

SCHEME -2013
CIVIL ENGINEERING(C)

Combined I and II Semesters

Course No	Name of subject	Credits	Weekly load, hours			C A Marks	Exam Duration Hrs	U E Max Marks	Total Marks
			L	T	D/P				
13.101	Engineering Mathematics - I (ABCEFHMNPRSTU)	6	2	1	-	50	3	100	150
13.102	Engineering Physics (ABCEFHMNPRSTU)	6	2	1	-	50	3	100	150
13.103	Engineering Chemistry (ABCEFHMNPRSTU)	6	2	1	-	50	3	100	150
13.104	Engineering Graphics (ABCEFHMNPRSTU)	6	1	-	2	50	3	100	150
13.105	Engineering Mechanics (ABCEFHMNPRSTU)	6	2	1	-	50	3	100	150
13.106	Basic Civil Engineering (ABEFHMNPRSTU)	6	2	1	-	50	3	100	150
13.107	Basic Mechanical Engineering (ACEFRT)	6	2	1	-	50	3	100	150
13.108	Basic Electrical Engineering (ABCHMNPSTU)	6	2	1	-	50	3	100	150
13.109	Semiconductor Devices (AT)	6	2	1	-	50	3	100	150
13.110	Mechanical Engineering Workshop (ABCEFHMNPRSTU)	2	-	-	1	25	3	50	75
13.111	Electrical & Electronics Engineering Workshop (ABCEFHMNPRSTU)	2	-	-	1	25	3	50	75
Total		58	17	8	4	500		1000	1500

Third Semester

Course No	Name of subject	Credits	Weekly load, hours			C A Marks	Exam Duration Hrs	U E Max Marks	Total Marks
			L	T	D/P				
13.301	Engineering Mathematics-II (ABCEFHMNPRSTU)	4	3	1	-	50	3	100	150
13.302	Mechanics of Structures (C)	4	3	1	-	50	3	100	150
13.303	Fluid Mechanics I (C)	4	3	1	-	50	3	100	150
13.304	Concrete Technology & Advanced Construction (C)	4	3	1	-	50	3	100	150
13.305	Surveying I (C)	5	4	1	-	50	3	100	150
13.306	Engineering Geology (C)	4	3	1		50	3	100	150
13.307	Building Drawing (C)	2	-	-	2	50	3	100	150
13.308	Practical Surveying I (C)	2	-	-	2	50	3	100	150
Total		29	16	6	4	400		800	1200

Fourth Semester

Course No	Name of subject	Credits	Weekly load, hours			C A Marks	Exam Duration Hrs	U E Max Marks	Total Marks
			L	T	D/P				
13.401	Engineering Mathematics III (BCHMNPSU)	4	3	1	-	50	3	100	150
13.402	Humanities (ACHPT)	3	3	-	-	50	3	100	150
13.403	Structural Analysis - I (C)	4	3	1	-	50	3	100	150
13.404	Fluid Mechanics II (C)	4	3	1	-	50	3	100	150
13.405	Surveying II (C)	5	4	1	-	50	3	100	150
13.406	Building Planning and Drawing (C)	5	3	-	2	50	3	100	150
13.407	Strength of Materials Lab. (C)	2	-	-	2	50	3	100	150
13.408	Fluid Mechanics Lab. (C)	2	-	-	2	50	3	100	150
Total		29	19	4	6	400		800	1200

Fifth Semester

Course No	Name of subject	Credits	Weekly load, hours			C A Marks	Exam Duration Hrs	U E Max Marks	Total Marks
			L	T	D/P				
13.501	Engineering Mathematics IV (BCHMPSU)	4	3	1	-	50	3	100	150
13.502	Environmental Engineering I (C)	4	3	1	-	50	3	100	150
13.503	Structural Analysis II (C)	5	4	1	-	50	3	100	150
13.504	Geotechnical Engineering I (C)	4	3	1	-	50	3	100	150
13.505	Transportation Engineering I (C)	4	3	1	-	50	3	100	150
13.506	Water Resources Engineering (C)	4	3	1		50	3	100	150
13.507	Practical Surveying II (C)	2	-	-	2	50	3	100	150
13.508	Concrete Lab. (C)	2	-	-	2	50	3	100	150
Total		29	19	6	4	400		800	1200

