code	Course Name	Credits	Internal Marks		End Term Exam (Total 50)			Total Marks
			CSE	IA	Theory	Practical / Viva	Term Work	
Compulsory Courses								
04BC1101	Financial Accounting-I	4	20	30	50	0	0	100
04BC0104	Microeconomics	4	20	30	50	0	0	100
04BC0105	Business Organisation and Management	4	20	30	50	0	0	100
04BC0106	Business Environment	4	20	30	50	0	0	100
(Chose any one)								
04SL0102 / 04SL0103	Reading and Writing for Business / Speaking and Presentation Skills	2	20	30	0	25	25	100
General Electives (any one)								
04BC0121	Currency, Banking and Exchange	4	20	30	50	0	0	100
04BC0122	Human Resource Management	4	20	30	50	0	0	100
04BC0123	Tourism and Travel Management	4	20	30	0	50	0	100
Total Semester Credits		22						

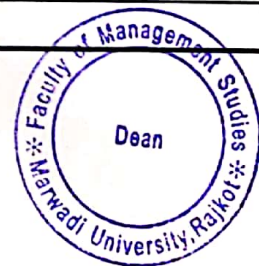
Semester II

Course Code	Course Name	Credits	Internal Marks		End Term Exam (Total 50)			Total Marks
			CSE	IA	Theory	Practical / Viva	Term Work	
Compulsory Courses								
04BC1201	Financial Accounting-II	4	20	30	50	0	0	100
04BC0202	Macroeconomics	4	20	30	50	0	0	100

04BC0203	Computer Essentials and Applications of Spreadsheet	4	20	30	0	25	25	100
04BC1205	Business Statistics	4	20	30	50	0	0	100
04BC0206	Environmental Studies	2	20	30	50	0	0	100
(Chose any one)								
04SL0152/ 04SL0153	English for Workplace/ English through Movies	2	20	30	0	25	25	100
General Electives (any one)								
04BC0221	Indian Financial System	4	20	30	50	0	0	100
04BC0222	Business Mathematics	4	20	30	50	0	0	100
04BC0223	Indian Economy	4	20	30	0	50	0	100
Total Semester Credits		24						
Semester III								
Course Code	Course Name	Credits	Internal Marks		End Term Exam (Total 50)			Total Marks
			CSE	IA	Theory	Practical/ Viva	Term Work	
Compulsory Courses								
04BC1301	Cost Accounting- I	4	20	30	50	0	0	100
04BC1303	Financial Management- I	4	20	30	50	0	0	100
04BC1305	Legal Aspects of Business	4	20	30	50	0	0	100
04BC0308	Taxation- I	4	20	30	50	0	0	100
04BC0309	Business Correspondence	2	20	30	50	0	0	100
General Electives (any one)								
04BC0321	International Business	4	20	30	50	0	0	100
04BC0322	Fundamentals of Stock Markets	4	20	30	50	0	0	100
04BC0323	Public Finance	4	20	30	0	50	0	100
04BC0324	Financial Analysis and Reporting	4	20	30	50	0	0	100
University Elective		3						
Total Semester Credits		25						

Semester IV								
Course Code	Course Name	Credits	Internal Marks		End Term Exam (Total 50)			Total Marks
			CSE	IA	Theory	Practical / Viva	Term Work	
Compulsory Courses								
04BC1401	Cost Accounting- II	4	20	30	50	0	0	100
04BC1403	Financial Management- II	4	20	30	50	0	0	100
04BC0408	Taxation- II	4	20	30	50	0	0	100
04BC0409	Company Law	4	20	30	50	0	0	100
04BC0410	Principles of Marketing	4	20	30	50	0	0	100
General Electives (any one)								
04BC0421	Insurance and Risk Management	4	20	30	50	0	0	100
04BC0422	Production and Operations Management	4	20	30	50	0	0	100
04BC0423	Procedures & Practices in EXIM Mgmt	4	20	30	0	50	0	100
04BC0424	E-Commerce	4	20	30	0	50	0	100
University Elective		3						
Total Semester Credits		27						
Semester V								
Course Code	Course Name	Credits	Internal Marks		End Term Exam (Total 50)			Total Marks
			CSE	IA	Theory	Practical / Viva	Term Work	
Compulsory Courses								
04BC0501	Research Methodology	4	20	30	50	0	0	100
04BC2507	Tally	4	20	30	0	50	0	100
04BC0508	Entrepreneurship	4	20	30	0	50	0	100
Specialization (Choose any one)								
Accounting and Auditing								
04BC0521	Management Accounting	4	20	30	50	0	0	100
04BC0522	Advanced Accounting	4	20	30	50	0	0	100

