

CURRICULA AND SYLLABI

B. Tech in Mechanical Engineering *(with Specialization in Design and Manufacturing)*

1. Credit Distribution:

Category	Course Description	Credits	Percentage
BSC	Basic Science Courses (BSC)	12	8%
BEC	Basic Engineering Courses (BEC)	12	8%
DMC	Design and Manufacturing Courses (DMC)	12	8%
PMC	Professional Engineering Core Courses (PEC)	60	60%
	Professional Engineering Elective Courses (PEE)	10	
	Professional Major Project (PRC)	06	
	Internship and Seminar Courses (ISC)	10	
	Skill Development Courses (PCD)	04	
OEC	Open/Free Elective Courses (OEC)	12	8%
HMC	Entrepreneurship and Management Courses	03	8%
	Financial Awareness and Management	02	
	Professional and Technical Communication	02	
	Constitution of India	01	
	Self Improvement Course	04	
	NCC/NSS/NSO (audit)	00	
		150	100%

2. Semester-wise Credit Distribution

2.1 First Semester

S. No.	Course code	Course Name	Category code	I	P	C
1	DS101	Differential and Integral Calculus	BSC	3	0	3
2	DS103	Engineering Physics	BSC	2	2	3
3	ME101 EC101	Engineering Mechanics (OR) Basic Electrical and Electronics Engineering	BEC	3	0	3
4	CS101	Problem Solving and Computer Programming	BEC	3	0	3
5	DS105	Technical and Professional Communication	HMC	1	2	2
6	CS103	Problem Solving and Computer Programming Practice	BEC	0	3	2
7	ME103	Engineering Skills Practice	BEC	0	2	1
8	DS107	Constitution of India	HMC	1	0	1
9	DS171	NSS/NSO/NCC	HMC	0	0	0
Total no. of credits						18

2.2 Second Semester

S. No.	Course code	Course Name	Category code	I	P	C
1	DS102	Linear Algebra	BSC	3	0	3
2	DM102	Concepts in Engineering Design	DMC	3	0	3
3	ME101 EC101	Engineering Mechanics (OR) Basic Electrical and Electronics Engineering	BEC	3	0	3
4	DM104	Design Realization Practice	DMC	0	3	2
5	ME102	Material Science and Metallurgy	PEC	3	0	3
6	AD102	Fundamentals of Artificial Intelligence	PEC	1	2	2
7	ME152	Engineering Graphics	PEC	1	2	2
8	DS172	NSS/NCC/NSO	HMC	0	0	0
Total no. of credits						18

2.3 Third Semester

S. No.	Course code	Course Name	Category code	I	P	C
1	DS203	Differential Equations	BSC	3	0	3
2	ME201	Thermodynamics	PEC	3	0	3
3	ME203	Mechanics of Materials	PEC	3	0	3
4	ME205	Basic Concepts in Manufacturing Processes	PEC	3	0	3
5	ME207	Kinematics of Machines	PEC	3	0	3
6	ME251	Machine Drawing & Manufacturability Analysis	PEC	1	2	2
7	ME253	Materials and Mechanics Practice	PEC	0	3	2
8	ME255	Basic Concepts in Manufacturing Processes Practice	PEC	0	3	2
9	DS21X	Self-Improvement Course	HMC	0	0	1
Total no. of credits						22

2.4 Fourth Semester

S. No.	Course code	Course Name	Category code	I	P	C
1	DS202	Entrepreneurship, Management and Incubation	HMC	3	0	3
2	DM202	Smart Manufacturing	DMC	3	0	3
3	ME202	Fluid Mechanics and Hydraulic Machinery	PEC	3	0	3
4	ME204	Machine Tool Technology	PEC	3	0	3
5	ME206	Dynamics of Machines	PEC	3	0	3
6	ME252	Machine Tool Technology Practice	PEC	0	3	2
7	ME254	Dynamics of Machines Practice	PEC	0	3	2
8	ME29X	Skill Development Course – I	PCD	0	3	2
9	DS21X	Self-Improvement Course	HMC	0	0	1
Total no. of credits						22

2.5 Fifth Semester

S. No.	Course code	Course Name	Category code	I	P	C
1	ME301	Heat Transfer	PEC	3	0	3
2	ME303	Quality Inspection and Product Validation	PEC	3	0	3
3	ME305	Design of Machine Elements	PEC	3	0	3
4	MExxx	Professional Engineering Elective – I	PEE	3	0	3
5	XXxxx	Open Elective - I	OEC	3	0	3
6	ME351	Fluid Mechanics and Heat Transfer Practice	PEC	0	3	2
7	ME353	Quality Inspection and Product Validation Practice	PEC	0	3	2
8	ME355	Automation and Control	PEC	1	2	2
9	DS31X	Self-Improvement Course	HMC	0	0	1
Total no. of credits						22

2.6 Sixth Semester

S. No.	Course code	Course Name	Category code	I	P	C
1	DM302	Product Design and Manufacturing	DMC	0	6	4
2	ME302	Thermal Engineering	PEC	3	0	3
3	MExxx	Professional Engineering Elective – II	PEE	3	0	3
4	MExxx	Professional Engineering Elective – III	PEE	2	0	2
5	XXxxx	Open Elective - II	OEC	3	0	3
6	ME352	Thermal Engineering Practice	PEC	0	3	2
7	ME354	Computer Aided Simulation	PEC	1	2	2
8	ME39X	Skill Development Course – II	PEC	0	3	2
9	DS31X	Self-Improvement Course	HMC	0	0	1
Total no. of credits						22

2.7 Seventh Semester

S. No.	Course code	Course Name	Category code	I	P	C
1	ME491	Project	PRC	0	9	6
2	MExxx	Professional Engineering Elective – IV	PEE	2	0	2
3	XXxxx	Open Elective – III	OEC	3	0	3
4	XXxxx	Open Elective - IV	OEC	3	0	3
5	DS401	Financial Awareness and Management	HMC	2	0	2
Total no. of credits						15

2.8 Eighth Semester

S. No.	Course code	Course Name	Category code	I	P	C
1	ME494	Internship	SLI	0	0	9
2	ME496	Seminar	SLI	0	0	1
Total no. of credits						10