DEPARTMENT OF MECHANICAL ENGINEERING

CURRICULUM OF 2ND TO 4TH YEAR (MODULE 1) OF THE

UNDERGRADUATE ENGINEERING DEGREE PROGRAMME

2nd Year, 1st Semester

Course code	Course name	Category	Type	Contact L-T-P	Credit	Marks
FET/BS/B/Math/T/211	Mathematics	BS	Basic	2-1-0	3	100
ME(M1)/PC/B/T/212	Thermodynamics	PC	Basic	3-0-0	3	100
ME(M1)/PC/B/T/213	Fluid Mechanics-1	PC	Basic	3-0-0	3	100
ME(M1)/ES/B/T/214	Material Science & Engineering	ES	Basic	3-0-0	3	100
ME(M1)/PC/B/T/215	Engineering Dynamics	PC	Basic	3-0-0	3	100
ME(M1)/PC/B/T/216	Strength of Materials	PC	Basic	3-0-0	3	100
ME(M1)/PC/B/S/211	Advanced Drawing	PC	Basic	0-0-3	1.5	100
ME(M1)/PC/B/S/212	Computer Aided Drafting	PC	Basic	0-0-3	1.5	100
				Total	21	800

2nd Year, 2nd Semester

Course code	Course name	Category	Type	Contact L-T-P	Credit	Marks
ME(M1)/PC/B/T/221	Heat Transfer	PC	Basic	3-0-0	3	100
ME(M1)/PC/B/T/222	Kinematics analysis& synthesis	PC	Basic	3-0-0	3	100
ME(M1)/PC/B/T/223	Machine Design –1	PC	Basic	3-0-0	3	100
ME(M1)/PC/B/T/224	Manufacturing Processes	PC	Basic	3-0-0	3	100
ME(M1)/PC/B/T/225	Fluid Mechanics-2	PC	Basic	3-0-0	3	100
ME(M1)/PC/B/T/226	Dynamics of Machines	PC	Basic	3-0-0	3	100
ME(M1)/PC/B/S/221	Machine Drawing	PC	Basic	0-0-3	1.5	100
ME(M1)/PC/B/S/222	Applied Mechanics Lab	PC	Basic	0-0-3	1.5	100
				Total	21	800

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UNDERGRADUATE ENGINEERING DEGREE PROGRAMME

3rd Year, 1st Semester

Course code	Course name	Category	Type	Contact L-T-P	Credit	Marks
ME(M1)/PC/B/T/311	Internal Combustion Engines	PC	Basic	3-0-0	3	100
ME(M1)/PC/B/T/312	Machine Design-2	PC	Basic	3-0-0	3	100
ME(M1)/PC/B/T/313	Machining Technology & Metrology	PC	Basic	3-0-0	3	100
ME(M1)/PC/B/T/314	Fundamentals of Fluid Machinery	PC	Basic	3-0-0	3	100
ME(M1)/PC/H/T/315	Advanced Engineering Mechanics	PC	Hons	3-0-0	3	100
ME(M1)/PE/B/T/316	Professional Elective-1	PE	Basic	3-0-0	3	100
ME(M1)/PS/B/S/311	Colloquium	PS	Basic	0-0-3	1.5	100
ME(M1)/PS/B/S/312	Minor Project	PS	Basic	0-0-3	1.5	100
ME(M1)/PC/B/S/313	Workshop Practice -I	PC	Basic	0-0-3	1.5	100
				Total	22.5	900

Professional Elective-1 [ME(M1)/PE/B/T/316]	
A.	Introduction To Finite Element Method
B.	Optimization Techniques For Engineering Design
C.	Numerical Heat Transfer
D.	Solar Energy
E.	Advanced Thermodynamics
F.	Statistical Thermodynamics
G.	Elements Of Computational Fluid Dynamics
H.	Mechanical Measurement and Industrial Statistics
I.	Mathematical Methods for Engineers
J.	Introduction to Composite Structures