Finance and Taxation								
04BC0531	Indirect Tax	4	20	30	50	0	0	100
04BC0532	Advanced Financial Management	4	20	30	50	0	0	100
Marketing								
04BC0541	Consumer Behavior	4	20	30	50	0	0	100
04BC0542	Sales Management	4	20	30	50	0	0	100
Total Semester Credits		20						
Semester VI								
Course Code	Course Name	Credits	Internal Marks		End Term Exam (Total 50)			Total Marks
			CSE	IA	Theory	Practical / Viva	Term Work	
Compulsory Courses								
04BC1606	Research Project	4	0	50	0	50	0	100
04BC0607	Auditing	4	20	30	50	0	0	100
04BC0608	Corporate Governance, Ethics and Social Responsibility	2	20	30	0	50	0	100
04BC0609	Fundamentals of Digital Marketing	2	20	30	0	25	25	100
04CR0601	Career Readiness Programme	2	0	0	0	50	50	100
Specialization (Choose any one)								
Accounting and Auditing								
04BC0621	Advanced auditing	4	20	30	50	0	0	100
Finance and Taxation								
04BC0631	Corporate Taxation	4	20	30	50	0	0	100
Marketing								
04BC0641	Retail Marketing	4	20	30	50	0	0	100
Total Semester Credits		18						
Total Programme Credits		136						



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1.2.2 Course Structure of the CBSC Program

Semester wise structure of curriculum

Semester – I						
Subject Code	Category	Subject Name	Teaching Scheme			Credits
			Theory	Tutorial	Practical	
01CE0102	ES-UC	Computer Workshop	0	0	2	1
01EE0101	ES-UC	Elements of Electrical Engineering	3	0	2	4
01GS0101	BS-UC	Physics	3	0	2	4
01MA0101	BS-UC	Engineering Mathematics- I	4	2	0	5
01ME0101	ES-UC	Elements of Mechanical Engineering	3	0	2	4
01PE0101	NCC	Physical Education/Sports/Yoga	0	0	2	1
01SL0101	GN-UE	Communication Skills	2	0	2	3
		Total	15	2	12	22

Semester – II						
Subject Code	Category	Subject Name	Teaching Scheme			Credits
			Theory	Tutorial	Practical	
01CE0101	ES-UC	Computer Programming	3	0	2	4
01CR0101	GN-UC	Career Readiness Program	2	0	0	2
01EC0101	ES-UC	Basics of Electronics Engineering	3	0	2	4
01EC0102	ES-UC	Digital Electronics	3	0	2	4
01EN0101	ES-UC	Basics of Environmental Studies	2	0	0	2
01MA0151	BS-UC	Engineering Mathematics-II	4	2	0	5
01ME0103	ES-UC	Engineering Drawings	2	0	4	4
		Total	19	2	10	25

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Semester – III						
Subject Code	Category	Subject Name	Teaching Scheme			Credits
			Theory	Tutorial	Practical	
01CE0301	PC	Data Structure	4	0	2	5
01CE0302	PC	Database Management System	3	0	2	5
01CE0303	PC	Object Oriented Design and Programming	3	0	2	5
01GS0301	GN-UC	Engineering Management	2	0	0	2
01IT0301	PC	Data Communication and Networking	3	0	2	4
01MA0231	BS-UC	Discrete Mathematics and Graph Theory	4	2	0	5
Total			19	2	8	26

