

Chemical Engineering (05)

Semester VIII

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
2180502	Petroleum Refining & Petrochemicals	4	0	2	6	70	30	30	20	150	5
2180504	Project -II	0	0	8	8	0	0	80	20	100	5
2180503	Process Modeling, Simulation & Optimization	4	0	3	7	70	30	30	20	150	5
2180507	Transport Phenomena	3	0	0	3	70	30	0	0	100	5
	Department Elective - III	3	2	0	5	70	30	30	20	150	5
	Total	14	2	13	29						

Departmental Elective III

2180505	Multi Component Distillation
2180508	Solid-fluid operations
2180509	Fertilizer Technology

Civil Engineering (06)

Semester VIII

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
2180605	Project -II	0	0	8	8	0	0	80	20	100	6
2180609	Foundation Engineering	3	0	2	5	70	30	30	20	150	6
2180610	Design of Steel Structures	3	2	0	5	70	30	30	20	150	6
2180611	Construction Management	3	2	0	5	70	30	30	20	150	6
	Departmental Elective - III*	3	1	0	4	70	30	30	20	150	6
	Total	12	5	10	27						
	Departmental Elective III:	Theory	Tutorial	Practical	Credits	ESE(E)	PA (M)	Viva (V)	PA(I)	Total Marks	
2180601	Design of Hydraulic Structures	3	1	0	4	70	30	30	20	150	6
2180607	Repairs & Rehabilitation of Concrete Structures	3	1	0	4	70	30	30	20	150	6
2180612	Design of Prestressed Concrete Structures & Bridge	3	1	0	4	70	30	30	20	150	6
2180602	Harbour & Airport Engineering	3	1	0	4	70	30	30	20	150	6
2180613	Glass Facade Engineering	3	0	1	4	70	30	30	20	150	6

* Credits will vary as per the syllabus of the concern subject in tutorial and Practical as per above table

Computer Engineering (07), Computer Science & Engineering (31)

Semester VIII

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
2180703	Artificial Intelligence	4	0	2	6	70	30	30	20	150	7
	Departmental Elective - III	3	0	2	5	70	30	30	20	150	7
2180706	Project (Phase-II)	0	0	16	16	0	0	80	20	100	7
	Total	7	0	20	27						
Departmental Elective III											
2180709	IOT and Applications										
2180710	Big Data Analytics										
2180711	Python Programming										
2180712	Cloud Infrastructure and Services										
2180713	Web data Management										
2180714	iOS Programming										
2180715	Android Programming										

Electrical & Electronics Engineering (08)

Semester VIII

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
2180806	Project	0	0	12	12	0	0	80	20	100	8
2180901	Testing and Commissioning of Electrical Equipments	3	0	2	5	70	30	30	20	150	8
2180807	Industrial Automation	4	0	2	6	70	30	30	20	150	8
	Departmental Elective - III	3	0	2	5	70	30	30	20	150	8
	Total	10	0	18	28						

Departmental Elective III

2180808	Embedded Systems
2180913	Advanced Control Systems
2180912	Condition Monitoring

Electrical Engineering (09)

Semester VIII

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
2180903	Power System Planning and Design	3	0	2	5	70	30	30	20	150	9
2180905	Project	0	0	10	10	0	0	80	20	100	9
2180901	Testing and Commissioning of Electrical Equipments	3	0	2	5	70	30	30	20	150	9
	Departmental Elective - III	3	0	2	5	70	30	30	20	150	9
2180909	Power System Operation and Control	4	0	0	4	70	30	0	0	100	9
	Total	13	0	16	29						
Departmental Elective III:											
2180910	Energy Conservation, and Audit										
2180911	Power Quality and Management										
2180912	Condition Monitoring										
2180913	Advanced Control Systems										

Electronics Engineering (10)

Semester VIII

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
	Departmental Elective - III	4	0	2	6	70	30	30	20	150	10
2181008	Project	0	0	18	18	0	0	80	20	100	10
	Total	4	0	20	24						

Departmental Elective II

2181102	Fandamental of Image Processing
2181007	Satellite Commmunication
2181006	Advance Microprocessor

Electronics & Communication Engineering (11), Electronics & Telecommunication Engineering (12)

Semester VIII

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
	Departmental Elective - III	4	0	2	6	70	30	30	20	150	11
2181108	Project II	0	0	18	18	0	0	80	20	100	11
	Total	4	0	24	24						