3rd Year, 2nd Semester

Course code	Course name	Category	Type	Contact L-T-P	Credit	Marks
ME/PC/B/T/321	Steam Power Plant	PC	Basic	3-0-0	3	100
ME(M1)/PC/B/T/322	Machine Design-3	PC	Basic	3-0-0	3	100
ME(M1)/PC/B/T/323	Electro Hydraulic Control Systems	PC	Basic	3-0-0	3	100
ME(M1)/PC/B/TS/324	Instrumentation & Measurement	PC	Basic	2-0-2	3	100
ME(M1)/PC/H/T/325	Advanced Metal Cutting & Machine Tools	PC	Hons	3-0-0	3	100
ME(M1)/PE/B/T/326	Professional Elective-2	PE	Basic	3-0-0	3	100
ME(M1)/PC/B/S/321	Thermal & Fluid Lab-I	PC	Basic	0-0-3	1.5	100
ME(M1)/PC/B/S/322	Metrology & Metallography Lab	PC	Basic	0-0-3	1.5	100
ME(M1)/PC/B/S/323	Workshop Practice-II	PC	Basic	0-0-3	1.5	100
ME(M1)/PC/B/S/324	CAD (Machine Design Sessional)	PC	Basic	0-0-3	1.5	100
				Total	24	1000

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Professional Elective-2 [ME(M1)/PE/B/T/326]	
A.	Mechanical Vibration Analysis
B.	Dynamics and Control of Electromechanical Systems
C.	Principles of Engineering Tribology
D.	Extended Surface Heat Transfer
E.	Energy Conservation and Management
F.	Combustion Engineering
G.	Introduction to Turbulent Fluid Flow
H.	Advanced Production Processes
I.	Quantity Production Methods
J.	Laser Machining Process

4th Year, 1st Semester

Course code	Course name	Category	Type	Contact L-T-P	Credit	Marks
ME(M1)/PC/H/T/411	Refrigeration & Airconditioning (Advanced)	PC	Hons	3-0-0	3	100
ME(M1)/PC/H/T/412	Advanced Machine Design	PC	Hons	3-0-0	3	100
ME(M1)/PC/H/T/413	Advanced Fluid Machinery	PC	Hons	3-0-0	3	100
ME(M1)/HS/B/T/414	Industrial Management	HS	Basic	3-0-0	3	100
ME(M1)/PE/B/T/415	Professional Elective-3	PE	Basic	3-0-0	3	100
	Open Elective-1	OE	Basic	3-0-0	3	100
ME(M1)/PC/B/S/411	Thermal & Fluid Lab-II	PC	Basic	0-0-3	1.5	100
ME(M1)/PS/B/S/412	Workshop Practice-III A	PS	Basic	0-0-3	1.5	100
ME(M1)/PS/B/S/413	Major Project (to continue in 2nd semester also)	PS	Basic	0-0-3	1.5	100
				Total	22.5	900

Professional Elective-3 [ME(M1)/PE/B/T/415]	
A.	Finite Element Method For Nonstructural Applications
B.	Mechatronics
C.	Theory of Pressure Vessels
D.	Advanced Heat Transfer
E.	Advanced Automotive Engines
F.	Steam Turbine
G.	Aerodynamics
H.	Operations Research
I.	Theory of Metal Forming
J.	Production Systems and Controls

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4th Year, 2nd Semester

Course code	Course name	Category	Type	Contact L-T-P	Credit	Marks
ME(M1)/PC/B/T/421	Mechanical Handling of Materials	PC	Basic	3-0-0	3	100
ME(M1)/HS/B/T/422	Engineering Economics and Costing	HS	Basic	3-0-0	3	100
ME(M1)/PE/B/T/423	Professional Elective-4	PE	Basic	3-0-0	3	100
ME(M1)/PE/B/T/424	Professional Elective-5	PE	Basic	3-0-0	3	100
	Open Elective-2	OE	Basic	3-0-0	3	100
	Open Elective-3	OE	Basic	3-0-0	3	100
ME(M1)/PC/B/S/421	Machine Elements Lab	PC	Basic	0-0-3	1.5	100
ME(M1)/PS/B/S/422	Major Project	PS	Basic	0-0-3	1.5	100
ME(M1)/PS/B/S/423	Workshop Practice- III B	PS	Basic	0-0-3	1.5	100
	Total				22.5	900

Professional Elective-4 [ME(M1)/PE/B/T/423]	
A.	Elements of Fracture Mechanics
B.	Design Methodology for Fracture, Fatigue and Creep
C.	Design of Thermal Systems
D.	Gas Turbines
E.	Thermal Turbo Machines
F.	Nuclear Power Engineering
G.	Hydro, Wind and Wave Power
H.	Maintenance and Safety Engineering

Professional Elective-5 [ME(M1)/PE/B/T/424]	
A.	Finite Elements for Dynamics and Non-Linearity
B.	Robotics
C.	Reliability in Engineering Design
D.	Dynamics of Thermal Systems
E.	Steam Generators
F.	Bio-Heat Transfer
G.	Advanced Power Generation
H.	Introduction to Modern Control Theory
I.	Total Quality Management and Six Sigma