Semester – IV						
Subject Code	Category	Subject Name	Teaching Scheme			Credits
			Theory	Tutorial	Practical	
01CE0401	PC	Operating System	4	0	2	5
01CE0402	PC	Computer Organization and Architecture	3	2	0	4
01CE0403	PC	Object Oriented Programming with Java	4	0	2	5
01CE0404	PC	Mini Project	0	0	2	1
01IT0401	PC	Computer Network	4	0	2	5
01MA0281	IEC	Statistical and Numerical Methods	4	2	0	5
Total			19	4	8	25

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Semester – V						
Subject Code	Category	Subject Name	Teaching Scheme			Credits
			Theory	Tutorial	Practical	
01CE0501	PC	Microprocessor Fundamentals & Programming	3	0	2	4
01CE0502	PC	Advanced Java Programming	4	0	2	5
01CE0503	PC	Design and Analysis of Algorithm	4	0	2	5
01CE0504	PC	Theory of Automata and Formal Languages	3	0	0	3
01CE05XX	PEC	Department Elective - 1	4	0	2	5
01CE0508	EE	Reverse Engineering	0	0	2	1
01IT0502	PC	Seminar	0	0	2	1
Total			18	0	12	24

Department Elective – 1

- 1) 01IT0503 - Advanced Computer Network
- 2) 01CE0506 - Distributed Operating Systems
- 3) 01CE0507 - Image Processing

Semester – VI						
Subject Code	Category	Subject Name	Teaching Scheme			Credits
			Theory	Tutorial	Practical	
01CE0601	PC	Compiler Design	3	0	2	4
01CE0602	PC	.NET Technologies	4	0	2	5
01CE06XX	PEC	Department Elective - 2	4	0	2	5
01CE0606	EE	Design Engineering and Project Management	0	0	2	1
01CR0501	GN-UC	Business Benchmark	1	0	0	1
01IT0601	PC	Software Engineering	3	0	2	4
01IT0602	PC	Web Technology	3	0	2	4
Total			18	0	12	24

Department Elective – 2

- 1) 01CE0603 - Computer Security
- 2) 01CE0604 - Cyber Security
- 3) 01CE0605 - Network Security

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Semester – VII						
Subject Code	Category	Subject Name	Teaching Scheme			Credits
			Theory	Tutorial	Practical	
01CE0701	PC	Mobile Computing	3	0	2	4
01CE0702	PC	Artificial Intelligence	4	0	2	5
01IT0701	PC	Advanced Web Technologies	3	0	2	4
01CE07XX	PEC	Department Elective – 3	4	0	2	5
01CE07XX	PEC	Department Elective – 4	4	0	2	5
01IT0703	PC	Major Project - 1	0	0	2	1
Total			18	0	12	24

Department Elective – 3

- 1) 01CE0703 - iOS Programming
- 2) 01CE0704 - Android Programming
- 3) 01CE0705 - Programming with Python
- 4) 01CE0706 - Advanced .NET Technologies

Department Elective – 4

- 1) 01CE0707 - Data Mining and Information Retrieval
- 2) 01CE0708 - Software Architecture
- 3) 01CE0709 - Computational Intelligence

Semester – VIII						
Subject Code	Category	Subject Name	Teaching Scheme			Credits
			Theory	Tutorial	Practical	
01CE08XX	PEC	Department Elective – 5	4	0	2	5
01CE08XX	PEC	Department Elective – 6	4	0	2	5
01IT0801	PC	Major Project - 2	0	0	18	9
Total			8	0	22	19

Department Elective - 5

- 1) 01CE0801 - Natural Language Processing
- 2) 01CE0802 - Big Data and Analytics
- 3) 01CE0803 - Cloud Computing

Department Elective – 6

- 1) 01CE0804 - Machine Learning
- 2) 01CE0805 - Business Intelligence
- 3) 01CE0806 - Internet of Things

