

Draft Teaching Scheme : B.E. Course : Semester VIII (W.E.F.: 2016-2017)
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Aeronautical Engineering (01)

Semester VIII

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
	Aircraft Design II	4	0	2	6	70	30	30	20	150	1
	Helicopter Engineering	4	0	0	4	70	30	0	0	100	1
	Space Dynamics	3	0	0	3	70	30	0	0	100	1
	Project – II	0	0	12	12	0	0	80	20	100	1
	Department Elective III	4	0	2	6	70	30	30	20	150	1
	Total	15	0	16	31						
Departmental Elective III:											
	Aircraft Control and Navigation										
	High Speed Aerodynamics										

Automobile Engineering (02)

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)		
	Project II	0	0	12	12	0	0	80	20	100	2
	Automobile system Design	4	0	2	6	70	30	30	20	150	2
	Special Purpose Vehicles	3	1	0	4	70	30	30	20	120	2
	Department Elective II	3	1	0	4	70	30	30	20	150	2
	Department Elective III	3	1	0	4	70	30	30	20	150	2
	Total	13	3	14	30						
Departmental Elective II											
	Automobile Industrial Engineerring										
	AutoComputer Integrated Manufacturing										
Departmental Elective III											
	Noise, Vibration & Harshness and Safety										
	Automotive and Combustion Engine Technology										

Bio-Technology(04)											
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 Ellective-III	4	2	0	6	70	30	30	20	150	4
	Animal and Plant Biotechnology	3	0	3	6	70	30	30	20	150	4
	Biochemical Engineering-II	4	0	3	7	70	30	30	20	150	4
	Biostatistics	3	0	0	3	70	30	0	0	100	4
	Project-II	0	0	8	8	0	0	80	20	100	4
	Total	14	2	14	30						
Departmental Elective III											
	Biochemical Calculations										
	Research Methodology										
	Biophysics										

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)		
	Petroleum Refining & Petrochemicals	4	0	2	6	70	30	30	20	150	5
	Project -II	0	0	8	8	0	0	80	20	100	5
	Process Modeling, Simulation & Optimization	4	0	3	7	70	30	30	20	150	5
	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	
	Multi Component Distillation
	Solid-fluid operations
	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)		
	Project -II	0	0	8	8	0	0	80	20	100	6
	Foundation Engineering	3	0	2	5	70	30	30	20	150	6
	Design of Steel Structures	3	2	0	5	70	30	30	20	150	6
	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:		
	Design of Hydraulic Structures	
	Repairs & Rehabilitation of Concrete Structures	
	Design of Prestressed Concrete Structures & Bridges	
	Harbour & Airport Engineering	

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)		
	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
	Project (Phase-II)	0	0	16	16	0	0	80	20	100	7
	Total	7	0	20	27						

Departmental Elective III	
	IOT and Applications
	Big Data Analytics
	Python Programming
	Cloud Infrastructure and Services
	Web data Management

Electrical & Electronics Engineering (08)
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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)		
	Project	0	0	12	12	0	0	80	20	100	8
	Commissioning of Electrical & Electronics Equipments	4	0	2	6	70	30	30	20	150	8
	Industrial Automation	4	0	2	6	70	30	30	20	150	8
	Departmental Elective - III	4	0	2	6	70	30	30	20	150	8
	Total	12	0	18	30						

Departmental Elective III	
	Embedded Systems
	Advanced Control Systems
	Industrial Communication System

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)		
	Power System Planning and Design	3	0	2	5	70	30	30	20	150	9
	Project	0	0	10	10	0	0	80	20	100	9
	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
	Power System Operation and Control	4	0	0	4	70	30	0	0	100	9
	Total	13	0	16	29						

Departmental Elective III:	
	Energy Conservation, and Audit
	Power Quality and Management
	EHV AC-DC Transmission
	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	0	0	100	50	150	10
	Project	0	0	22	22	0	0	100	50	150	10
	Total	4	0	24	28						

Departmental Elective II	
	Fandamental of Image Processing
	Setellite Communcication
	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
	Project II	0	0	24	24	0	0	80	20	100	11
	Total	4	0	26	30						

Departmental Elective III:	
	Fundamentals of Image Processing
	Radar & Navigational Aids
	Device Driver & Writing
	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)		
	Environmental Impact Assessment	3	2	0	5	70	30	30	20	150	13
	Treatment Process Design and Drawing	4	2	0	6	70	30	30	20	150	13
	Project II	0	0	8	8	0	0	80	20	100	13
	Environmental Monitoring & Data Management	3	2	0	5	70	30	30	20	150	13
	Departmental Elective - III	3	0	0	3	70	30	0	0	100	13
	Total	13	6	8	27						