Sixth Semester

Course No	Name of subject	Credits	Weekly load, hours			C A Marks	Exam Duration Hrs	U E Max Marks	Total Marks
			L	T	D/P				
13.601	Design of Hydraulic Structures (C)	5	3	-	2	50	3	100	150
13.602	Design of Reinforced Concrete Structures (C)	5	3	2	-	50	3	100	150
13.603	Environmental Engineering II (C)	4	3	1	-	50	3	100	150
13.604	Geotechnical Engineering II (C)	4	3	1	-	50	3	100	150
13.605	Transportation Engineering II (C)	4	3	1	-	50	3	100	150
13.606	Computer Programming and Numerical Methods (C)	3	3			50	3	100	150
13.607	Transportation Engineering Lab.(C)	2	-	-	2	50	3	100	150
13.608	Computer Aided Design & Drafting Lab. (C)	2		-	2	50	3	100	150
	Total	29	18	5	6	400		800	1200

Seventh Semester

Course No	Name of subject	Credits	Weekly load, hours			C A Marks	Exam Duration Hrs	U E Max Marks	Total Marks
			L	T	D/P				
13.701	Design of Steel Structures (C)	5	3	2	-	50	3	100	150
13.702	Design and Drawing of Reinforced concrete structures (C)	5	3	-	2	50	3	100	150
13.703	Advanced Structural Analysis (C)	4	2	2	-	50	3	100	150
13.704	Elective – I	4	3	1	-	50	3	100	150
13.705	Elective – II	4	3	1	-	50	3	100	150
13.706	Environmental Engineering Lab. (C)	2	-	-	2	50	3	100	150
13.707	Geotechnical Engineering Lab. (C)	2	-	-	2	50	3	100	150
13.708	a) Seminar (b) Survey Camp & Industrial Visit	3	-	-	3	50	3	100	150
	Total	29	15	6	8	500		800	1300

Eighth Semester

Course No	Name of subject	Credits	Weekly load, hours			C A Marks	Exam Duration Hrs	U E Max Marks	Total Marks
			L	T	D/ P				
13.801	Quantity Surveying and Valuation (C)	4	3	1	-	50	3	100	150
13.802	Design and Drawing of Steel Structures (C)	5	3	-	2	50	4	150	200
13.803	Urban Planning and Architecture (C)	4	4	-	-	50	3	100	150
13.804	Construction Management (C)	3	3	-	-	50	3	100	150
13.805	Elective - III	4	3	1	-	50	3	100	150
13.806	Elective - IV	4	3	1	-	50	3	100	150
13.807	Project and Viva-Voce (C)	5	-	-	5	200		100	300
Total		29	19	3	7	500		750	1250

ELECTIVE -III

13.805.1	Earthquake Resistant Design of Structures (C)
13.805.2	Wind Loading on Structures (C)
13.805.3	Deep Foundations (C)
13.805.4	Earthquake Geotechnical Engineering (C)
13.805.5	Urban Water Management and Environmental Hydraulics (C)
13.805.6	Environmental Impact Assessment (C)
13.805.7	Design and Construction of pavements (C)
13.805.8	Repair & Rehabilitation of Structures (C)

ELECTIVE -IV

13.806.1	Finite Element Methods (C)
13.806.2	Design of Bridges (C)
13.806.3	Reinforced Earth (C)
13.806.4	Advanced Foundation Engineering (C)
13.806.5	Irrigation and Drainage Engineering (C)
13.806.6	Industrial Waste Water Management (C)
13.806.7	Traffic Engineering (C)
13.806.8	Valuation of Real Properties (C)
13.806.9	Design of Port, Harbour and Coastal Structures (C)

SCHEME -2013

ELECTRONICS and COMMUNICATION ENGINEERING (T)

Combined I and II Semesters

Course No	Name of subject	Credits	Weekly load, hours			C A Marks	Exam Duration Hrs	U E Max Marks	Total Marks
			L	T	D/P				
13.101	Engineering Mathematics - I (ABCEFHMNPRSTU)	6	2	1	-	50	3	100	150
13.102	Engineering Physics (ABCEFHMNPRSTU)	6	2	1	-	50	3	100	150
13.103	Engineering Chemistry (ABCEFHMNPRSTU)	6	2	1	-	50	3	100	150
13.104	Engineering Graphics (ABCEFHMNPRSTU)	6	1	-	2	50	3	100	150
13.105	Engineering Mechanics (ABCEFHMNPRSTU)	6	2	1	-	50	3	100	150
13.106	Basic Civil Engineering (ABEFHMNPRSTU)	6	2	1	-	50	3	100	150
13.107	Basic Mechanical Engineering (ACEFRT)	6	2	1	-	50	3	100	150
13.108	Basic Electrical Engineering (ABCHMNPSTU)	6	2	1	-	50	3	100	150
13.109	Semiconductor Devices (AT)	6	2	1	-	50	3	100	150
13.110	Mechanical Engineering Workshop (ABCEFHMNPRSTU)	2	-	-	1	25	3	50	75
13.111	Electrical & Electronics Engineering Workshop (ABCEFHMNPRSTU)	2	-	-	1	25	3	50	75
Total		58	17	8	4	500		1000	1500