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Semester wise structure of curriculum

Semester – I						
Subject Code	Category	Subject Name	Teaching Scheme			Credits
			Theory	Tutorial	Practical	
01CE0102	ES-UC	Computer Workshop	0	0	2	1
01EE0101	ES-UC	Elements of Electrical Engineering	3	0	2	4
01EC0101	ES-UC	Basics of Electronics Engineering	3	0	2	4
01MA0101	BS-UC	Engineering Mathematics- I	4	2	0	5
01ME0101	ES-UC	Elements of Mechanical Engineering	3	0	2	4
01PE0101	NCC	Physical Education/Sports/Yoga	0	0	2	1
01SL0102	GN-UE	Reading & Writing for Technology	2	0	0	2
01SL0103	GN-UE	Speaking and Presentation Skills	2	0	0	2
Total			15	2	10	21

Semester – II						
Subject Code	Category	Subject Name	Teaching Scheme			Credits
			Theory	Tutorial	Practical	
01CE0101	ES-UC	Computer Programming	3	0	2	4
01CR0101	GN-UC	Career Readiness Program	2	0	0	2
01EC0102	ES-UC	Digital Electronics	3	0	2	4
01EN0101	ES-UC	Basics of Environmental Studies	2	0	0	2
01GS0101	BS-UC	Physics	3	0	2	4
01MA0151	BS-UC	Engineering Mathematics-II	4	2	0	5
01ME0103	ES-UC	Engineering Drawings	2	0	4	4
Total			19	2	10	25

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Semester – III						
Subject Code	Category	Subject Name	Teaching Scheme			Credits
			Theory	Tutorial	Practical	
01CE0301	PC	Data Structure	4	0	2	5
01CE1302	PC	Database Management System	3	0	2	4
01CE1303	PC	Object Oriented Design and Programming	3	0	2	4
01CE0304	EE	Design Thinking and Problem Solving Skills	0	0	2	1
01CR0302	GN-UC	Professional Ethics	1	0	0	1
01IT0301	PC	Data Communication and Networking	3	0	2	4
01MA0231	BS-UC	Discrete Mathematics and Graph Theory	4	2	0	5
		Total	18	2	10	24

Semester – IV						
Subject Code	Category	Subject Name	Teaching Scheme			Credits
			Theory	Tutorial	Practical	
01CE0401	PC	Operating System	4	0	2	5
01CE0402	PC	Computer Organization and Architecture	3	2	0	4
01CE0403	PC	Object Oriented Programming with Java	4	0	2	5
01CE0405	EE	Human Centric Design Approach	0	0	2	1
01IT0401	PC	Computer Network	4	0	2	5
01MA1281	IEC	Statistical and Numerical Methods	3	2	0	4
		Total	18	4	6	24

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Semester – V						
Subject Code	Category	Subject Name	Teaching Scheme			Credits
			Theory	Tutorial	Practical	
01CE0501	PC	Microprocessor Fundamentals & Programming	3	0	2	4
01CE0502	PC	Advanced Java Programming	4	0	2	5
01CE0503	PC	Design and Analysis of Algorithm	4	0	2	5
01CE0504	PC	Theory of Automata and Formal Languages	3	0	0	3
01CE05XX	PEC	Department Elective - 1	4	0	2	5
01CE0508	EE	Reverse Engineering	0	0	2	1
01IT0502	PC	Seminar	0	0	2	1
Total			18	0	12	24

Department Elective – 1

- 1) 01IT0503 - Advanced Computer Network
- 2) 01CE0506 - Distributed Operating Systems
- 3) 01CE0507 - Image Processing

