

**Contains curriculum of module 2 of ME for 4 years
last revised on 03-07-2019**

Bachelor of Mechanical Engineering
4 Year BME Course

First Year First Semester

Course Code	Course name	Category	Type	Contact L-T-P	Credit	Marks
ME(M2)/BS/B/MATH/T/111	Mathematics – I	BS	Basic	3-0-0	3	100
ME(M2)/BS/B/Ph/T/112	Physics	BS	Basic	3-0-0	3	100
ME(M2)/ES/B/ET/T/113	Electronics	ES	Basic	3-0-0	3	100
ME(M2)/ES/B/EE/T/114	Basic Electrical Engineering	ES	Basic	3-0-0	3	100
ME(M2)/ES/B/T/115	Engineering Mechanics: Statics	ES	Basic	3-0-0	3	100
ME(M2)/HS/B/HUM/T/116	Humanities and Sociology	HS	Basic	3-0-0	3	100
ME(M2)/ES/B/S/111	Engineering Drawing (Drawing board mode)	ES	Basic	0-0-3	1.5	100
ME(M2)/ES/B/S/112	Workshop Practice – I	ES	Basic	0-0-3	1.5	100
Total				18-0-6	21	800

First Year Second Semester

Course code	Course name	Category	Type	Contact L-T-P	Credit	Marks
ME(M2)/BS/B/MATH/T/121	Mathematics-II	BS	Basic	3-0-0	3	100
ME(M2)/PC/B/EE /T/122	Electrical Machines	BS	Basic	3-0-0	3	100
ME(M2)/PC/B/T/123	Strength of Materials	PC	Basic	3-0-0	3	100
ME(M2)/ES/B/T/124	Fluid Mechanics –I	ES	Basic	3-0-0	3	100
ME(M2)/ES/B/T/125	Thermodynamics	ES	Basic	3-0-0	3	100
ME(M2)/ES/B/S/121	Descriptive Geometry and Surface Development	ES	Basic	0-0-3	1.5	100
ME(M2)/ES/B/S/122	Computer Programming	ES	Basic	0-0-3	1.5	100
ME(M2)/ES/B/S/123	Workshop Practice II	ES	Basic	0-0-3	1.5	100
ME(M2)/ES/B/EE&ET/S/124	Electrical Technology Lab/Basic Electrical and Electronics Lab	ES	Basic	0-0-3	1.5	100
MC/TS/P101	Technical Communicative English & Soft Skill	MC	Basic	0-0-3	0	0
Total				15-0-12	21	900

Second Year First Semester

Course code	Course name	Category	Type	Contact L-T-P	Credit	Marks
ME(M2)/BS/B/MATH/T/211	Mathematics III	BS	Basic	3-0-0	3	100
ME(M2)/PC/B/T/212	Engineering Dynamics	Pc	Basic	3-0-0	3	100
ME(M2)/PC/B/T/213	Fluid Mechanics-II	PC	Basic	3-0-0	3	100
ME(M2)/PC/B/T/214	Heat Transfer	PC	Basic	3-0-0	3	100
ME(M2)/PC/B/T/215	Material Science and Engineering	PC	Basic	3-0-0	3	100
ME(M2)/PC/B/S/211	Computer Aided Drafting	PC	Basic	0-0-3	1.5	100
ME(M2)/PC/B/S/212	Machine Drawing I(Drawing board mode)	PC	Basic	0-0-3	1.5	100
ME(M2)/PC/B/S/213	Electrical Technology Lab.(-II)	PC	Basic	0-0-3	1.5	100
ME(M2)/BS/B/S/214	Numerical analysis	Bs	Basic	0-0-3	1.5	100
Total				15-0-12	21	900