Third Semester

Course No	Name of subject	Credits	Weekly load, hours			C A Marks	Exam Duration Hrs	U E Max Marks	Total Marks
			L	T	D/P				
13.301	Engineering Mathematics-II (ABCEFHMNPRSTU)	4	3	1	-	50	3	100	150
13.302	Signals & Systems (AT)	4	3	1	-	50	3	100	150
13.303	Network Analysis (AT)	4	3	1	-	50	3	100	150
13.304	Analog Communications (T)	3	2	1	-	50	3	100	150
13.305	Electronic Circuits (T)	4	3	1	-	50	3	100	150
13.306	Digital Electronics (T)	4	3	1		50	3	100	150
13.307	Electronic Devices Lab (AT)	3	-	-	3	50	3	100	150
13.308	Electronic Circuits Lab (T)	3	-	-	3	50	3	100	150
Total		29	17	6	6	400		800	1200

Fourth Semester

Course No	Name of subject	Credits	Weekly load, hours			C A Marks	Exam Duration Hrs	U E Max Marks	Total Marks
			L	T	D/P				
13.401	Engineering Mathematics III -Probability & Random Processes (AT)	4	3	1	-	50	3	100	150
13.402	Humanities (ACHPT)	3	3	-	-	50	3	100	150
13.403	Computer Organisation & Architecture (AT)	3	2	1	-	50	3	100	150
13.404	Digital Signal Processing (AT)	4	3	1	-	50	3	100	150
13.405	Computer Programming (T)	4	2	-	2	50	3	100	150
13.406	Analog Integrated Circuits (T)	3	2	1		50	3	100	150
13.407	Digital Integrated Circuits Lab (T)	4	-	-	4	50	3	100	150
13.408	Analog Integrated Circuits Lab (T)	4	-	-	4	50	3	100	150
Total		29	15	4	10	400		800	1200

Fifth Semester

Course No	Name of subject	Credits	Weekly load, hours			C A Marks	Exam Duration Hrs	U E Max Marks	Total Marks
			L	T	D/P				
13.501	Engineering Mathematics IV - Complex Analysis & Linear Algebra (ABHT)	4	3	1	-	50	3	100	150
13.502	Engineering Management for Electronics Engineers (AT)	3	2	1	-	50	3	100	150
13.503	Microprocessors & Microcontrollers (AT)	4	3	1	-	50	3	100	150
13.504	Electronic Measurements & Instrumentation (T)	3	2	1	-	50	3	100	150
13.505	Applied Electromagnetic Theory (T)	4	3	1	-	50	3	100	150
13.506	Elective I	3	2	1		50	3	100	150
13.507	Communication Engineering Lab (T)	4	-	-	4	50	3	100	150
13.508	Digital Signal Processing Lab (T)	4	-	-	4	50	3	100	150
Total		29	15	6	8	400		800	1200

Sixth Semester

Course No	Name of subject	Credits	Weekly load, hours			C A Marks	Exam Duration Hrs	U E Max Marks	Total Marks
			L	T	D/P				
13.601	Image Processing (AT)	3	2	1	-	50	3	100	150
13.602	VLSI Design (T)	4	3	1	-	50	3	100	150
13.603	Control Systems (T)	4	3	1	-	50	3	100	150
13.604	Digital Communications (T)	4	3	1	-	50	3	100	150
13.605	Antenna & Wave Propagation (T)	3	2	1	-	50	3	100	150
13.606	Elective II	3	2	1		50	3	100	150
13.607	Microcontroller Lab (T)	4	-	-	4	50	3	100	150
13.608	Electronic Product Design & Mini Project (AT)	4	1	-	3	50	3	100	150
Total		29	16	6	7	400		800	1200

Seventh Semester

Course No	Name of subject	Credits	Weekly load, hours			C A Marks	Exam Duration Hrs	U E Max Marks	Total Marks
			L	T	D/P				
13.701	Nanoelectronics (AT)	3	2	1	-	50	3	100	150
13.702	Optical Fiber Communications (T)	4	3	1	-	50	3	100	150
13.703	Microwave & Radar Engineering (T)	4	3	1	-	50	3	100	150
13.704	Information Theory & Coding (T)	4	3	1	-	50	3	100	150
13.705	Elective III	3	2	1	-	50	3	100	150
13.706	Elective IV	3	2	1	-	50	3	100	150
13.707	Microwave & Optical Communications Lab (T)	3	-	-	3	50	3	100	150
13.708	Modeling & Simulation of Communication Systems Lab (T)	3	-	-	3	50	3	100	150
13.709	Seminar (AT)	1	-	-	1	50	-	-	50
13.710	Project Design (AT)	1	-	-	1	50	-	-	50
Total		29	15	6	8	500		800	1300

