B. Tech Mechanical Engineering, Batch: 2019-2020

I Year – SEMESTER – I

Course Structure

Subject Code	Subject Category	Subject Name	L-T-P	Credits
MA1101	BSC	Differential Equations and Multivariable Calculus	**3-1-0**	**4**
EG1181	HSC	English Language Proficiency Lab	**0-1-3**	**2.5**
PY1102	BSC	Engineering Physics	**3-1-0**	**4**
EC1109	ESC	Basic Electrical and Electronics Engineering	**3-1-0**	**4**
CY1103	BSC	Engineering Chemistry	**3-0-0**	**3**
ME1181	ESC	Workshop Practice	**0-0-3**	**1.5**
EC1189	ESC	Basic Electrical & Electronics Engineering Laboratory	**0-0-3**	**1.5**
BS1183	BSC	Engineering Physics & Chemistry Laboratory	**0-0-3**	**1.5**
	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
MA1201	BSC	Mathematical Methods	**3-1-0**	**4**
ME1213	ESC	Engineering Mechanics	**3-1-0**	**4**
ME1201	ESC	Material Science & Metallurgy	**3-0-0**	**3**
CS1209	ESC	Programming and Data Structures	**3-0-0**	**3**
ME1214	ESC	Engineering Graphics and Computer Drafting	**1-0-3**	**2.5**
CS1289	ESC	Programming and Data Structures Laboratory	**0-0-3**	**1.5**
ME1281	ESC	Material Science and Metallurgy Lab	**0-0-3**	**1.5**
BE1201	MC	Environmental Studies	**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
MA2103	BSC	Transform Calculus	**3-1-0**	**4**
ME2101	PCC	Kinematics of Machinery	**3-1-0**	**4**
ME2102	PCC	Thermodynamics	**3-1-0**	**4**
ME2103	PCC	Mechanics of Solids	**3-1-0**	**4**
ME2104	PCC	Manufacturing Processes	**3-0-0**	**3**
ME2181	PCC	Mechanics of Solids Laboratory	**0-0-3**	**1.5**
ME2105	PCC	Computer Aided Machine Drawing	**0-0-3**	**1.5**
	Contact periods=23/25 Contact hours= 34.5/37.5		**Total Credit**	**22**

II-Year – SEMESTER – II

Course Structure

Subject Code	Subject Category	Subject Name	L-T-P	Credits
ME2201	PCC	Design of Machine Elements	**3-1-0**	**4**
ME2202	PCC	Dynamics of Machinery	**3-1-0**	**4**
ME2203	PCC	Fluid Mechanics & Hydraulic Machinery	**3-1-0**	**4**
ME2204	PCC	Metal Cutting and Machine Tools	**3-1-0**	**4**
MA2201	BSC	Introduction to Probability and Statistics	**3-0-0**	**3**
ME2281	PCC	Metal cutting and Machine Tools Laboratory	**0-0-3**	**1.5**
ME2282	PCC	Fluid Mechanics & Hydraulic Machinery Laboratory	**0-0-3**	**1.5**
HS2201	MC	Indian Constitution	**2-0-0**	**0**
	Contact periods=25/25 Contact hours= 37.5/37.5 **Total Credit**			**22**

III-Year – SEMESTER – I

Course Structure

Subject Code	Subject Category	Subject Name	L-T-P	Credits
ME3101	PCC	Heat Transfer	**3-1-0**	**4**
ME3102	PCC	Design of Transmission Elements	**3-1-0**	**4**
ME3103	PCC	Applied Thermodynamics	**3-1-0**	**4**
ME3104	PCC	Metrology and Mechanical Measurements	**3-0-0**	**3**
ME3181	PCC	Metrology and Mechanical Measurements Laboratory	**0-0-3**	**1.5**
ME3182	PCC	Heat Transfer Laboratory	**0-0-3**	**1.5**
ME3183	PCC	Applied Thermodynamics Laboratory	**0-0-3**	**1.5**
EG3183	HSC	Employability Skills Laboratory	**0-0-3**	**1.5**
	Contact periods=23/25 Contact hours= 34.5/37.5 **Total Credits**			**21**

III-Year – SEMESTER – II

Course Structure

Subject Code	Subject Category	Subject Name	L-T-P	Credits
ME3201	PCC	Operations Research	**3-1-0**	**4**
ME3202	PCC	Finite Element Method	**3-1-0**	**4**
BM3201	HSC	Managerial Economics and Financial Accountancy	**3-0-0**	**3**
ME32XX	PEC	Program Elective Course-1	**3-0-0**	**3**
ME32XX	PEC	Program Elective Course-2	**3-0-0**	**3**
ME3281	PCC	Computer Aided Modeling and Simulation Lab	**0-0-3**	**1.5**
EG3284	HSC	Communicative Competence Lab	**0-0-3**	**1.5**
		Sub Total Credits		**20**
ME3291	**Summer Internship**			**3**
	Contact periods =21/25(Excluding Summer Internship) Contact hours =31.5/37.5 **Total Credits**			**23**

IV-Year – SEMESTER – I

Course Structure

Subject Code	Subject Category	Subject Name	L-T-P	Credits
ME41XX	PEC	Program Elective Course-3	**3-0-0**	**3**
ME41XX	OEC	Open Elective Course-1	**3-0-0**	**3**
ME41XX	OEC	Open Elective Course-2	**3-0-0**	**3**
ME4192	PROJ-1	Project	**0-0-0**	**4.5**
	Contact periods = 9/25 (Excluding project) Contact hours = 13.5/37.5**Total Credits**			**13.5**

IV Year – SEMESTER – II

Course Structure

Subject Code	Subject Category	Subject Name	L-T-P	Credits
ME42XX	PEC	Program Elective Course-4	**3-0-0**	**3**
ME42XX	OEC	Open Elective Course-3	**3-0-0**	**3**
ME42XX	OEC	Open Elective Course-4	**3-0-0**	**3**
ME42XX	MC	Community Service	**0-0-0**	**2**
ME4293	PROJ-2	Project	**0-0-0**	**6**
	Contact periods =9/25 (Excluding project) Contact hours =13.5/37.5**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	**21**
6	E3-SEM-II	**20**
7	E3-SUM	**03**
8	E4-SEM-I	**13.5**
9	E4-SEM-II	**17**
	TOTAL	**160**

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