B.Tech. in Mechanical Engineering
(2026 Scheme)

Year	THIRD SEMESTER						FOURTH SEMESTER					
	Sub. Code	**Subject Name**	**L**	**T**	**P**	**C**	**Sub. Code**	**Subject Name**	**L**	**T**	**P**	**C**
II		Engineering Mathematics - III	2	1	0	**3**		Engineering Mathematics - IV	2	1	0	3
		Strength of Materials	2	1	0	**3**		Design of Machine Elements	2	1	0	**3**
		Theory of Machines	3	1	0	**4**		Fluid Mechanics	2	1	0	**3**
		Thermal Engineering	3	1	0	**4**		Machine Learning and Industrial Systems	2	1	0	**3**
		Metrology and Measurements	3	0	0	**3**		Automotive Prime Movers	3	0	0	**3**
		Materials Engineering	3	0	0	**3**		Manufacturing Technology	4	0	0	**4**
		Computer Aided Machine Drawing and Modeling Lab	0	0	3	**1**		Manufacturing Process Lab	0	0	3	**1**
		Materials Testing and Metrology Lab	0	0	3	**1**		Thermofluids Lab	0	0	3	**1**
			16	**4**	**6**	**22**			**15**	**4**	**6**	**21**
	Total Contact Hours (L + T + P) = 26						**Total Contact Hours (L + T + P) = 25**					
III	**FIFTH SEMESTER**						**SIXTH SEMESTER**					
	SMS 3202	Engg Economics and Financial Management	3	0	0	3	SMS 3101	Essentials of Management	3	0	0	3
		Digital Manufacturing*	2	1	2	**4**		Mechanical Vibrations*	2	1	2	**4**
		Design of Mechanical Drives*	2	1	2	**4**		Heat and Mass Transfer *	2	1	2	**4**
		Computer Aided Design*	2	1	2	**4**		Program Elective- 1 / (Minor Specialization)	3	0	0	**3**
		Turbomachinery – Principles and Performance*	2	1	2	**4**		Program Elective- 2 / (Minor Specialization)	3	0	0	**3**
		Open Elective -1	3	0	0	3		Open Elective-2	3	0	0	3
	* Lab integrated		**14**	**4**	**8**	**22**	* Lab integrated		**16**	**2**	**4**	**20**
	Total Contact Hours (L + T + P) + OE		**26**				**Total Contact Hours (L + T + P) + OE**		**22**			
IV	**SEVENTH SEMESTER**						**EIGHTH SEMESTER**					
		PE – 3 / Minor Specialization	3	0	0	3		Industrial Training (MLC)				1
		PE – 4 / Minor Specialization	3	0	0	3		Project Work				12
		PE – 5	3	0	0	3		Project Work (B Tech – Honours) **				20
		PE – 6	3	0	0	3		B Tech – Honours Theory – 1** (V semester)				4
		PE - 7	3	0	0	3		B Tech – Honours Theory – 2** (VI semester)				4
		Open Elective–3	3	0	0	3		B Tech – Honours Theory – 3** (VII semester)				4
		Mini Project (Minor specialization) *				8						
			18	**0**	**0**	**18/26**						**13/33**
	Total Contact Hours (L + T + P) +OE		**= 18**									

*Applicable to students who opted for minor specialization

**Applicable to eligible students who opted for and successfully completed the B Tech – honours requirements

B. Tech in Mechanical Engineering Specialization: Industrial Engineering

(2026 Scheme)

