



First Year Teaching Scheme

Admission Year 2026-27

**Master of Technology
CAD/CAM**

Faculty of Engineering & Technology

Parul University

Vadodara, Gujarat, India

Semester - 1

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
03022101P C01	Computer Graphics and Application in Design	2	2	-	-	20	-	20	60	-	50	-	100
03022101P C02	Computer Graphics and Application in Design Laboratory	1	-	2	-	-	20	-	-	30	-	25	50
03022101P C03	Computer Aided Manufacturing	3	3	-	-	20	-	20	60	-	50	-	100
03022101P C04	Computer Aided Manufacturing Laboratory	1	-	2	-	-	20	-	-	30	-	25	50
03022101P C05	Advances in Materials and Manufacturing Processes	3	2	-	1	20	50	20	60	-	50	25	150
	Humanities and Social Science, including Management Course (HSMC)-I (2025-26)	4	-	-	-	-	-	-	-	-	-	-	
	Mandatory Course (MNC)-I (2025-26)	0	-	-	-	-	-	-	-	-	-	-	
	Professional Elective Course (PEC)-I (2025-26)	2	-	-	-	-	-	-	-	-	-	-	
	Professional Elective Course (PEC)-II (2025-26)	3	-	-	-	-	-	-	-	-	-	-	
	Professional Elective Course LAB (PEC LAB)-I (2025-26)	1	-	-	-	-	-	-	-	-	-	-	
	Total	20	7	4	1								450

Semester - 1 : Humanities and Social Science, including Management Course (HSMC)-I (2025-26)

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
03020201H M01	Research Methodology & IPR	4	4	-	-	20	-	20	60	-	50	-	100

Semester - 1 : Mandatory Course (MNC)-I (2025-26)

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
03020001M C01	English for Research Paper Writing	0	2	-	-	-	-	50	-	-	25	-	50
03021601M C01	Disaster Management	0	2	-	-	-	-	50	-	-	25	-	50

Semester - 1 : Professional Elective Course (PEC)-I (2025-26)

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
03022101P E01	Rapid Prototyping and Tooling	2	2	-	-	20	-	20	60	-	50	-	100
03022101P E03	Hydraulics and Pneumatics	2	2	-	-	20	-	20	60	-	50	-	100
03022101P E05	Robotics and Industrial Automation	2	2	-	-	20	-	20	60	-	50	-	100

Semester - 1 : Professional Elective Course (PEC)-II (2025-26)

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
03022101P E07	Advanced Metrology and Inspection Techniques	3	2	-	1	20	50	20	60	-	50	25	150
03022101P E09	Design of Experiments	3	2	-	1	20	50	20	60	-	50	25	150
03022101P E11	Optimization Techniques	3	2	-	1	20	50	20	60	-	50	25	150

Semester - 1 : Professional Elective Course LAB (PEC LAB)-I (2025-26)

Code	Subject	Credit	Lect	Lab	Tut	Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
						T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
03022101P E02	Rapid Prototyping and Tooling Laboratory	1	-	2	-	-	20	-	-	30	-	25	50
03022101P E04	Hydraulics and Pneumatics Laboratory	1	-	2	-	-	20	-	-	30	-	25	50
03022101P E06	Robotics and Industrial Automation Laboratory	1	-	2	-	-	20	-	-	30	-	25	50

Lect - Lecture, **Tut** - Tutorial, **Lab** - Lab, **T** - Theory, **P** - Practical, **CE** - CE, **T** - Theory, **P** - Practical
Theory Passing % : 50 Practical Passing % : 50

Semester - 2

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
03022102P C01	Design for Manufacturing and Assembly	2	2	-	-	20	-	20	60	-	50	-	100
03022102P C02	Design for Manufacturing and Assembly Laboratory	1	-	2	-	-	20	-	-	30	-	25	50
03022102P C03	Finite Element Analysis	3	3	-	-	20	-	20	60	-	50	-	100
03022102P C04	Finite Element Analysis Laboratory	1	-	2	-	-	20	-	-	30	-	25	50
03022102P C05	Quality Engineering and Management	3	2	-	1	20	50	20	60	-	50	25	150
	Mandatory Course (MNC)-II (2025-26)	0	-	-	-	-	-	-	-	-	-	-	
	Multidisciplinary Open Professional Electives Course (MOPEC)-I (2025-26)	4	-	-	-	-	-	-	-	-	-	-	
	Profession Elective Course Lab (PEC Lab)-III (2025-26)	1	-	-	-	-	-	-	-	-	-	-	
	Professional Elective Course (PEC)-III (2025-26)	2	-	-	-	-	-	-	-	-	-	-	
	Professional Elective Course (PEC)-IV (2025-26)	3	-	-	-	-	-	-	-	-	-	-	
	Total	20	7	4	1								450

Semester - 2 : Mandatory Course (MNC)-II (2025-26)

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
03020002M C01	Pedagogy Studies	0	2	-	-	-	-	50	-	-	25	-	50

Semester - 2 : Mandatory Course (MNC)-II (2025-26)

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
03020002M C02	Personality Development through Life Enlightenment Skills	0	2	-	-	-	-	50	-	-	25	-	50
03023302M C01	Indian Cyber Law and Ethics	0	2	-	-	-	-	50	-	-	25	-	50

Semester - 2 : Multidisciplinary Open Professional Electives Course (MOPEC)-I (2025-26)

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
03020202U E01	Augmented Reality and Virtual Reality	4	4	-	-	20	-	20	60	-	50	-	100
03020202U E02	Cyber Physical Systems	4	4	-	-	20	-	20	60	-	50	-	100
03020202U E03	Social Networking	4	4	-	-	20	-	20	60	-	50	-	100
03020502U E01	Business Analytics	4	4	-	-	20	-	20	60	-	50	-	100
03020602U E01	Industrial Safety	4	4	-	-	20	-	20	60	-	50	-	100
03020702U E01	IOT and Smart Cities	4	4	-	-	20	-	20	60	-	50	-	100
03022002U E01	Waste to Energy	4	4	-	-	20	-	20	60	-	50	-	100

Semester - 2 : Profession Elective Course Lab (PEC Lab)-III (2025-26)

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
03022102P E02	Material Characterization and Testing Laboratory	1	-	2	-	-	20	-	-	30	-	25	50
03022102P E04	Data Analysis using AI/ML Laboratory	1	-	2	-	-	20	-	-	30	-	25	50
03022102P E06	Advanced Simulation and Modelling Laboratory	1	-	2	-	-	20	-	-	30	-	25	50

Semester - 2 : Professional Elective Course (PEC)-III (2025-26)

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
03022102P E01	Material Characterization and Testing	2	2	-	-	20	-	20	60	-	50	-	100
03022102P E03	Data Analysis using AI/ML	2	2	-	-	20	-	20	60	-	50	-	100
03022102P E05	Advanced Simulation and Modelling	2	2	-	-	20	-	20	60	-	50	-	100

Semester - 2 : Professional Elective Course (PEC)-IV (2025-26)

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
03022102P E07	Computer Aided Process Planning	3	2	-	1	20	50	20	60	-	50	25	150

Semester - 2 : Professional Elective Course (PEC)-IV (2025-26)

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
03022102P E09	Product Design and Development	3	2	-	1	20	50	20	60	-	50	25	150
03022102P E11	Design of Mechanical Systems	3	2	-	1	20	50	20	60	-	50	25	150

Lect - Lecture, **Tut** - Tutorial, **Lab** - Lab, **T** - Theory, **P** - Practical, **CE** - CE, **T** - Theory, **P** - Practical

Theory Passing % : 50 Practical Passing % : 50