Second Year Second Semester

Course code	Course name	Category	Type	Contact L-T-P	Credit	Marks
ME(M2)/BS/B/MATH/T/221	Mathematics-IV	BS	Basic	3-0-0	3	100
ME(M2)/PC/B/T/222	Fluid Machinery-I	Pc	Basic	3-0-0	3	100
ME(M2)/PC/B/T/223	Advanced Engineering Mechanics	PC	Basic	3-0-0	3	100
ME(M2)/PC/B/T/224	Kinematic Analysis and Synthesis	PC	Basic	3-0-0	3	100
ME(M2)/PC/B/T/225	Design of Machine Elements-I	Pc	Basic	3-0-0	3	100
ME(M2)/PC/B/T/226	Manufacturing Processes	Pc	Basic	3-0-0	3	100
ME(M2)/PC/B/S/221	Machine Drawing II (Computer terminal Mode)	Pc	Basic	0-0-3	1.5	100
ME(M2)/PC/B/S/222	Fluid Mechanics Lab	ES	Basic	0-0-3	1.5	100
ME(M2)/PC/B/S/223	Heat Power Lab.-I (Thermo. & Heat Transfer)	Pc	Basic	0-0-2	1	100
ME(M2)/PC/B/S/224	Applied Mechanics Lab. – I	Pc	Basic	0-0-2	1	100
ME(M2)/PC/B/S/225	Workshop Practice III		Basic	0-0-3	1.5	100
Total				18-0-13	24.5	1100

Third Year First Semester

Course code	Course name	Category	Type	Contact L-T-P	Credit	Marks
ME(M2)/PC/B/T/311	Fluid Machinery-II	Pc	Basic	3-0-0	3	100
ME(M2)/PC/B/T/312	Dynamics of Machines	Pc	Basic	3-0-0	3	100
ME(M2)/PC/B/T/313	Internal Combustion Engine	Pc	Basic	3-0-0	3	100
ME(M2)/PC/B/T/314	Design of Machine Elements-II	Pc	Basic	3-0-0	3	100
ME(M2)/PC/B/T/315	Machining Technology and Metrology	Pc	Basic	3-0-0	3	100
ME(M2)/PE/B/T/316	Basic Professional Elective I	PE	Basic	3-0-0	3	100
ME(M2)/PC/B/S/311	Workshop Practice IVA	Pc	Basic	0-0-3	1.5	100
ME(M2)/PC/B/S/312	Metrology and Metallography Lab. A	Pc	Basic	0-0-2	1	100
ME(M2)/PC/B/S/313	Applied Mechanics Lab.-II	Pc	Basic	0-0-2	1	100
ME(M2)/PR/B/S/314	Minor Project	PS	Basic	0-0-3	1.5	100
Total				18-0-10	23	900

Basic Professional Elective I ME(M2)/PE/B/T/316	
A.	Introduction To Finite Element Method
B.	Optimization Techniques For Engineering Design
C.	Vehicle Dynamics And Automotive Suspension System
D.	Numerical Heat Transfer
E.	Solar Energy
F.	Elements Of Computational Fluid Dynamics
G.	Mechanical Measurement And Industrial Statistics
H.	Mathematical Method for Engineers
I.	Introduction to Composite Structures

Third Year Second Semester

Course code	Course name	Category	Type	Contact L-T-P	Credit	Marks
ME(M2)/PC/B/T/321	Energy Conversion System	PC	Basic	3-0-0	3	100
ME(M2)/H/B/T/322	Industrial Management	H	Hons	3-0-0	3	100
ME(M2)/PC/B/T/323	Design of Machine Elements-III	Pc	Basic	3-0-0	3	100
ME(M2)/PC/B/T/324	Electrohydraulic Control Systems	PC	Basic	3-0-0	3	100
ME(M2)/PE/B/T/325	Basic Professional Elective II	PE	Basic	3-0-0	3	100
ME(M2)/PC/B/TS/326	Measurement & Instrumentation	PC	Basic	2-0-2	3	100
ME(M2)/PC/B/S/321	Workshop Practice IVB	PC	Basic	0-0-3	1.5	100
ME(M2)/PC/B/S/322	Metrology and Metallography Lab. B	PC	Basic	0-0-2	1	100
ME(M2)/PC/B/S/323	Machine Design Sessional	PC	Basic	0-0-3	1.5	100
ME(M2)/PC/B/S/324	Fluid Machinery Lab.	PC	Basic	0-0-3	1.5	100
Total				17-0-13	23.5	1000