Semester – VI						
Subject Code	Category	Subject Name	Teaching Scheme			Credits
			Theory	Tutorial	Practical	
01CE0601	PC	Compiler Design	3	0	2	4
01CE0602	PC	.NET Technologies	4	0	2	5
01CE06XX	PEC	Department Elective - 2	4	0	2	5
01CE0606	EE	Design Engineering and Project Management	0	0	2	1
01CR0601	GN-UC	Business Benchmark	1	0	0	1
01IT0601	PC	Software Engineering	3	0	2	4
01IT0602	PC	Web Technology	3	0	2	4
Total			18	0	12	24

Department Elective – 2

- 1) 01CE0603 - Computer Security
- 2) 01CE0604 - Cyber Security
- 3) 01CE0605 - Network Security

A. N. W.

Semester – VII						
Subject Code	Category	Subject Name	Teaching Scheme			Credits
			Theory	Tutorial	Practical	
01CE0701	PC	Mobile Computing	3	0	2	4
01CE0702	PC	Artificial Intelligence	4	0	2	5
01IT0701	PC	Advanced Web Technologies	3	0	2	4
01CE07XX	PEC	Department Elective – 3	4	0	2	5
01CE07XX	PEC	Department Elective – 4	4	0	2	5
01IT1703	PC	Major Project - 1	0	0	8	4
Total			18	0	18	27

Department Elective – 3

- 1) 01CE0703 - iOS Programming
- 2) 01CE0704 - Android Programming
- 3) 01CE0705 - Programming with Python
- 4) 01CE0706 - Advanced .NET Technologies

Department Elective – 4

- 1) 01CE0707 - Data Mining and Information Retrieval
- 2) 01CE0708 - Software Architecture
- 3) 01CE0709 - Computational Intelligence

Semester – VIII						
Subject Code	Category	Subject Name	Teaching Scheme			Credits
			Theory	Tutorial	Practical	
01CE08XX	PEC	Department Elective – 5	4	0	2	5
01CE08XX	PEC	Department Elective – 6	4	0	2	5
01IT0801	PC	Major Project - 2	0	0	18	9
Total			8	0	22	19

Department Elective - 5

- 1) 01CE0801 - Natural Language Processing
- 2) 01CE0802 - Big Data and Analytics
- 3) 01CE0803 - Cloud Computing

Department Elective – 6

- 1) 01CE0804 - Machine Learning
- 2) 01CE0805 - Business Intelligence
- 3) 01CE0806 - Internet of Things

A. N. D.

Semester wise structure of curriculum

Semester – I						
Subject Code	Category	Subject Name	Teaching Scheme			Credits
			Theory	Tutorial	Practical	
01CE0102	ES-UC	Computer Workshop	0	0	2	1
01CR0103	GN-UE	Value Education	2	0	0	2
01EE0101	ES-UC	Elements of Electrical Engineering	3	0	2	4
01EC0101	ES-UC	Basics of Electronics Engineering	3	0	2	4
01MA1101	BS-UC	Differential And Integral Calculus	4	2	0	5
01ME0101	ES-UC	Elements of Mechanical Engineering	3	0	2	4
01PE0101	NCC	Physical Education/Sports/Yoga	0	0	2	1
01SL0102	GN-UE	Reading & Writing for Technology	2	0	0	2
01SL0103	GN-UE	Speaking and Presentation Skills	2	0	0	2
		Total	17	2	10	23

Semester – II						
Subject Code	Category	Subject Name	Teaching Scheme			Credits
			Theory	Tutorial	Practical	
01CE0101	ES-UC	Computer Programming	3	0	2	4
01EC0102	ES-UC	Digital Electronics	3	0	2	4
01EN0101	ES-UC	Basics of Environmental Studies	2	0	0	2
01GS0101	BS-UC	Physics	3	0	2	4
01MA1151	BS-UC	Matrix Algebra and Vector Calculus	4	2	0	5
01ME0103	ES-UC	Engineering Drawings	2	0	4	4
		Total	17	2	10	23