Eighth Semester

Course No	Name of subject	Credits	Weekly load, hours			C A Marks	Exam Duration Hrs	U E Max Marks	Total Marks
			L	T	D/P				
13.801	Electrical Drives & Control (T)	4	3	1	-	50	3	100	150
13.802	Entertainment Electronics Technology (T)	4	3	1	-	50	3	100	150
13.803	Computer Communications (T)	4	3	1	-	50	3	100	150
13.804	Wireless Communications (T)	4	3	1	-	50	3	100	150
13.805	Elective V	4	3	1	-	50	3	100	150
13.806	Elective VI	4	3	1	-	50	3	100	150
13.807	Project & Viva – Voce (AT)	5	-	-	5	200	-	100	300
Total		29	18	6	5	500		700	1200

13. 506 Elective I

13.506.1	Professional Communications (AT)
13.506.2	Fuzzy Systems & Applications (AT)
13.506.3	Artificial Neural Networks (AT)
13.506.4	Bioinformatics (AT)
13.506.5	Mechatronics (AT)
13.506.6	Digital Systems Design with VHDL (T)
13.506.7	Electromagnetic Compatibility (T)

13.606 Elective II

13.606.1	Speech Processing (AT)
13.606.2	Adaptive Signal Processing (AT)
13.606.3	DSP Systems & Architecture (AT)
13.606.4	Professional Ethics (AT)
13.606.5	Wavelets & Applications (AT)
13.606.6	High Speed Semiconductor Devices (T)
13.606.7	Mixed Signal Circuits Design (T)

13.706 Elective III

13.705.1	Pattern Recognition (AT)
13.705.2	MOS Device Modeling (T)
13.705.3	Real Time Operating Systems (T)
13.705.4	Optoelectronic Devices (T)
13.705.5	Computer Vision (T)
13.705.6	CDMA Systems (T)

13. 706 Elective IV

13.706.1	Intellectual Property Rights (AT)
13.706.2	MEMS (AT)
13.706.3	Embedded Systems (AT)
13.706.4	Low Power VLSI Design (T)
13.706.5	Antenna Design (T)
13.706.6	Cryptography (T)

13. 805 Elective V

13.805.1	Entrepreneurship (AT)
13.805.2	Discrete Control & Navigation Systems (T)
13.805.3	Optical Integrated Circuits (T)
13.805.4	Nano Devices & Circuits (T)
13.805.5	Artificial Intelligence & Robotics (T)
13.805.6	Microwave Devices & Circuits (T)

13. 806 Elective VI

13.806.1	Management Information Systems (AT)
13.806.2	Biomedical Engineering (T)
13.806.3	Information Security (T)
13.806.4	Digital Instrumentation (T)
13.806.5	Nanophotonics (T)
13.806.6	Satellite Communications (T)

SCHEME -2013
ELECTRICAL AND ELECTRONICS ENGINEERING (E)

Combined I and II Semesters

Course No	Name of subject	Credits	Weekly load, hours			C A Marks	Exam Duration Hrs	U E Max Marks	Total Marks
			L	T	D/P				
13.101	Engineering Mathematics - I (ABCEFHMNPRSTU)	6	2	1	0	50	3	100	150
13.102	Engineering Physics (ABCEFHMNPRSTU)	6	2	1	0	50	3	100	150
13.103	Engineering Chemistry (ABCEFHMNPRSTU)	6	2	1	0	50	3	100	150
13.104	Engineering Graphics (ABCEFHMNPRSTU)	6	1	0	2	50	3	100	150
13.105	Engineering Mechanics (ABCEFHMNPRSTU)	6	2	1	0	50	3	100	150
13.106	Basic Civil Engineering (ABEFHMNPRSTU)	6	2	1	0	50	3	100	150
13.107	Basic Mechanical Engineering (ACEFRT)	6	2	1	0	50	3	100	150
13.108	Fundamentals of Electrical Engineering (E)	6	2	1	0	50	3	100	150
13.109	Basic Electronics Engineering (BCEHMNPSU)	6	2	1	0	50	3	100	150
13.110	Mechanical Engineering Workshop (ABCEFHMNPRSTU)	2	0	0	1	25	3	50	75
13.111	Electrical & Electronics Engineering Workshop (ABCEFHMNPRSTU)	2	0	0	1	25	3	50	75
Total		58	17	8	4	500		1000	1500