Basic Professional Elective II ME(M2)/PE/B/T/325	
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.	Aerodynamics
H.	Advanced Production Processes
I.	Quantity Production Methods
J.	Laser Machining Process

Fourth Year First Semester

Course code	Course name	Category	Type	Contact L-T-P	Credit	Marks
ME(M2)/PC/B/T/411	Design of Machine Elements-IV	Pc	Basic	3-0-0	3	100
ME(M2)/PC/B/T/412	Refrigeration and Air Conditioning	Pc	Basic	3-0-0	3	100
ME(M2)/PC/B/T/413	Metal Cutting and Machine Tools	Pc	Basic	3-0-0	3	100
ME(M2)/PE/B/T/414	Basic Professional Elective – III	PE	Basic	3-0-0	3	100
ME(M2)/PE/H/T/415	Hons Professional Elective- I	PE	Hons	4-0-0	4	100
	Hons Open Elec -I	OE	Hons	3-0-0	3	100
ME(M2)/PS/B/S/411	Workshop Practice VA	PS	Basic	0-0-3	1.5	100
ME(M2)/Pc/B/S/412	Heat Power Lab.-II(Devices)	Pc	Basic	0-0-2	1	100
ME(M2)/Pr/B/S/413	Colloquium	PS	Basic	0-0-3	1.5	100
ME(M2)/Pr/B/S/414	Project (Major)	PS	Basic	0-0-3	1.5	100
Total				19-0-11	24.5	1000

Basic Professional Elective III ME(M2)/PE/B/T/414	
A.	Finite Element Method For Nonstructural Applications
B.	Mechatronics
C.	Theory Of Pressure Vessels
D.	Plastics, Polymers, Composites And Ceramics Materials
E.	Advanced Heat Transfer
F.	Steam Turbine
G.	Advanced Automotive Engines
H.	Introduction To Turbulent Fluid Flow
I.	Theory Of Metal Forming
J.	Production Systems And Controls
K.	Design of Thermal systems
L.	Gas Turbines
M.	Thermal Turbo Machines

Hons Professional Elective- I ME(M2)/PE/H/T/415	
A.	Elements Of Fracture Mechanics
B.	Design Methodology For Fracture, Fatigue And Creep
C.	Dynamics Of Thermal Systems
D.	Steam Generators
E.	Bio-Heat Transfer
F.	Hydro, Wind And Wave Power
G.	Total Quality Management And Six Sigma

Fourth Year Second Semester

Course code	Course name	Category	Type	Contact L-T-P	Credit	Marks
ME(M2)/HS/B/T/421	Engineering Economics and Costing	HS	Basic	3-0-0	3	100
ME(M2)/PC/B/T/422	Material Handling	Pc	Basic	3-0-0	3	100
	Basic Open Elective- I	OE	Basic	3-0-0	3	100
ME(M2)/PE/H/T/424	Hons Professional Elec II	PE	Hons	4-0-0	4	100
	Hons Open Elec II	OE	Hons	3-0-0	3	100
ME(M2)/PS/B/S/421	Workshop Practice VB	PS	Basic	0-0-3	1.5	100
ME(M2)/PC/B/S/422	Machine Elements Lab	Pc	Basic	0-0-2	1	100
ME(M2)/Pr/B/S/423	Project (Major)	PS	Basic	0-0-3	1.5	100
Total				16-0-8	20	800

Hons Professional Elective II ME(M2)/PE/H/T/424	
A.	Finite Elements For Dynamics And Non-Linearity
B.	Reliability In Engineering Design
C.	Robotics
D.	Introduction To Nonlinear Oscillations
E.	Advanced Thermodynamics
F.	Advanced Power Generation
G.	Nuclear Power Engineering
H.	Introduction To Modern Control Theory
I.	Maintenance And Safety Engineering