

B.Tech. (Mechanical Engineering) Program

General Structure (2022-26)

Year	Code	Semester-I	L	T	U	Code	Semester-II	L	T	U	
I		Mathematics-I	3	0	3		Mathematics-II	3	0	3	
		English Language Skills	2	2	3		Professional Communication	3	0	3	
		Chemistry	3	2	4		Environment Sciences & SDGs	2	0	2	
		Essence of Indian Traditional Knowledge (Audit)	0	0	0		Physics	3	2	4	
		Introduction to Electrical and Electronics Sciences	3	2	4		Digital Signal Processing	3	0	3	
		Computer Programming	3	2	4		Introduction to AI and DS	3	0	3	
		Engineering Graphics	2	4	4		Digital Fabrication	2	4	4	
Total No of Credits			15	1 2	22	Total No of Credits			19	6	22
Semester-III						Semester-IV					
		Introduction to IoT	3	0	3		Matlab Based Numerical Methods	3	2	4	
		Object Oriented Programming Concepts	2	4	4		Industry coding practice (Python and R)	2	2	3	
II		Mathematics-III	3	0	3		Strength of Materials	3	0	3	
		Principles of Managerial Economics	3	0	3		Applied Thermodynamics	3	0	3	
		Engineering Mechanics	3	0	3		Kinematics & Dynamics of Machinery	3	0	3	
		Thermal Engineering	3	0	3		Machine Drawing	2	4	4	
		Fluid Mechanics and HM	2	2	3						
		CRT	0	2	1		CRT	0	2	1	
Total No of Credits			19	8	23	Total No of Credits			16	10	21
Summer Internship program										5	
Semester-V						Semester-VI					
		Control Systems	3	0	3		Digital Humanities Eective1	3	0	3	
III		Machine Learning Applications in Mechanical Engineering	2	0	2		Intelligent Transport Systems	2	0	2	

		Optimization Techniques	3	0	3		Manufacturing Processes & Technology	3	2	4	
		Hydraulics & Hydraulic Machinery	3	2	4		Computer Aided Design	3	2	4	
		Design of Machine Elements	3	0	3		Supply Chain Management	3	0	3	
		Machine Tools & Metrology	3	2	4		Special Project / TIP / Capstone Project	0	6	3	
		Audit Course	0	0	0		CRT	0	2	1	
		CRT	0	2	1						
Total No of Credits			17	8	20	Total No of Credits			14	12	20
Semester-VII						Semester-VIII					
IV	IP401/	Internship Program II /Thesis				IP401/	Internship Program II /Thesis				
	–	Electives (4) + Professional / Discipline Electives				–	Electives (4) + Professional / Discipline Electives				
	–	Humanities Electives (1)				–	Humanities Electives (1)				
Total No of Credits			20/18			Total No of Credits			20/18		
Total No of Credits									174		

FINAL YEAR ELECTIVES

	L	T	P
Manufacturing			
Precision Engineering	3	2	3
Advanced in Material Science	2	2	3
Nanotechnology	3	0	3
Computer Aided Manufacturing	2	2	3
Smart Manufacturing - Industry 4.0	3	0	3
Green Manufacturing	2	2	3
Design			
Mechanical Equipment Design	3	0	3
Theory of Elasticity	3	0	3
Principles of Tribology	3	0	3
Mechanics of Composite Materials	3	0	3
Vibration Control	2	2	3

AI & ML in Design Analysis	2	2	3
Energy Engineering			
Automotive Engineering	3	0	3
Refrigeration and Air Conditioning	2	3	3
Power Plant Engineering	3	0	3
Nonconventional Sources of Energy	3	0	3
Computational Fluid Dynamics	2	2	3
Cryogenics	3	0	3
Industrial Engineering			
Production Planning & Control	3	0	3
Automation and Intelligent Systems	3	0	3
Quality Assurance & Reliability	3	0	3
Operations Research and Decision Sciences	3	0	3
Systems Analysis	3	0	3
Simulation & Modeling	2	2	3
Emerging Areas			
Additive Manufacturing Processes and Applications	2	2	3
Mechatronics	2	2	3
Robotics & Automation	2	2	3
Machine to Machine Communication	3	0	3
Reverse Engineering	3	0	3
Autonomous Vehicle	3	0	3
