COURSE STRUCTURE FOR M.TECH. (MECHANICAL ENGINEERING) FIRST YEAR SEM – I (w. e. f 2024-25)

SEMESTER-I (Subjects)				M.TECH. MECHANICAL ENGINEERING Sem.-I											
Sr. No	Course Code	Category Code	Course Name	Teaching Scheme					Exam Scheme						
									Theory			Practical		Total	
				L	T	P	C	Hrs/wk	MS	ES	CE	LE	LE/Viva	Marks	
1		PCC	Robotics and Control	3	0	0	3	3	25	50	25	-	-	100	
2		PCC	Thermal Science	3	1	0	4	4	25	50	25	-	-	100	
3		PCC	Manufacturing Planning and Control	3	0	0	3	3	25	50	25	-	-	100	
4		PCC	Quality Control and Reliability	3	0	0	3	3	25	50	25	-	-	100	
5		PCC	Industry 4.0 and Automation	3	0	0	3	3	25	50	25	-	-	100	
6		PCC	Computational Techniques in Mechanical Engineering Laboratory – I	0	0	2	1	2	-	-	-	50	50	100	
7		PCC	Robotics & control Laboratory	0	0	2	1	2	-	-	-	50	50	100	
8		PRO	Scientific Writing and Publication Ethics	2	0	0	2	2	25	50	25	-	-	100	
			Total	**17**	**1**	**4**	**20**	**22**							

MS = Mid Semester, ES = End Semester; CE = Continuous Evaluation; LW = Laboratory work; LE = Laboratory Exam

Code	Category Description
PCC	Professional Core Course
PCE	Professional Core Elective
Project	Project work, Seminar or Internship in Industry or elsewhere

COURSE STRUCTURE FOR M.TECH. (MECHANICAL ENGINEERING) FIRST YEAR SEM – II (w. e. f 2024-25)

SEMESTER-II (Subjects)				M.TECH. MECHANICAL ENGINEERING Sem.-II											
Sr. No	Course Code	Category Code	Course Name	Teaching Scheme					Exam Scheme						
									Theory			Practical		Total	
				L	T	P	C	Hrs/wk	MS	ES	CE	LE	LE/Viva	Marks	
1		PCC	Machine Learning for Mechanical Engineering	3	0	0	3	3	25	50	25			100	
2		PCC	Computational Techniques in Mechanical Engineering Laboratory – II	0	0	2	1	2	-	-	-	50	50	100	
3		PCE	Professional Core Elective - 1	3	0	0	3	3	25	50	25			100	
4		PCE	Professional Core Elective - 2	3	0	0	3	3	25	50	25			100	
5		PCE	Professional Core Elective - 3	3	0	0	3	3	25	50	25			100	
6		PCE	Professional Core Elective - 4	3	0	0	3	3	25	50	25			100	
7		PCE	Professional Core Elective Laboratory – 1	0	0	2	1	2	-	-	-	50	50	100	
8		PRO	Research Methodology and IPR	2	0	0	2	2	25	50	25	-	-	100	
9		PRO	Seminar	-	-	-	1	-	-	-	-	50	50	100	
			Total	**17**	**0**	**4**	**20**	**21**							

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Track – 1 : Fluid and Thermal Engineering 1. Computational Fluid Dynamics (Th. & Lab) 2. Heat Exchanger Design 3. Heating, Ventilation and Air Conditioning Technologies 4. Energy and Exergy analysis of thermal system	Track – 2 : Design & Mechanics (Dr. Manjeet) 1. Finite Element Analysis 2. Advanced Dynamic Analysis in Mechanical Systems 3. Pressure Vessel Design and Piping 4. Product Design and Development
Track – 3 : Energy 1. Energy System Modeling & Optimization 2. Energy Audit and Management 3. Renewable Energy Systems with storage integration 4. Waste heat recovery system	Track – 4 : Manufacturing 1. Materials and Testing Techniques 2. Industrial Tribology 3. Advanced Manufacturing Processes 4. Additive manufacturing

COURSE STRUCTURE FOR M.TECH. (MECHANICAL ENGINEERING) SECOND YEAR SEM – III (w. e. f 2024-25)

SEMESTER-III (Subjects)				M.TECH. MECHANICAL ENGINEERING Sem. - III											
Sr. No	Course Code	Category Code	Course Name	Teaching Scheme					Exam Scheme						
									Theory			Practical		Total	
				L	T	P	C	Hrs/wk	MS	ES	CE	LE	LE/Viva	Marks	
1		Project	Project Phase - I	-	-	-	13	-	-	-	-	50	50	100	
2		Project	Summer Internship /IEP (6 Week)	-	-	-	1	-	-	-	-	50	50	100	
			Total	**0**	**0**	**0**	**14**	**-**							

COURSE STRUCTURE FOR M.TECH. (MECHANICAL ENGINEERING) SECOND YEAR SEM – IV (w. e. f 2024-25)

SEMESTER-IV (Subjects)				M.TECH. MECHANICAL ENGINEERING Sem. - IV											
Sr. No	Course Code	Category Code	Course Name	Teaching Scheme					Exam Scheme						
									Theory			Practical		Total	
				L	T	P	C	Hrs/wk	MS	ES	CE	LE	LE/Viva	Marks	
1		Project	Project Phase – II and Dissertation	-	-	-	16	-	-	-	-	50	50	100	
			Total	**0**	**0**	**0**	**16**	**-**							

MS = Mid Semester, ES = End Semester; CE = Continuous Evaluation; LW = Laboratory work; LE = Laboratory Exam

Category-wise summary

Code	Category Description	Credits
PCC	Professional Core Course	21
PCE	Professional Core Elective	13
Project	Project work, Seminar or Internship in Industry or elsewhere	36
	Total	70