



B. Tech Mechanical Engineering, Batch: 2023-2024

I Year – SEMESTER – I

Course Structure

Subject Code	Subject Category	Subject Name	L-T-P	Credits
23MA1101	BSC	Differential Equations and Multivariable Calculus	3-1-0	4
23EG1181	HSC	English Language Proficiency Lab	0-1-3	2.5
23PY1102	BSC	Engineering Physics	3-1-0	4
23EC1109	ESC	Basic Electrical and Electronics Engineering	3-1-0	4
23CY1103	BSC	Engineering Chemistry	3-0-0	3
23ME1181	ESC	Workshop Practice	0-0-3	1.5
23EC1189	ESC	Basic Electrical & Electronics Engineering Laboratory	0-0-3	1.5
23BS1183	BSC	Engineering Physics & Chemistry Laboratory	0-0-3	1.5
23HS1101	MC	Indian Constitution	2-0-0	0
Contact periods=24/25 Contact hours=36.0/37.5			Total credit	22

I Year – SEMESTER – II

Course Structure

Subject Code	Subject Category	Subject Name	L-T-P	Credits
23MA1201	BSC	Linear Algebra & Numerical Methods	3-1-0	4
23ME1213	ESC	Engineering Mechanics	3-1-0	4
23ME1201	ESC	Material Science & Metallurgy	3-0-0	3
23CS1261	ESC	Programming and Data Structures	3-0-0	0
23ME1214	ESC	Engineering Graphics and Computer Drafting	1-0-3	2.5
23CS1291	ESC	Programming and Data Structures Lab	0-0-3	1.5
23ME1281	ESC	Material Science and Metallurgy Lab	0-0-3	1.5
23BE1201	MC	Environmental Science	2-0-0	0
Contact periods=23/25 Contact hours= 34/37.5			Total Credits	19.5



II Year – SEMESTER – I

Course Structure

Subject Code	Subject Category	Subject Name	L-T-P	Credits
23MA2103	BSC	Transform Calculus	3-1-0	4
23ME2101	PCC	Kinematics of Machinery	3-1-0	4
23ME2102	PCC	Thermodynamics	3-1-0	4
23ME2103	PCC	Mechanics of Solids	3-1-0	4
23ME2104	PCC	Manufacturing Processes	3-0-0	3
23ME2181	PCC	Mechanics of Solids Lab	0-0-3	1.5
23ME2105	PCC	Computer Aided Machine Drawing	0-0-3	1.5
		Total Credits		22

II-Year – SEMESTER – II

Course Structure

Subject Code	Subject Category	Subject Name	L-T-P	Credits
23ME2201	PCC	Design of Machine Elements	3-1-0	4
23ME2202	PCC	Dynamics of Machinery	3-1-0	4
23ME2203	PCC	Fluid Mechanics & Hydraulic Machinery	3-1-0	4
23ME2204	PCC	Metal Cutting and Machine Tools	3-1-0	4
23MA2201	BSC	Probability and Statistics	3-0-0	3
23ME2281	PCC	Metal cutting and Machine Tools Lab	0-0-3	1.5
23ME2282	PCC	Fluid Mechanics & Hydraulic Machinery Lab	0-0-3	1.5
23HS2201	MC	Biology for Engineers	2-0-0	0
		Total Credits		22



III-Year – SEMESTER – I

Course Structure

Subject Code	Subject Category	Subject Name	L-T-P	Credits
23ME3101	PCC	Heat Transfer	3-1-0	4
23ME3102	PCC	Robotics and Automation	2-1-0	3
23ME3103	PCC	Applied Thermodynamics	3-1-0	4
23ME3104	PCC	Metrology and Mechanical Measurements	3-0-0	3
23ME3181	PCC	Metrology and Mechanical Measurements Lab	0-0-3	1.5
23ME3182	PCC	Heat Transfer Lab	0-0-3	1.5
23ME3183	PCC	Applied Thermodynamics Lab	0-0-3	1.5
23EG3182	HSC	English Language Communication Skills Lab-II	0-0-3	1.5
23HS3104	HSC	Aptitude and Reasoning	2-0-0	0
Total Credits				20

