

List of Department electives applicable for B.Tech, M.Tech and Ph.D.:

S. No.	Course Code	Course Name	Category	I	P	C
1		Information Systems in Manufacturing	PEC	3	0	3
2		Inspection and Testing in Manufacturing	PEC	3	0	3
3		Lasers in Manufacturing	PEC	3	0	3
4		Digital Manufacturing	PEC	3	0	3
5		Smart Materials and Structures	PEC	3	0	3
6		Product Design and Development	PEC	3	0	3
7		Design for Manufacturing and Assembly	PEC	3	0	3
8		Additive Manufacturing	PEC	3	0	3
9		Materials Fabrication and Characterization	PEC	3	0	3
10		Introduction to Smart Manufacturing	PEC	3	0	3
11		Applied Operations Research	PEC	3	0	3
12		Computational Tools for Engineers	PEC	3	0	3
13		Soft Computing Techniques	PEC	3	0	3
14		Big Data Analytics	PEC	3	0	3
15		Total Quality Management	PEC	3	0	3
16		Processing of Alloys and Composites	PEC	3	0	3
17		Computer Integrated Manufacturing Systems	PEC	3	0	3
18		Industrial Instrumentation and Metrology	PEC	3	0	3
19		MEMS / NEMS and Sensors	PEC	3	0	3
20		Smart Materials and Structures	PEC	3	0	3
21		Metal Forming	PEC	3	0	3
22		Modern Manufacturing Technologies	PEC	3	0	3
23		Nano Finishing Science and Technology	PEC	3	0	3
24		Processing of Composites	PEC	3	0	3
25		Surface Engineering	PEC	3	0	3
26		IC Engines and Gas Turbines	PEC	3	0	3
27		Optimization Techniques for Mechanical Engineers	PEC	3	0	3
28		Computational Fluid Dynamics	PEC	3	0	3
29		Robotics and Intelligent Systems	PEC	3	0	3
30		Mechanical Vibration and Condition Monitoring	PEC	3	0	3
31		Mechanical Vibrations	PEC	3	0	3
32		Advanced Solid Mechanics	PEC	3	0	3
33		Design and Analysis of Experiments	PEC	3	0	3
34		Digital Control for Automation	PEC	3	0	3

List of Free electives applicable to all branches of B.Tech, M.Tech and Ph.D.:

S. No.	Course Code	Course Name	Category	I	P	C
1		Non-linear Dynamics	PEC	3	0	3
2		Operations and Supply Chain Management	PEC	3	0	3
3		Industry 4.0	PEC	3	0	3

List of Design electives applicable to all branches of B.Tech:

S. No.	Course Code	Course Name	Category	I	P	C
1		Designing Intelligent Systems	DES	3	0	3
2		Design for Quality and Reliability	DES	3	0	3
3		System Thinking for Design	DES	3	0	3

List of Department electives applicable for B.Tech only:

S. No.	Course Code	Course Name	Category	I	P	C
1		Computer Aided Design and Manufacturing	PEC	3	0	3
2		Refrigeration and Air Conditioning	PEC	3	0	3
3		Automobile Engineering Systems	PEC	3	0	3

List of Skill Development Courses applicable to B. Tech/M.Tech:

S. No.	Course Code	Course Name	Category	I	P	C
1		Data Science for Engineers		2	0	2
2		Basics of Finite Element Analysis		2	0	2
3		Fuzzy Logic and Neural Network		2	0	2
4		Design, Technology and Innovation		2	0	2
5		Manufacturing Guidelines for Product Design		2	0	2
6		Artificial Intelligence for Mechanical Engineers		2	0	2
7		Database Management System		2	0	2
8		Failure Analysis and prevention		2	0	2

MOOCS/NPTEL/Any other relevant course approved by the HoD