Year	THIRD SEMESTER						FOURTH SEMESTER					
	Sub. Code	**Subject Name**	**L**	**T**	**P**	**C**	**Sub. Code**	**Subject Name**	**L**	**T**	**P**	**C**
II		Engineering Mathematics - III	2	1	0	**3**		Engineering Mathematics - IV	2	1	0	3
		Strength of Materials	2	1	0	**3**		Design of Machine Elements	2	1	0	**3**
		Theory of Machines	3	1	0	**4**		Fluid Mechanics	2	1	0	**3**
		Thermal Engineering	3	1	0	**4**		Machine Learning and Industrial Systems	2	1	0	**3**
		Metrology and Measurements	3	0	0	**3**		Automotive Prime Movers	3	0	0	**3**
		Materials Engineering	3	0	0	**3**		Manufacturing Technology	4	0	0	**4**
		Computer Aided Machine Drawing and Modeling Lab	0	0	3	**1**		Manufacturing Process Lab	0	0	3	**1**
		Materials Testing and Metrology Lab	0	0	3	**1**		Thermofluids Lab	0	0	3	**1**
			16	**4**	**6**	**22**			**15**	**4**	**6**	**21**
	Total Contact Hours (L + T + P) = 26						**Total Contact Hours (L + T + P) = 25**					
III	**FIFTH SEMESTER**						**SIXTH SEMESTER**					
	SMS 3202	Engg Economics and Financial Management	3	0	0	3	SMS 3101	Essentials of Management	3	0	0	3
		Data Analytics and Visualization *	2	1	2	**4**		Discrete Event System Simulation *	2	1	2	**4**
		Industrial Internet of Things *	2	1	2	**4**		Work Systems Engineering and Ergonomics *	3	0	2	**4**
		Operations Research *	2	1	2	**4**		Program Elective- 1 / (Minor Specialization)	3	0	0	**3**
		Production and Operations Management *	2	1	2	**4**		Program Elective- 2 / (Minor Specialization)	3	0	0	**3**
		Open Elective -1	3	0	0	3		Open Elective-2	3	0	0	3
	* Lab integrated		**14**	**4**	**8**	**22**	* Lab integrated		**17**	**1**	**4**	**20**
	Total Contact Hours (L + T + P) + OE		**26**				**Total Contact Hours (L + T + P) + OE**		**22**			
IV	**SEVENTH SEMESTER**						**EIGHTH SEMESTER**					
		PE – 3 / Minor Specialization	3	0	0	3		Industrial Training (MLC)				1
		PE – 4 / Minor Specialization	3	0	0	3		Project Work				12
		PE – 5	3	0	0	3		Project Work (B Tech – Honours) **				20
		PE – 6	3	0	0	3		B Tech – Honours Theory – 1** (V semester)				4
		PE - 7	3	0	0	3		B Tech – Honours Theory – 2** (VI semester)				4
		Open Elective–3	3	0	0	3		B Tech – Honours Theory – 3** (VII semester)				4
		Mini Project (Minor specialization) *				8						
			18	**0**	**0**	**18/26**						**13/33**
	Total Contact Hours (L + T + P) +OE		**= 18**									

*Applicable to students who opted for minor specialization

**Applicable to eligible students who opted for and successfully completed the B Tech – honours requirements

B. Tech in Mechanical Engineering Specialization: Automobile Engineering
(2026 Scheme)

Year	THIRD SEMESTER						FOURTH SEMESTER					
	Sub. Code	Subject Name	L	T	P	C	Sub. Code	Subject Name	L	T	P	C
II		Engineering Mathematics - III	2	1	0	3		Engineering Mathematics - IV	2	1	0	3
		Strength of Materials	2	1	0	3		Design of Machine Elements	2	1	0	**3**
		Theory of Machines	3	1	0	4		Fluid Mechanics	2	1	0	**3**
		Thermal Engineering	3	1	0	4		Machine Learning and Industrial Systems	2	1	0	**3**
		Metrology & Measurements	3	0	0	3		Automotive Prime Movers	3	0	0	**3**
		Materials Science	3	0	0	3		Manufacturing Technology	4	0	0	**4**
		Computer Aided Machine Drawing & Modeling Lab	0	0	3	1		Manufacturing Process Lab	0	0	3	**1**
		Materials Testing & Metrology Lab	0	0	3	1		Thermofluids Lab	0	0	3	**1**
			16	**4**	**6**	**22**			**15**	**4**	**6**	**21**
	Total Contact Hours (L + T + P) = 26						**Total Contact Hours (L + T + P) = 25**					
III	**FIFTH SEMESTER**						**SIXTH SEMESTER**					
		Engineering Economics and Financial Management	3	0	0	3		Essentials of Management	3	0	0	3
		Vehicle Performance and Handling	3	1	0	4		Automotive Networking Systems	2	1	0	3
		Automotive Control Systems*	3	0	3	4		Automotive Vibrations and Acoustics	3	1	0	4
		Electrochemical Energy Storage Systems	3	0	0	3		Program Elective I / Minor Specialization	3	0	0	3
		Automotive Component Design & Simulation*	3	0	3	4		Program Elective II / Minor Specialization	3	0	0	3
		Open Elective-1	3	0	0	3		Open Elective-2	3	0	0	3
								Automotive Systems Lab	0	0	3	1
								Vehicle Aerodynamics & Fluid Simulation Lab	0	0	3	1
	* Lab integrated		**18**	**1**	**6**	**21**			**17**	**2**	**6**	**21**
	Total Contact Hours (L + T + P) + OE		**25**				**Total Contact Hours (L + T + P) + OE**		**25**			
IV	**SEVENTH SEMESTER**						**EIGHTH SEMESTER**					
		PE – 3 / Minor Specialization	3	0	0	3		Industrial Training (MLC)				1
		PE – 4 / Minor Specialization	3	0	0	3		Project Work				12
		PE – 5	3	0	0	3		Project Work (B Tech – Honours) **				20
		PE – 6	3	0	0	3		B Tech – Honours Theory – 1** (V semester)				4
		PE - 7	3	0	0	3		B Tech – Honours Theory – 2** (VI semester)				4
		Open Elective–3	3	0	0	3		B Tech – Honours Theory – 3** (VII semester)				4
		Mini Project (Minor specialization) *				8						
			18	**0**	**0**	**18/26**						**13/33**
	Total Contact Hours (L + T + P) +OE		**= 18**									