III-Year – SEMESTER – II

Course Structure

Subject Code	Subject Category	Subject Name	L-T-P	Credits
23ME3201	PCC	Operations Research	3-1-0	4
23ME3202	PCC	Finite Element Method	3-1-0	4
23ME3203	HSC	CAD/CAM	3-0-0	3
23CS3224	ESC	Artificial Intelligence and Machine Learning	3-0-0	3
23XX32XX	OEC	Open Elective Course-1	3-0-0	3
23ME3281	PCC	CAD/CAM Lab	0-0-3	1.5
23ME3282	PCC	CAE Lab	0-0-3	1.5
23EG3283	HSC	English Language Communication Skills Lab-III	0-0-3	1.5
Sub Total Credits				21.5
23ME3291		Summer Internship		3



	Total Credits	24.5
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IV-Year – SEMESTER – I

Course Structure

Subject Code	Subject Category	Subject Name	L-T-P	Credits
23ME41XX	PEC	Program Elective Course-1	3-0-0	3
23ME41XX	PEC	program Elective Course-2	3-0-0	3
23XX41XX	OEC	Open Elective Course-2	3-0-0	3
23ME4192	PROJ-1	Project	0-0-9	4
	Total Credits			13

IV Year – SEMESTER – II

Course Structure

Subject Code	Subject Category	Subject Name	L-T-P	Credits
23ME42XX	PEC	Program Elective Course-3	3-0-0	3
23ME42XX	PEC	Program Elective Course-4	3-0-0	3
23XX42XX	OEC	Open Elective Course-3	3-0-0	3
23ME42XX	MC	Community Service	0-0-0	2
23ME4293	PROJ-2	Project	0-0-0	6
	Total Credits			17

S.No	Semester	Credits
1	E1-SEM-I	22
2	E1-SEM-II	19.5
3	E2-SEM-I	22
4	E2-SEM-II	22
5	E3-SEM-I	20
6	E3-SEM-II	21.5
7	E3-SUM	03
8	E4-SEM-I	13.5
9	E4-SEM-II	17
	TOTAL	160.5



Professional Elective Courses

S.no	Course Name
1	Mechanical Vibrations
2	Tribology
3	Advanced Mechanics of Solids
4	Theory of Plates & Shells
5	Rotor Dynamics
6	Vehicle Dynamics
7	Bio Mechanics
8	Design Optimization
9	Mechanics of Composite Materials
10	Control Systems & Engineering
11	Design for Manufacturability
12	Micro Electro Mechanical Systems
13	System identification & condition monitoring
14	CAD/CAM
15	Product Design and Development
16	Power Plant Engineering
17	Advanced Fluid Mechanics
18	Advanced Heat Transfer
19	Computational Fluid Dynamics
20	Design of Heat Exchangers
21	Design and Optimization of Thermal Systems
22	Turbo Machinery
23	Gas Dynamics and Jet Propulsion
24	Fuels and Combustion
25	Energy Conservation and Management
26	Cryogenics
27	Renewable Energy Resources
28	Nuclear Power Generation & Safety
29	Automobile Engineering
30	Industrial Automation
31	Soft Computing
32	Advanced Materials Technology
33	Welding Technology
34	Advanced Manufacturing Processes



35	Additive Manufacturing
36	Advanced Metal Forming
37	Non Destructive Testing
38	Computer Aided Automation & Manufacturing
39	Surface Engineering
40	Inspection and Quality Control
41	CNC Machining
42	Flexible Manufacturing System
43	Mechatronics
44	Nanotechnology
45	Robotics and Applications
46	Production Operations and Management
47	Entrepreneur Resources Planning
48	Advanced Operations Research
49	Business Management and Development
50	Supply Chain Management
51	Industrial Engineering and Management
52	Refrigeration and Air Conditioning

Open Elective Course

S.no	Course Name
1	Electro Mechanical Systems Engineering
2	Nanomaterials
3	Industrial Robotics
4	Management Science and Productivity
5	Automotive Engineering
6	Total Quality Management and Reliability