A. W. S.

Semester – III						
Subject Code	Category	Subject Name	Teaching Scheme			Credits
			Theory	Tutorial	Practical	
01CE0301	PC	Data Structure	4	0	2	5
01CE1302	PC	Database Management System	3	0	2	4
01CE1303	PC	Object Oriented Design and Programming	3	0	2	4
01CE0304	EE	Design Thinking and Problem Solving Skills	0	0	2	1
01CR0302	GN-UC	Professional Ethics	1	0	0	1
01IT0301	PC	Data Communication and Networking	3	0	2	4
01MA0231	BS-UC	Discrete Mathematics and Graph Theory	4	2	0	5
		Total	18	2	10	24

Semester – IV						
Subject Code	Category	Subject Name	Teaching Scheme			Credits
			Theory	Tutorial	Practical	
01CE0401	PC	Operating System	4	0	2	5
01CE0402	PC	Computer Organization and Architecture	3	2	0	4
01CE0403	PC	Object Oriented Programming with Java	4	0	2	5
01CE0405	EE	Human Centric Design Approach	0	0	2	1
01IT0401	PC	Computer Network	4	0	2	5
01MA1281	IEC	Statistical and Numerical Methods	3	2	0	4
		Total	18	4	6	24

A. W. S.

Semester – V						
Subject Code	Category	Subject Name	Teaching Scheme			Credits
			Theory	Tutorial	Practical	
01CE0501	PC	Microprocessor Fundamentals & Programming	3	0	2	4
01CE0502	PC	Advanced Java Programming	4	0	2	5
01CE0503	PC	Design and Analysis of Algorithm	4	0	2	5
01CE0504	PC	Theory of Automata and Formal Languages	3	0	0	3
01CE05XX	PEC	Department Elective - 1	4	0	2	5
01CE0508	EE	Reverse Engineering	0	0	2	1
01IT0502	PC	Seminar	0	0	2	1
Total			18	0	12	24

Department Elective – 1

- 1) 01IT0503 - Advanced Computer Network
- 2) 01CE0506 - Distributed Operating Systems
- 3) 01CE0507 - Image Processing

Semester – VI						
Subject Code	Category	Subject Name	Teaching Scheme			Credits
			Theory	Tutorial	Practical	
01CE0601	PC	Compiler Design	3	0	2	4
01CE0602	PC	.NET Technologies	4	0	2	5
01CE06XX	PEC	Department Elective - 2	4	0	2	5
01CE0606	EE	Design Engineering and Project Management	0	0	2	1
01CR0601	GN-UC	Business Benchmark	1	0	0	1
01IT0601	PC	Software Engineering	3	0	2	4
01IT0602	PC	Web Technology	3	0	2	4
Total			18	0	12	24

Department Elective – 2

- 1) 01CE0603 - Computer Security
- 2) 01CE0604 - Cyber Security
- 3) 01CE0605 - Network Security

A. N. S.

Semester – VII						
Subject Code	Category	Subject Name	Teaching Scheme			Credits
			Theory	Tutorial	Practical	
01CE0701	PC	Mobile Computing	3	0	2	4
01CE0702	PC	Artificial Intelligence	4	0	2	5
01IT0701	PC	Advanced Web Technologies	3	0	2	4
01CE07XX	PEC	Department Elective – 3	4	0	2	5
01CE07XX	PEC	Department Elective – 4	4	0	2	5
01IT1703	PC	Major Project - 1	0	0	8	4
Total			18	0	18	27

Department Elective – 3

- 1) 01CE0703 - iOS Programming
- 2) 01CE0704 - Android Programming
- 3) 01CE0705 - Programming with Python
- 4) 01CE0706 - Advanced .NET Technologies

Department Elective – 4

- 1) 01CE0707 - Data Mining and Information Retrieval
- 2) 01CE0708 - Software Architecture
- 3) 01CE0709 - Computational Intelligence

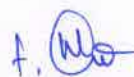
Semester – VIII						
Subject Code	Category	Subject Name	Teaching Scheme			Credits
			Theory	Tutorial	Practical	
01CE08XX	PEC	Department Elective – 5	4	0	2	5
01CE08XX	PEC	Department Elective – 6	4	0	2	5
01IT0801	PC	Major Project - 2	0	0	18	9
Total			8	0	22	19