Third Semester

Course No	Name of subject	Credits	Weekly load, hours			C A Marks	Exam Duration Hrs	U E Max Marks	Total Marks
			L	T	D/P				
13.301	Engineering Mathematics-II (ABCEFHMNPRSTU)	4	3	1	-	50	3	100	150
13.302	Humanities (BEFMRSU)	3	3	0	0	50	3	100	150
13.303	Networks and Systems (E)	4	2	2	0	50	3	100	150
13.304	Analog Electronics (E)	4	2	2	0	50	3	100	150
13.305	DC Machines and Transformers (E)	4	2	2	0	50	3	100	150
13.306	Hydraulic Machines and Heat Engines (E)	4	2	2	0	50	3	100	150
13.307	Electronic Circuits Lab (E)	3	0	0	3	50	3	100	150
13.308	Hydraulic Machines and Heat Engines Lab (E)	3	0	0	3	50	3	100	150
Total		29	14	9	6	400		800	1200

Fourth Semester

Course No	Name of subject	Credits	Weekly load, hours			C A Marks	Exam Duration Hrs	U E Max Marks	Total Marks
			L	T	D/P				
13.401	Engineering Mathematics -III (E)	4	3	1	-	50	3	100	150
13.402	Digital Electronics and Logic Design (E)	3	2	1	-	50	3	100	150
13.403	Engineering Electromagnetics (E)	3	2	1	-	50	3	100	150
13.404	Electrical Measurements and Measuring Instruments (E)	4	3	1	-	50	3	100	150
13.405	Power Electronics (E)	4	2	2	-	50	3	100	150
13.406	Power Generation, Transmission and Distribution (E)	3	2	1		50	3	100	150
13.407	Electrical Machines Lab I (E)	4	0	0	4	50	3	100	150
13.408	Digital Circuits Lab (E)	4	0	0	4	50	3	100	150
Total		29	14	7	8	400		800	1200

Fifth Semester

Course No	Name of subject	Credits	Weekly load, hours			C A Marks	Exam Duration Hrs	U E Max Marks	Total Marks
			L	T	D/P				
13.501	Engineering Mathematics IV (E)	4	3	1	-	50	3	100	150
13.502	Synchronous Machines(E)	4	2	2	0	50	3	100	150
13.503	Switchgear and Protection(E)	3	2	1	0	50	3	100	150
13.504	Control Systems(E)	4	2	2	0	50	3	100	150
13.505	Electronic Instrumentation(E)	3	2	1	0	50	3	100	150
13.506	ELECTIVE I	3	2	1	0	50	3	100	150
13.507	Power Electronics Lab(E)	4	0	0	4	50	3	100	150
13.508	Measurements & Instrumentation Lab(E)	4	0	0	4	50	3	100	150
Total		29	13	8	8	400		800	1200

Sixth Semester

Course No	Name of subject	Credits	Weekly load, hours			C A Marks	Exam Duration Hrs	U E Max Marks	Total Marks
			L	T	D/P				
13.601	Advanced Control Systems (E)	4	2	2	0	50	3	100	150
13.602	Induction Machines and Special Machines(E)	3	2	1	0	50	3	100	150
13.603	Microprocessors & Applications (E)	4	2	2	0	50	3	100	150
13.604	Numerical Techniques & Computer Programming(E)	3	2	1	0	50	3	100	150
13.605	Power System Analysis and Stability(E)	4	2	2	0	50	3	100	150
13.606	ELECTIVE II	3	2	1		50	3	100	150
13.607	Microprocessor Lab (E)	2	0	0	2	25	2	50	75
13.608	Software Lab(E)	2	0	0	2	25	2	50	75
13.609	Systems & Control Lab(E)	4	0	0	4	50	3	100	150
Total		29	12	9	8	400		800	1200

Seventh Semester

Course No	Name of subject	Credits	Weekly load, hours			C A Marks	Exam Duration Hrs	U E Max Marks	Total Marks
			L	T	D/P				
13.701	Embedded Systems (E)	3	2	1	0	50	3	100	150
13.702	Digital Signal Processing (E)	3	2	1	0	50	3	100	150
13.703	Power Semiconductor Drives (E)	3	2	1	0	50	3	100	150
13.704	Communication Systems (E)	3	2	1	0	50	3	100	150
13.705	Industrial Engineering & Management (E)	3	3	0	0	50	3	100	150
13.706	ELECTIVE III	3	2	1	0	50	3	100	150
13.707	Seminar	2	0	0	2	50		0	50
13.708	Electrical Machines Lab II (E)	4	0	0	4	50	3	100	150
13.709	Power Systems Lab (E)	4	0	0	4	50	3	100	150
13.710	Industrial Visit & Project Preliminary Work	1	0	0	1	50		0	50
Total		29	13	5	11	500		800	1300