Departmental Elective III:

	Environmental Legislation & Audit
	Geo informatics for Environmental Management

Food Processing & Technology (14)

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)		
	Industrial Project including PSAR	0	0	30	30	0	0	100	50	150	14
	Total	0	0	30	30						

Industrial Engineering (15)	
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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)		
	Project Management	4	0	2	6	70	30	30	20	150	15
	Management of Human Resources	4	2	0	6	70	30	30	20	150	15
	Department Elective - III	4	0	2	6	70	30	30	20	150	15
	Project II	0	0	12	12	0	0	80	20	100	15
	TOTAL	12	2	16	30						
Departmental Elective III:											
	Management Information System										
	Industrial Ergonomics										

Information Technology (16)

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)		
	Artificial Intelligence	4	0	2	6	70	30	30	20	150	16
	Departmental Elective - III	3	0	2	5	70	30	30	20	150	16
	Project (Phase-II)	0	0	16	16	0	0	80	20	100	16
	Total	0	0	16	27						
Departmental Elective III											
	IOT and Applications										
	Python Programming										
	Mutlimedia and Animation										
	Web data Management										
	Cloud Infrastructure and Services										

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
	Project Engineering and Management	4	2	0	6	70	30	30	20	150	17
	Advance Control Theory	4	0	2	6	70	30	30	20	150	17
	Project II	0	0	12	12	0	0	80	20	100	17
	Total	12	2	16	30					550	
Departmental Elective III:											
	Robotics										
	Instrumentation for Agriculture and Food Processing										
	Automative Instrumentation										
	Numerical Control System										
	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)		
	Project II	0	0	16	16	0	0	80	20	100	19
	Renewable Energy Sources	4	0	0	4	70	30	0	0	100	19
	Department Elective II	3	0	2	5	70	30	30	20	150	19
	Department Elective III	3	0	2	5	70	30	30	20	150	19
	Total	10	0	20	30						

Mechatronics Engineering (20)	
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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)		
	Programmable Logic Controllers	3	0	2	5	70	30	30	20	150	20
	Automated Manufacturing - II	3	0	2	5	70	30	30	20	150	20
	Quality Assurance & Reliability	3	0	0	3	70	30	0	0	100	20
	Design of Mechanisms - II	3	0	0	3	70	30	0	0	100	20
	Project - II	0	0	8	8	0	0	80	20	100	20
	Departmental Elective - III	3	0	2	5	70	30	30	20	150	20
	Total	16	0	14	29						
Departmental Elective III											
	Machine Vision										
	MEMS and Nanotechnology										

Metallurgy Engineering (21)	
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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)		
	Material selection and Failure Analysis	4	0	2	6	70	30	30	20	150	21
	Composite Materials	4	1	0	5	70	30	30	20	150	21
	Department Elective -II	4	2	0	6	70	30	30	20	150	21
	Department Elective -III	4	0	2	6	70	30	30	20	150	21
	Research paper review and presentation	0	0	2	2	0	0	80	20	100	21
	Project II	0	0	6	6	0	0	80	20	100	21
	Total	16	3	12	31						
Departmental Elective II											
	Advanced Non Ferrous Extractive Metallurgy										
	Quality Engineering & Industrial Safety										
	Engineering Estimation and Costing										
	Ceramic and Polymer Materials										
Departmental Elective III											
	Industrial Corrosion, Testing, Prevention & Control										
	Computational Metallurgy										
	Thin Film and Nano-Technology										
	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)		
	Mine & Mineral Economics	3	0	0	3	70	30	0	0	100	22
	Advance Mining Methods	3	0	0	3	70	30	0	0	100	22
	Mining & Processing of Dimensional Stone	3	0	2	5	70	30	30	20	150	22
	Mine Safety Engineering	3	0	0	3	70	30	0	0	100	22
	Project-II	0	0	12	12	0	0	80	20	100	22
	Departmental Elective - III	2	0	2	4	70	30	30	20	150	22
	Total	14	0	16	30						

Departmental Elective III	
	Underground Space Technology
	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)		
	Advanced Plastic Mould Design	3	0	3	6	70	30	30	20	150	23
	Polymer Alloys and Blends	3	0	2	5	70	30	30	20	150	23
	Plastic Product Design	3	0	2	5	70	30	30	20	150	23
	Project-2	0	0	8	8	0	0	80	20	100	23
	Departmental Elective - III	3	0	3	6	70	30	30	20	150	23
	Total	12	0	18	30						

Departmental Elective III:	
	Nano Polymer Technology
	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)		
	Power Electronics Applications	4	0	2	6	70	30	30	20	150	24
	Project-II	0	0	12	12	0	0	80	20	100	24
	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	18	30						