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Minor Specializations (School Level)	Minor Specializations (Institute Level)	Program Electives
Materials & Manufacturing (For Mech/ IE/Auto/Aero/Mechatronics) Micro manufacturing Processing of polymers & polymer composites Additive manufacturing Materials characterization **Intelligent Industrial Systems (For Mech/IE/Auto/ Aero/Mechatronics)** Industry 4.0 3D Printing and Design Artificial Intelligence for Industrial Systems Industrial Automation and Robotics **Vehicle System Design (Only for Auto)** Vehicle Thermal Management System Vehicle Dynamics Automotive Product Design & Development Computational Methods in Automotive Design **Design Engineering (For Mech/Auto/ Aero)** Design of Mechanical Systems Finite Element Methods Continuum Mechanics for Engineers Product Design and Development **Thermal Science (Only for Mech/Auto)** Solar Thermal Systems and Photovoltaics Refrigeration and Air Conditioning Gas Turbines and Jet Propulsion Systems Computational Fluid Dynamics **Industrial Management (For Mech/IE/Auto/Aero)** Lean Manufacturing and Six Sigma Organisational Behaviour Total Quality Management Cost and Management accounting	**I. Electric Vehicle Technology (SEE & SME)** IME 4001: Foundations of EV & Hybrid Vehicles IME 4002: EV Battery Technology and Charging Infrastructure IME 4003: Automotive Power Trains IME 4004: EV Vehicle Design & Analysis **II. Energy Management & Auditing (SEE & SME)** IME 4007: Advanced Energy Management IME 4008: Energy Efficiency in Electrical Utilities IME 4009: Energy Efficiency in Thermal Utilities IME 4010: Energy Performance Assessment **III. Smart Mobility and Vehicle Systems** Vehicle Drivetrain and Suspension System Automotive Cyber Physical Systems Energy Storage System and Devices for Electric Vehicles Vehicle Dynamics	**Program Specific** **<u>For Mech/IE/Auto/Mechatronics</u>** Non Destructive Testing MEMS and Microsystems Non-Traditional Machining Techniques Green Building and Sustainable Design Wind and Biomass Energy Systems Automotive Ergonomics Optimization Techniques in Engineering Management Information Systems Enterprise Resource Planning Personnel Management and Industrial Relations Supply Chain Management Composite Material and Structures **<u>For Mech/Auto/Aero</u>** Fatigue of Materials Principles and Techniques of Vibration Control Machine Learning and AI Lubrication and Rotor Dynamics Hydrogen Energy and Fuel Cell Technologies **<u>For Mech/Auto/Mechatronics</u>** Biomechanics Lean Manufacturing Statistical Quality Control and Reliability Total Quality Management Advanced Engine Technology Alternatives Fuels for Sustainable Environment Automotive Pollution Control Automotive Actuation Systems Advanced Automotive Drivetrain Systems Automotive Embedded Systems **<u>For Mech/IE/Auto/Aero</u>** Automatic Control Systems Design For Manufacturing & Assembly Engineering System Design Surface Engineering Theory of Elasticity

		Modelling and simulation of Dynamic systems **<u>For Mech/IE/Auto</u>** Heat Treatment of Metals and Alloys Powder Metallurgy Materials for Energy Applications Business Process Re-engineering **<u>For Auto</u>** Heat Transfer **<u>For Mech/Auto</u>** Experimental Techniques in Vibration Analysis Biofluid Dynamics Heat Exchanger design Pipe Systems Engineering Microfluidics Crashworthiness and Safety Earth Moving Equipment and Farm Machinery Motors and Drive Systems for Electric Vehicles Design of Manufacturing Tools Human Factors in Automotive Engineering Computer Integrated Manufacturing **<u>For Mech/Auto/Aero/Mechatronics</u>** Operations Research Production Planning and Control **Common Across School** Design of Experiments Steam Engineering & Energy Conservation (Delivered by Forbes Marshall Ltd.)