Eighth Semester

Course No	Name of subject	Credits	Weekly load, hours			C A Marks	Exam Duration Hrs	U E Max Marks	Total Marks
			L	T	D/P				
13.801	Electrical System Design (E)	4	2	2	0	50	3	100	150
13.802	Electrical Machine Design (E)	4	2	2	0	50	3	100	150
13.803	Electrical Drawing (E)	4	0	0	4	50	3	100	150
13.804	Electric Power Utilisation & Electrical Safety (E)	4	3	1	0	50	3	100	150
13.805	ELECTIVE IV	4	2	2	0	50	3	100	150
13.806	ELECTIVE V	4	2	2	0	50	3	100	150
13.807	Project & Viva Voce (E)	5	0	0	5	200		100	300
	Total	29	11	9	9	500		700	1200

13. 506 Elective I

13.506.1	Engineering Material Science (E)
13.506.2	Operations Research (E)
13.506.3	Sustainable Development (E)
13.506.4	New and renewable Energy Sources (E)
13.506.5	Disaster Management (E)
13.506.6	Soft Computing (E)
13.506.7	Professional Communication (E)

13.606 Elective II

13.606.1	Biomedical Instrumentation (E)
13.606.2	Optical Instrumentation (E)
13.606.3	Switch Mode Power Converters (E)
13.606.4	Finite Element Methods (E)
13.606.5	Computer Organisation (E)
13.606.6	Software Engineering (E)

13.706 Elective III

13.706.1	Object Oriented Programming (E)
13.706.2	Modern Operating Systems (E)
13.706.3	Computer Aided Power System Analysis (E)
13.706.4	Power Quality (E)
13.706.5	Design of Digital Control Systems (E)
13.706.6	High Voltage Engineering (E)
13.706.7	Nano Technology (E)

13. 805 Elective IV

13.805.1	Power System Instrumentation (E)
13.805.2	Computer Networks (E)
13.805.3	Analysis of Electrical Machinery (E)
13.805.4	Robotics (E)
13.805.5	Non-linear Systems (E)
13.805.6	Wavelets and Applications (E)

13. 806 Elective V

13.806.1	Energy Conservation and Management (E)
13.806.2	HVDC and FACTS (E)
13.806.3	Power Electronic Applications in Power Systems (E)
13.806.4	Philosophy of Science and Technology (E)
13.806.5	Digital Image Processing (E)
13.806.6	Electric and Hybrid Vehicles (E)
13.806.7	Industrial automation (E)

SCHEME -2013
MECHANICAL ENGINEERING (M)

Combined I and II Semesters

Course No	Name of subject	Credits	Weekly load, hours			C A Marks	Exam Duration Hrs	U E Max Marks	Total Marks
			L	T	D/P				
13.101	Engineering Mathematics - I (ABCEFHMNPRSTU)	6	2	1	-	50	3	100	150
13.102	Engineering Physics (ABCEFHMNPRSTU)	6	2	1	-	50	3	100	150
13.103	Engineering Chemistry (ABCEFHMNPRSTU)	6	2	1	-	50	3	100	150
13.104	Engineering Graphics (ABCEFHMNPRSTU)	6	1	0	2	50	3	100	150
13.105	Engineering Mechanics (ABCEFHMNPRSTU)	6	2	1	-	50	3	100	150
13.106	Basic Civil Engineering (ABEFHMNPRSTU)	6	2	1	-	50	3	100	150
13.107	Engineering Thermodynamics (MPNSU)	6	2	1	-	50	3	100	150
13.108	Basic Electrical Engineering (ABCHMNPSTU)	6	2	1	-	50	3	100	150
13.109	Basic Electronics Engineering (BCEHMNPSTU)	6	2	1	-	50	3	100	150
13.110	Mechanical Engineering Workshop (ABCEFHMNPRSTU)	2	-	-	1	25	3	50	75
13.111	Electrical & Electronics Engineering Workshop (ABCEFHMNPRSTU)	2	-	-	1	25	3	50	75
Total		58	17	8	4	500		1000	1500

Third Semester

Course No	Name of subject	Credits	Weekly load, hours			C A Marks	Exam Duration Hrs	U E Max Marks	Total Marks
			L	T	D/P				
13.301	Engineering Mathematics-II (ABCEFHMNPRSTU)	4	3	1	-	50	3	100	150
13.302	Humanities (BEFMRSU)	3	3	0	-	50	3	100	150
13.303	Fluid Mechanics(MS)	4	3	1	-	50	3	100	150
13.304	Mechanics of Solids (MPSU)	4	3	1	-	50	3	100	150
13.305	Computer Programming and Numerical Methods (MP)	3	2	1		50	3	100	150
13.306	Engineering Drawing (MP)	5					4		150
	Part A: Machine Drawing		0	0	2	25		50	
	Part B: Civil Engineering Drawing & Estimation		1	0	2	25		50	
13.307	Thermal Engineering(MU)	4	3	1	-	50	3	100	150
13.308	Civil Engineering Lab (MP)	2	-	-	2	50	3	100	150
Total		29	18	5	6	400		800	1200