Departmental Elective III:

2181102	Fundamentals of Image Processing
2181103	Radar & Navigational Aids
2181106	Device Driver & Writing
2181107	Testing And Verification

Environmental Engineering (13), Environmental Science & Engineering(37)

Semester VIII

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
2181302	Environmental Impact Assessment	3	2	0	5	70	30	30	20	150	13
2181308	Advanced Wastewater Treatment Technologies	4	2	0	6	70	30	30	20	150	13
2181306	Project II	0	0	6	6	0	0	80	20	100	13
2181307	Design of Air Pollution Control Equipments	4	4	0	8	70	30	30	20	150	13
	Departmental Elective - III	3	2	0	5	70	30	30	20	150	13
	Total	14	10	6	30						

Departmental Elective III:

2181304	Environmental Legislation & Audit
2181309	Preventive Environmental Management

2180715	Android Programming
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Instrumentation & Control Engineering (17)

SEM - VIII

Subject code	Subject name	Teaching Scheme (Hours)			Credits	University Exam (E)		Tutorial/Practical		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA(M)	Viva(V)	PA(I)		
	Departmental Elective - III	4	0	2	6	70	30	30	20	150	17
2181704	Project Engineering and Management	4	0	2	6	70	30	30	20	150	17
2181705	Advance Control Theory	4	0	2	6	70	30	30	20	150	17
2181711	Project II	0	0	10	10	0	0	80	20	100	17
	Total	12	2	16	30						

Departmental Elective III:

2181706	Robotic Engineering
2181707	Instrumentation for Agriculture and Food Processing
2181708	Automotive Instrumentation
2181710	Soft Computing in Control

Mechanical Engineering (19)

Semester VIII

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
2181909	Project II	0	0	16	16	0	0	80	20	100	19
2181910	Renewable Energy Engineering	4	0	0	4	70	30	0	0	100	19
	Department Elective II*	3	0	2	5	70	30	30	20	150	19
	Total	7	0	18	25						
	Departmental Elective II:	Theory	Tutorial	Practical	Credits	ESE(E)	PA (M)	Viva (V)	PA(I)	Total Marks	
2181911	Finite Elements Method	3	0	2	5	70	30	30	20	150	19
2181912	Optimization	3	2	0	5	70	30	30	20	150	19
2181913	Product Design and Value Engineering	3	2	0	5	70	30	30	20	150	19
2181914	Rapid Prototyping	3	0	2	5	70	30	30	20	150	19
2181915	Automobile Engineering	3	0	2	5	70	30	30	20	150	19
2181916	Energy Conservation and Management	3	2	0	5	70	30	30	20	150	19
2181917	Cryogenic Engineering	3	0	2	5	70	30	30	20	150	19
2181918	Principles of Combustion Engineering	3	0	2	5	70	30	30	20	150	19
2181919	Robotics	3	0	2	5	70	30	30	20	150	19

2182116	Composite Materials
Departmental Elective III	
2182112	Industrial Corrosion, Testing, Prevention & Control
2182113	Computational Metallurgy
2182114	Thin Film and Nano-Technology
2182115	Alloy Design

Mining Engineering (22)

Semester VIII

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
2182201	Mine & Mineral Economics	3	0	0	3	70	30	0	0	100	22
2182202	Advance Mining Methods	3	0	0	3	70	30	0	0	100	22
2182203	Mining & Processing of Dimensional Stone	3	0	2	5	70	30	30	20	150	22
2182204	Mine Safety Engineering	3	0	0	3	70	30	0	0	100	22
2182208	Project-II	0	0	10	10	0	0	80	20	100	22
	Departmental Elective - III	2	0	2	4	70	30	30	20	150	22
	Total	14	0	14	28						
Departmental Elective III											
2182206	Underground Space Technology										
2182207	Geological Exploration Mineral Deposits										

Plastic Technology (23)

Semester VIII

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
2182311	Advanced Plastic Mould Design	3	0	2	5	70	30	30	20	150	23
2182302	Polymer Alloys and Blends	3	0	2	5	70	30	30	20	150	23
2182308	Plastic Product Design	3	0	2	5	70	30	30	20	150	23
2182306	Project-2	0	0	8	8	0	0	80	20	100	23
	Departmental Elective - III	3	0	2	5	70	30	30	20	150	23
	Total	12	0	16	28						
Departmental Elective III:											
2182312	Nano Polymer Technology										
2182313	Mold Manufacturing Technology										

