DEPARTMENT OF MECHANICAL ENGINEERING

M.Tech. Machine Design

For the students admitted from 2020-21

Scheduling of Courses

i) Knowledge Segments and Credits

Every course of M. Tech Programme is placed in one of the seven categories as listed in Table 1 below. No semester shall have more than six lecture-based courses and two laboratory courses, and/or drawing/seminar/project courses in the curriculum.

Table 1: Credit distribution and the Knowledge Domains

Sl. No.	Category	Category Code	Number of Courses	Total Credits
1	Programme Core Courses	PCC	7	27
2	Laboratory Courses		2	2
3	Programme Elective Courses	PEC	4	12
4	Mandatory Credit Course (Research Methodology)	MCC	1	2
5	Seminar	PWS	2	4
6	Mini Project		1	2
7	Project		2	18
	Total Mandatory Credits			**67**

*Note: 67 credits have been the requirement for award of degree in all M.Tech Programmes of the College which was approved by the University.

ii) Semester-wise Credit Distribution

Semester	I	II	III	IV	Total Credits
Credits for Courses	22	19	14	12	**67**

SemesterI							
Slot	**Category Code**	**Course Number**	**Course Name**	**L**	**T**	**P**	**Credit**
A	PCC	MA0P60D	SpecialFunctions, PartialDifferential Equations andTensors	3	0	0	3
B	PCC	ME1P60A	Advanced Theoryof Vibration	3	1	0	4
C	PCC	ME1P60B	Finite ElementMethod	3	1	0	4
D	PCC	ME1P60C	ContinuumMechanics	3	0	0	3
E	PCC	ME1P60D	IndustrialTribology	3	0	0	3
S	MCC	MC0P60A	ResearchMethodology	0	2	0	2
T	PCC	ME1P68A	Machine DynamicsLab	0	0	2	1
U	PWS	ME1P69A	Seminar-1	0	0	2	2
			Total	**15**	**4**	**4**	**22**

SemesterII							
Slot	**Category Code**	**Course Number**	**Course Name**	**L**	**T**	**P**	**Credit**
A	PCC	ME1P60E	Advanced Theoryof Mechanisms	3	1	0	4
B	PCC	ME1P60F	Design of Pressure Vessels and Piping	3	0	0	3
C	PCC	ME1P60G	ExperimentalStress Analysis	3	0	0	3
D	PEC	ME1PXXX	ElectiveI	3	0	0	3
E	PEC	ME1PXXX	ElectiveII	3	0	0	3
T	PCC	ME1P68B	Modelling &Analysis Lab	0	0	2	1
W	PWS	ME1P69B	MiniProject	0	0	4	2
			Total	**15**	**1**	**6**	**19**

ELECTIVE I

Slot	Category Code	Course Number	Course Name	L	T	P	Credit
D	PEC	ME1P61A	Design of Power Transmission Elements	3	0	0	3
		ME1P61B	Design &Analysis of Composite Structures	3	0	0	3
		ME1P61C	Advanced ComputerGraphics	3	0	0	3
		ME1P61D	Condition Monitoring & Maintenance Engineering	3	0	0	3

ELECTIVE II

Slot	Category Code	Course Number	Course Name	L	T	P	Credit
E	PEC	ME1P62A	Optimization Techniquesfor Engineering	3	0	0	3
		ME1P62B	Acousticsand NoiseControl	3	0	0	3
		ME1P62C	AdvancedFinite ElementMethods	3	0	0	3
		ME1P62D	Robotics	3	0	0	3

SemesterIII							
Slot	Category Code	Course Number	Course Name	L	T	P	Credit
A	PEC	ME1PXXX	Elective III	3	0	0	3
B	PEC	ME1PXXX	Elective IV	3	0	0	3
T	PWS	ME1P79A	Seminar II	0	0	2	2
W	PWS	ME1P79B	Project (Phase I)	0	0	12	6
			Total	**6**	**0**	**14**	**14**

ELECTIVE III

Slot	Category Code	Course Number	Course Name	L	T	P	Credit
A	PEC	ME1P71A	Advanced Numerical Methods	3	0	0	3
		ME1P71B	Advanced Non Destructive Evaluation	3	0	0	3
		ME1P71C	Advanced Design Synthesis	3	0	0	3
		ME1P71D	Mechatronics System Design	3	0	0	3
		ME1P71E	Computational Plasticity	3	0	0	3

ELECTIVE IV

Slot	Category Code	Course Number	Course Name	L	T	P	Credit
B	PEC	ME1P72A	Theory of plates and shells	3	0	0	3
		ME1P72B	Mechanical Behaviour of Materials	3	0	0	3
		ME1P72C	Computational Methods in Design and Manufacturing	3	0	0	3
		ME1P72D	Advanced Vehicle Dynamics	3	0	0	3
		ME1P72E	Control System	3	0	0	3
		ME1P72F	Fracture Mechanics	3	0	0	3

SemesterIV							
Slot	Category Code	Course Number	Course Name	L	T	P	Credit
W	PWS	ME1P79C	Project Phase – II	0	0	24	12
			Total	**0**	**0**	**24**	**12**