Fourth Semester

Course No	Name of subject	Credits	Weekly load, hours			C A Marks	Exam Duration Hrs	U E Max Marks	Total Marks
			L	T	D/P				
13.401	Engineering Mathematics -III (BCHMNPSU)	4	3	1	-	50	3	100	150
13.402	Manufacturing Process (M)	4	3	1	-	50	3	100	150
13.403	Electrical Technology (MP)	4	3	1	-	50	3	100	150
13.404	Metallurgy and Material Science (MPU)	4	3	1	-	50	3	100	150
13.405	Fluid Machinery (M)	4	3	1	-	50	3	100	150
13.406	Machine Drawing (M)	3	0	0	3	50	3	100	150
13.407	Fluid Mechanics & Machines Lab(MN)	3	-	-	3	50	3	100	150
13.408	IC Engines Lab (M)	3	-	-	3	50	3	100	150
Total		29	15	5	9	400		800	1200

Fifth Semester

Course No	Name of subject	Credits	Weekly load, hours			C A Marks	Exam Duration Hrs	U E Max Marks	Total Marks
			L	T	D/P				
13.501	Engineering Mathematics - IV (CMPSU)	4	3	1	-	50	3	100	150
13.502	Theory of Machines (MP)	4	3	1	-	50	3	100	150
13.503	Industrial Electronics(MP)	3	2	1	-	50	3	100	150
13.504	Mechanics of Materials (M)	4	3	1	-	50	3	100	150
13.505	Machine Tools (MN)	4	3	1	-	50	3	100	150
13.506	ELECTIVE I	4	3	1		50	3	100	150
13.507	Production Engineering Lab (M)	3	-	-	3	50	3	100	150
13.508	Electrical & Electronics Lab (MP)	3	-	-	3	50	3	100	150
Total		29	17	6	6	400		800	1200

Sixth Semester

Course No	Name of subject	Credits	Weekly load, hours			C A Marks	Exam Duration Hrs	U E Max Marks	Total Marks
			L	T	D/P				
13.601	Metrology & Instrumentation (MP)	4	3	1	-	50	3	100	150
13.602	Dynamics of Machinery (MP)	4	3	1	-	50	3	100	150
13.603	Computer Aided Design (MPU)	3	2	1	-	50	3	100	150
13.604	Heat and Mass Transfer (MSU)	4	3	1	-	50	3	100	150
13.605	Design of Machine Elements - I (M)	4	3	1	-	50	3	100	150
13.606	ELECTIVE II	4	3	1		50	3	100	150
13.607	Computer Aided Modeling and Analysis Lab(MPU)	3	-	-	3	50	3	100	150
13.608	Machine Tools Lab (M)	3	-	-	3	50	3	100	150
	Total	29	17	6	6	400		800	1200

Seventh Semester

Course No	Name of subject	Credits	Weekly load, hours			C A Marks	Exam Duration Hrs	U E Max Marks	Total Marks
			L	T	D/P				
13.701	Principles of Management and Decision Modeling (MPU)	3	2	1	-	50	3	100	150
13.702	Mechatronics (MPSU)	4	3	1	-	50	3	100	150
13.703	Gas Dynamics (M)	4	3	1	-	50	3	100	150
13.704	Refrigeration & Air conditioning (M)	4	3	1	-	50	3	100	150
13.705	Design of Machine Elements - II (M)	4	3	1	-	50	3	100	150
13.706	Elective III	4	3	1	-	50	3	100	150
13.707	Thermal Engineering Lab (M)	2	-	-	2	50	3	100	150
13.708	Mechanical Engineering Lab (M)	2	-	-	2	50	3	100	150
13.709	Project and Project Seminar (MPSU)	2	-	-	2	100	-		100
	Total	29	17	6	6	500		800	1300

Eighth Semester

Course No	Name of subject	Credits	Weekly load, hours			C A Marks	Exam Duration Hrs	U E Max Marks	Total Marks
			L	T	D/P				
13.801	Energy Management(MP)	3	2	1	-	50	3	100	150
13.802	Industrial Engineering (MPU)	3	2	1	-	50	3	100	150
13.803	Automobile Engineering (M)	4	3	1	-	50	3	100	150
13.804	Computer Integrated Manufacturing (MU)	4	3	1	-	50	3	100	150
13.805	Elective IV	4	3	1	-	50	3	100	150
13.806	Elective V	4	3	1	-	50	3	100	150
13.807	Seminar (MPSU)	2	-	-	2	100	-	-	100
13.808	Project , Viva-Voce & Industrial Visit (MPSU)	5	-	-	5	100	-	100	200
Total		29	16	6	7	500		700	1200