Power Electronics (24)

Semester VIII

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
2182401	Power Electronics Applications	4	0	2	6	70	30	30	20	150	24
2182411	Project-II	0	0	10	10	0	0	80	20	100	24
2182407	Switch Gear & Protection	4	0	2	6	70	30	30	20	150	24
	Dept. Electives – III	4	0	2	6	70	30	30	20	150	24
	Total	12	0	16	28						

Departmental Elective II:

2182408	Programmable Logic Controller for Power Electronics
2182409	Advanced Electrical Machines and Drives
2182410	Digital Signal Controllers

Production (25)

Semester VIII

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
2182501	Production and Operations Management	3	2	0	5	70	30	30	20	150	25
2182502	Recent Advances in Manufacturing	3	1	0	4	70	30	30	20	150	25
2182503	Design of Product and Machine Tools	3	1	0	4	70	30	30	20	150	25
2182504	Facilities Planning	3	1	0	4	70	30	30	20	150	25
	Department Elective III	3	2	0	5	70	30	30	20	150	25
2182507	Project II	0	0	8	8	0	0	80	20	100	25
	TOTAL	15	7	8	30						

Departmental Elective III:

2182506	Managing Projects
2181923	Entrepreneurship

Rubber technology (26)

SEM - VIII

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/Practical		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
2182607	Tyre & Tube Technology	3	0	2	5	70	30	30	20	150	26
	Departmental Elective - III	3	0	2	5	70	30	30	20	150	26
2182604	Automation & control in Rubber Industries	3	0	2	5	70	30	30	20	150	26
2182605	Rubber Product & Process Computer Aided Design	3	0	2	5	70	30	30	20	150	26
2182606	Project-II	0	0	8	8	0	0	80	20	100	26
	Total	12	0	18	28						
Departmental Elective III:											
2182608	Belts, hoses & Footwear Technology										
2182609	Polyurethane Technology										

Textile Processing (28)

SEM - VIII

Subject code	Subject name	Teaching Scheme (Hours)			Credits	University Exam (E)		Mid Sem Test (M)	Practical (I)	Total Marks	Branch Code
		Theory	Tutorial	Practical		Theory	Practical/Viva				
	Departmental Elective - III	3	0	2	5	70	30	30	20	150	28
2182801	Technology of Dyeing - III	4	0	3	7	70	30	30	20	150	28
2182802	Technological Advances in Textile Processing	3	0	0	3	70	30	0	0	100	28
2182803	Dye House Management	3	0	0	3	70	30	0	0	100	28
2182806	Project - II	0	0	10	10	0	0	80	20	100	28
	Total	13	0	15	28						

Departmental Elective III:

2182804	Quality Control in Wet Processing
2182805	Advanced Textile Processing Machineries

Textile Technology (29)											
Semester VIII											
Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
	Departmental Elective - III	3	0	2	5	70	30	30	20	150	29
2182907	Process & Quality Control in Spinning	3	0	0	3	70	30	0	0	100	29
2182902	Process & Quality Control in Weaving	3	0	0	3	70	30	0	0	100	29
2182901	Principles of Textile Processes	4	0	0	4	70	30	0	0	100	29
2182903	Technical Textile-II	3	0	0	3	70	30	0	0	100	29
2182909	Project II	0	0	10	10	0	0	80	20	100	29
	Total	16	0	12	28						
Departmental Elective III:											
2182905	Surface Ornamentation & Fashion Art										
2182908	Technology of Denim Manufacturing										

Information & Communication Technology (32)											
Semester VIII											
Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
2180703	Artificial Intelligence	4	0	2	6	70	30	30	20	150	32
	Departmental Elective - III	3	0	2	5	70	30	30	20	150	32
2183206	Project (Phase-II)	0	0	16	16	0	0	80	20	100	32
	Total	7	0	20	27						

Departmental Elective III	
2180709	IOT and Applications
2180710	Big Data Analytics
2183202	Systems and Network Security
2183201	Multimedia Computing

Manufacturing Engineering(34)