Department Elective - 5

- 1) 01CE0801 - Natural Language Processing
- 2) 01CE0802 - Big Data and Analytics
- 3) 01CE0803 - Cloud Computing

Department Elective – 6

- 1) 01CE0804 - Machine Learning
- 2) 01CE0805 - Business Intelligence
- 3) 01CE0806 - Internet of Things



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B.A., LL.B. (Hons) Five Year Integrated Program

Program Structure

First Year

<i>Semester I</i>		
Course Code	Course Title	Total Credits
10BA0101	POLITICAL SCIENCE I	4
10BA0102	ECONOMICS I	4
10BA0103	SOCIOLOGY I	4
10SL0101	ENGLISH – I (LINGUISTICS AND LITERATURE)	4
10BA0105	LEGAL METHODS	4
10BA0106	LAW OF CONTRACT – I (GENERAL PRINCIPLES)	4
10CR0101	CRITICAL THINKING & ARGUMENTATIVE SKILLS	2
	Total	26

<i>Semester II</i>		
Course Code	Course Title	Total Credits
10BA0201	POLITICAL SCIENCE II	4
10BA0202	ECONOMICS II	4
10BA0203	SOCIOLOGY II (INDIAN SOCIETY AND LAW: AN INTERFACE)	4
10SL0151	LAW THROUGH POPULAR MEDIA	4
10BA0204	LAW OF TORT, CONSUMER PROTECTION & MOTOR VEHICLES ACT, 1988	4
10BA0205	LAW OF CONTRACT – II	4
10BA0206	MOOT COURT TRAINING	2
10BA0207	Internship (NGO) 4 weeks	2
	Total	28



Second Year

<i>Semester III</i>		
Course Code	Course Title	Total Credits
10BA0301	POLITICAL SCIENCE III	4
10BA0302	ECONOMICS III	4
10BA0303	SOCIOLOGY III (LAW IN A CHANGING SOCIETY: CHALLENGES & PROSPECTS)	4
10BA0304	JURISPRUDENCE	5
10BA0305	FAMILY LAW – I	5
10BA0306	CONSTITUTIONAL LAW – I	5
10BA0307	LAW OF CRIMES – I (IPC) (GENERAL PRINCIPLES)	5
10SL0301	LANGUAGE (BASICS OF FRENCH LANGUAGE FRENCH - I)	2
10BA0308	Internship (Lower Court 1) 4 weeks	2
	Total	36

<i>Semester IV</i>		
Course Code	Course Title	Total Credits
10BA0401	POLITICAL SCIENCE IV	4
10BA0402	PUBLIC INTERNATIONAL LAW	5
10BA0403	ENVIRONMENT LAW	5
10BA0404	FAMILY LAW – II	5
10BA0405	CONSTITUTIONAL LAW – II	5
10BA0406	LAW OF CRIMES – II (IPC) (SPECIFIC OFFENCES)	5
10SL0401	LANGUAGE (BASICS OF FRENCH LANGUAGE FRENCH - II)	2
10BA0407	Internship (Lower Court 2) 4 weeks	2
	Total	33

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Third Year

<i>Semester V</i>		
Course Code	Course Title	Total Credits
10BA0501	POLITICAL SCIENCE V (COMPARATIVE GOVERNMENT & POLITICS)	4
10BB0501	HUMAN RIGHTS & INTERNATIONAL HUMANITARIAN LAW	5
10BB0502	CRIMINAL PROCEDURE CODE	5
10BB0503	CORPORATE LAW I	5
10BB0504	LAW OF EVIDENCE	5
10BB0505	ADMINISTRATIVE LAW	5
10BB0506	LEGAL WRITING	2
10BB0507	Internship (High Court 1) 4 weeks	2
	Total	33