13. 506 Elective I

13.506.1	Professional Ethics and Human Values (MPU)
13.506.2	Advanced Welding Technology (MPU)
13.506.3	Foundry Technology (MPU)
13.506.4	Advanced Fluid Mechanics (MPU)
13.506.5	Composite Materials Technology (MPU)
13.506.6	Non Destructive Testing (MPU)
13.506.7	Powder Metallurgy (MPU)
13.506.8	Human Aspects of Management (MP)
13.506.9	Environmental Science (MP)
13.506.10	Environmental Pollution Control (MP)
13.506.11	Disaster Management (MP)

13.606 Elective II

13.606.1	Artificial Intelligence Systems (MPU)
13.606.2	Mechanical Working Methods (MPU)
13.606.3	System Modeling & Simulation (MPU)
13.606.4	Materials Handling (MPU)
13.606.5	Total Quality Management (MPU)
13.606.6	Advanced Manufacturing Processes (MPU)
13.606.7	Material Characterisation (MPU)
13.606.8	Micromachining Methods (MPU)
13.606.9	New Energy Systems (MP)
13.606.10	Object Oriented Programming (MP)
13.606.11	Nuclear Engineering (MP)
13.606.12	Instrumentation and Control (MP)
13.606.13	Precision Engineering (MP)
13.606.14	Advanced Mechanics of Solids (MP)
13.606.15	Tool Engineering (M)

13.706 Elective III

13.706.1	Plant Engineering & Maintenance (MPU)
13.706.2	Fracture Mechanics (MPU)
13.706.3	Entrepreneurship Development (MPU)
13.706.4	Finite Element Methods (MPU)
13.706.5	Metal Forming (MPU)
13.706.6	Non-Conventional Machining Techniques (MPU)
13.706.7	Experimental Methods In Engineering (MPU)
13.706.8	Mechanical Vibration & Noise Control (MPU)
13.706.9	Failure Analysis (MPU)
13.706.10	Industrial Automation (MPU)
13.706.11	Advanced Thermodynamics (MP)
13.706.12	Industrial Heat Transfer (MP)
13.706.13	Computer Graphics (MP)
13.706.14	Marketing Management (MP)
13.706.15	Industrial Hydraulics (MP)
13.706.16	Machine Tool Technology (MP)
13.706.17	Turbo Machines (MP)
13.706.18	Bio Materials (MP)
13.706.19	Concurrent Engineering (MP)
13.706.20	Alternate Energy Sources (MP)

13. 805 Elective IV

13.805.1	Experimental Stress Analysis Techniques (MPU)
13.805.2	Aerospace Engineering (MPU)
13.805.3	Facilities Planning (MPU)
13.805.4	Design of Jigs And Fixtures (MPU)
13.805.5	Controls In Machine Tools (MPU)
13.805.6	Design of Pressure Vessels & Piping (MPU)
13.805.7	Tribology (MPU)
13.805.8	Cryogenic Engineering (MPU)
13.805.9	Research Methodology (MPU)
13.805.10	Nanotechnology (MPU)
13.805.11	Multiphase Flow (MP)
13.805.12	Non Linear Dynamics and Chaos (MP)
13.805.13	Value Engineering (MP)
13.805.14	Continuum Mechanics (MP)
13.805.15	Industrial Safety Engineering (MP)
13.805.16	Engineering Design (MP)
13.805.17	Advanced Decision Modeling (MP)

13. 806 Elective V

13.806.1	Industrial Quality Control (MPU)
13.806.2	Creativity & Product Development (MPU)
13.806.3	Advanced Kinematics of Machines (MPU)
13.806.4	Financial Management (MPU)
13.806.5	Flexible Manufacturing Methods (MPU)
13.806.6	Computational Fluid Dynamics (MPU)
13.806.7	Management Information Systems (MPU)
13.806.8	Production & Operations Management (MPU)
13.806.9	Project Management (MPU)
13.806.10	Robotics (MPU)
13.806.11	Industrial Refrigeration (MP)
13.806.12	Propulsion Engineering (MP)
13.806.13	Design of Heat Transfer Equipment (MP)
13.806.14	Technology Forecasting (MP)
13.806.15	Design of IC Engines (MP)
13.806.16	Logistics and Supply Chain Management (MP)
13.806.17	Surface Engineering (MP)
13.806.18	Supply Chain Management(MP)