Semester VIII

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
2181921	Design for Manufacturing and Assembly	3	2	0	5	70	30	30	20	150	34
2183408	Product Design & Development	3	2	0	5	70	30	30	20	150	34
	Department Elective- III*	3	0	2	5	70	30	30	20	150	34
2183406	Project - II	0	0	15	15	0	0	80	20	100	34
	TOTAL	9	4	17	30						
	Department Elective- III	Theory	Tutorial	Practical	Credits	ESE(E)	PA (M)	Viva (V)	PA(I)	Total Marks	
2183409	Composite Technology	3	0	2	5	70	30	30	20	150	34
2181923	Entrepreneurship	3	2	0	5	70	30	30	20	150	34
2181922	Automation	3	0	2	5	70	30	30	20	150	34
2182501	Production and Operations Management	3	2	0	5	70	30	30	20	150	34
2181919	Robotics	3	0	2	5	70	30	30	20	150	34

* Credits will vary as per the syllabus of the concern subject in tutorial and Practical as per above table

Environmental Science and Technology (35)

Semester VIII

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
	Department Elective - III	3	0	2	5	70	30	30	20	150	35
2183507	Design of Treatment Plants	4	1	2	7	70	30	30	20	150	35
2183511	Municipal Waste & Sewage Management	3	0	0	3	70	30	0	0	150	35
2183512	Environmental Management - III	3	0	0	3	70	30	0	0	100	35
2183506	Project – II	0	0	8	8	0	0	80	20	100	35
	TOTAL	13	1	12	26						
	Department Elective- III										
Code	Name of the subject										
2183504	Sustainable Development & Green Chemistry										
2183510	Water Supply & Management										

Chemical Technology (36)

Semester VIII

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
2183605	Project – II	0	0	10	10	0	0	80	20	100	36
	Department Elective – IX	4	0	3	7	70	30	30	20	150	36
2183607	Process Instrumentation, Dynamics & Control	3	0	3	6	70	30	30	20	150	36
2183608	Chemical Process Technology	3	0	0	3	70	30	0	0	100	36
	Department Elective – X	4	0	0	4	70	30	0	0	100	36
	Total	14	0	16	30						

Department Elective- IX

Code	Name of the subject
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2183601	Drug Delivery, Biotechnology & Validation Requirement
2183602	Design & Fabrication of Molds
2183606	Physical Ceramics
2183609	Analysis, Applications, Health and Safety Aspects of Dyes & Pigments

Department Elective-X

Code	Name of the subject
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2183610	Nanoscience Technology and Pharmaceutical Packaging Technology
2183611	Recycling and Packaging of Polymer and Rubber
2183612	Advanced Ceramics
2183613	Engineering of Pigmented Dispersion.

Nano Technology (39)

Semester VIII

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
2183901	Nanolithography	3	0	0	3	70	30	0	0	100	39
2183902	Nanotechnology for Advanced Drug Delivery Systems	4	0	0	4	70	30	0	0	100	39
2183903	Simulation Techniques for Nano particle Characterization	0	0	6	6	0	0	80	20	100	39
2183904	Nanosensors and Transducers	4	0	2	6	70	30	30	20	150	39
2183905	Project-2(Synthesis of Nanomaterials)	0	0	6	6	0	0	80	20	100	39
	Department Elective -III	3	2	0	5	70	30	30	20	150	39
	Total	14	2	14	30						

Departmental Elective III	
2183906	Industrial Nanotechnology
2183907	Chemical Principles of Self Assembly Systems
2183908	Nanotechnology in Health Care

Civil & Infrastructure Engineering (40)

Semester VIII

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
2184001	Professional Practice and Valuation of Infrastructure	3	2	0	5	70	30	30	20	150	40
2184002	Airport and Seaport Infrastructure	3	2	0	5	70	30	30	20	150	40
2184003	Project – II	0	0	10	10	0	0	80	20	100	40
	Departmental Elective – III	3	2	0	5	70	30	30	20	150	40
	Departmental Elective – IV	3	2	0	5	70	30	30	20	150	40
	Total	12	8	10	30						
	Departmental Elective – III										
2184004	Design of Hydraulic Structures	3	2	0	5						
2184005	Contract Administration & Management	3	2	0	5						
2184006	Design of Offshore Structures	3	2	0	5						
2184007	Air Pollution & Noise Control	3	2	0	5						
	Departmental Elective – IV										
2184008	Pavement Analysis and Design	3	2	0	5						
2184009	Optimisation of Engineering Systems	3	2	0	5						
2184010	Design of Earthquake Resistant Structures	3	2	0	5						
2184011	Repair and Rehabilitation of Buildings	3	2	0	5						