<i>Semester VI</i>		
Course Code	Course Title	Total Credits
10BA0601	POLITICAL SCIENCE VI (WESTERN POLITICAL THOUGHT)	4
10FL0601	LABOUR & INDUSTRIAL LAW I	5
10FL0602	INTERPRETATION OF STATUTES	5
10FL0604	CIVIL PROCEDURE CODE & LIMITATION ACT	5
10FL0605	PROPERTY LAW	5
10FL0606	INTELLECTUAL PROPERTY LAW	5
10FL0603	CORPORATE LAW II	5
10FL0607	Internship (High Court 2) 4 Weeks	2
	Total	36

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Fourth Year

<i>Semester VII</i>		
Course Code	Course Title	Total Credits
10FL0702	DRAFTING, PLEADING AND CONVEYANCE (CLINICAL COURSE II)	4
10FL0701	LABOUR & INDUSTRIAL LAW II	4
10FL0703	TAXATION LAW I	4
10FL0704	ALTERNATE DISPUTE RESOLUTION (CLINICAL COURSE III)	4
10FL0705	INVESTMENT & SECURITY LAW	4
	Honours Course I	4
	Honours Course II	4
10FL0706	Internship (Supreme Court/Law Firm/Corporate House 1) 4 weeks	2
	Total	30

<i>Semester VIII</i>		
Course Code	Course Title	Total Credits
10FL0801	BANKING & INSURANCE LAW	4
10FL0802	PRIVATE INTERNATIONAL LAW	4
10FL0803	COMPETITION LAW	4
10FL0804	TAXATION LAW II	4
10FL0805	PUBLIC INTEREST LAWYERING, LEGAL AID & PARA LEGAL SERVICES (CLINICAL COURSE IV)	4
	Honours Course III	4
	Honours Course IV	4
10FL0806	Internship (Supreme Court/Law Firm/Corporate House 2) 4 weeks	2
	Total	30

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Fifth Year

<i>Semester IX</i>	
Course Title	Total Credits
PROFESSIONAL ETHICS & PROFESSIONAL ACCOUNTING SYSTEM (CLINICAL COURSE V)	4
LAW, SCIENCE & TECHNOLOGY	4
PROFESSIONAL TRAINING	4
Elective Courses (Any Two)	8
Telecommunication law	
Energy Law	
Natural Resources management Law	
Law on Disaster management	
Water Law	
Honours Course V	4
Honours Course VI	4
Placement Internship, 4 weeks	2
Total	30

<i>Semester X</i>	
Course Title	Total Credits
OPTIONAL(Any two)	
Air & Space law	
Maritime Law	
Cyber Law	
Sports Law	
Health Law	
Honours Course VII	4
Honours Course VIII	4
Total	16

Total No. of Credits: 298


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Honours Course Outline

SEMESTER VII				
PAPER	CONSTITUTIONAL LAW GROUP	BUSINESS LAW GROUP	CRIME AND CRIMINOLOGY	INTELLECTUAL PROPERTY LAW
Hons. I	Media Law	Law of Merger and Acquisition	Criminology	Copyright Law in film Industry
Hons. II	Election Law	Law on Infrastructure Development	ICT law	Law of Trademark & passing off
SEMESTER VIII				
Hons. III	Law & Education	Law on Corporate Finance	Penology	Patent, Right, Creation and Registration
Hons. IV	Immigration Law	Corporate Governance	Administration of Criminal Justice I	Patent Drafting and Specification Writing
SEMESTER IX				
Hons. V	Law of Writs	Law of Bankruptcy and Insolvency	Forensic Science & law interface	Biodiversity Protection
Hons. VI	Right to Information Law	Financial Market Regulation	Administration of Criminal Justice II	IPR in Pharma Industry
SEMESTER X				
Hons. VII	Comparative Constitution	International Trade Law	Comparative Criminal procedure	International Intellectual Property law
Hons. VIII	Judicial Process	International Taxation	International Criminal Law	Law of Trade Secret and Technology Transfer


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