Departmental Elective II:	
	Programmable Logic Controller
	Advanced Electrical Machines and Drives
	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)		
	Production and Operations Management	3	2	0	5	70	30	30	20	150	25
	Recent Advances in Manufacturing	3	1	0	4	70	30	30	20	150	25
	Design of Product and Machine Tools	3	1	0	4	70	30	30	20	150	25
	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
	Project II	0	0	8	8	0	0	80	20	100	25
	TOTAL	15	7	8	30						

Departmental Elective III:	
	Managing Projects
	Entrepreneureship

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)		
	Tyre & Tube Technology	3	0	3	6	70	30	30	20	150	26
	Departmental Elective - III	3	0	3	6	70	30	30	20	150	26
	Automation & control in Rubber Industries	3	0	2	5	70	30	30	20	150	26
	Rubber Product & Process Computer Aided Design	3	0	2	5	70	30	30	20	150	26
	Project-II	0	0	8	8	0	0	80	20	100	26
	Total	12	0	18	30						
Departmental Elective III:											
	Belts, hoses & Footwear Technology										
	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
	Technology of Dyeing - III	4	0	3	7	70	30	30	20	150	28
	Technological Advances in Textile Processing	3	0	0	3	70	30	0	0	100	28
	Dye House Management	3	0	0	3	70	30	0	0	100	28
	Project - II	0	0	12	12	0	0	80	20	100	28
	Total	13	0	17	30						

Departmental Elective III:	
	Quality Control in Wet Processing
	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
	Process & Quality Control in Spinning	3	0	0	3	70	30	0	0	100	29
	Process & Quality Control in Weaving	3	0	0	3	70	30	0	0	100	29
	Principles of Textile Processes	4	0	0	4	70	30	0	0	100	29
	Technical Textile-II	3	0	0	3	70	30	0	0	100	29
	Project II	0	0	12	12	0	0	80	20	100	29
	Total	16	0	14	30						
Departmental Elective III:											
	Surface Ornamentation & Fashion Art										
	Modern Fibre Technology										

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)		
	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
	Project (Phase-II)	0	0	16	16	0	0	80	20	100	32
	Total	7	0	20	27						

Departmental Elective III	
	IOT and Applications
	Big Data Analytics
	Systems and Network Security
	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)		
	DFMA	3	2	0	5	70	30	30	20	150	34
	Product Design & Development	3	2	0	5	70	30	30	20	150	34
	Department Elective- III	3	2	0	5	70	30	30	20	150	34
	Project - II	0	0	15	15	0	0	80	20	100	34
	TOTAL	9	6	15	30						
	Department Elective- III										
	Composite Technology										
	Entrepreneurship										
	Robotics										
	Cost Estimation										
	Production & Operations Management										
	Advances in Manufacturing System										

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	0	3	70	30	0	0	100	35
	Instrumentation and Monitoring Systems	3	0	2	5	70	30	30	20	150	35
	Environmental System Modelling	3	0	2	5	70	30	30	20	150	35
	Environmental Impact Assessment	3	0	0	3	70	30	0	0	100	35
	Project – II	0	0	14	14	0	0	80	20	100	35
	TOTAL	12	0	21	33						
Department Elective- III											
Code	Name of the subject										
	Recent Advances on plastic waste and bio medical waste management										
	Recent Advances on plastic e-waste management										

	Pollution Prevention & Remediation Technologies
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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)		
	Project – II	0	0	14	14	0	0	80	20	100	36
	Process Intensification and Product Design	3	0	0	3	70	30	0	0	100	36
	Process Instrumentation, Dynamics & Control	3	0	3	6	70	30	30	20	150	36
	Chemical Process Technology	3	0	0	3	70	30	0	0	100	36
	Department Elective – IX	4	0	0	4	70	30	0	0	100	36
	Total	13	0	17	30						

Department Elective- IX

Code	Name of the subject
	Drug Delivery, Biotechnology & Validation Requirement
	Design & Fabrication of Molds
	Special Topics in Glass & Ceramics - II
	New Technologies & Products

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)		
	Nanolithography	3	0	0	3	70	30	30	20	150	39
	Nanotechnology for Advanced Drug Delivery Systems	4	0	0	4	70	30	0	0	100	39
	Simulation Techniques for Nano particle Characterization	0	0	6	6	0	0	80	20	100	39
	Nanosensors and Transducers	4	0	2	6	70	30	30	20	150	39
	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

	Industrial Nanotechnology
	Chemical Principles of Self Assembly Systems
	Nanotechnology in Health Care