



First Year Teaching Scheme
Admission Year 2026-27

MTech in
Automation and Robotics

Parul University

Vadodara, Gujarat, India

Semester – 1

				Teaching Scheme			Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks	
				(Hours / Week)											
NCrF Credit Level	Subject Code	Subject Name	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int.+Ext.	Int.+Ext.		
4	03023201PC01	Robot Operating Systems and Linux	3	3	-	-	20	-	20	60	-	50	-	100	
	03023201PC02	Robot Operating Systems and Linux Laboratory	1	-	2	-	-	20	-	-	30	-	25	50	
	03023001PC03	Manufacturing Automation	3	3	-	-	20	-	20	60	-	50	-	100	
	03023001PC04	Manufacturing Automation Laboratory	1	-	2	-	-	20	-	-	30	-	25	50	
	Professional Elective Course - I														
	03023001PE03	Advanced Electrical Drives	3	3	-	-	20	-	20	60	-	50	-	100	
	03023201PE01	Mobile Robotics	3	3	-	-	20	-	20	60	-	50	-	100	
	03023201PE05	Digital Signal Processing	3	3	-	-	20	-	20	60	-	50	-	100	
	Professional Elective Course Lab - I														
	03023001PE04	Advanced Electrical Drives Laboratory	1	-	2	-	-	20	-	-	30	-	25	50	
	03023201PE02	Mobile Robotics Laboratory	1	-	2	-	-	20	-	-	30	-	25	50	
	03023201PE06	Digital Signal Processing Laboratory	1	-	2	-	-	20	-	-	30	-	25	50	
		Total credits	22												

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

Theory Passing % : 40 Practical Passing % : 50

Semester – 2

				Teaching Scheme			Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks	
				(Hours / Week)											
NCrF Credit Level	Subject Code	Subject Name	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int.+Ext.	Int.+Ext.		
4	03023202PC01	Advanced Robotics	3	3	-	-	20	-	20	60	-	50	-	100	
	03023202PC02	Advanced Robotics Laboratory	1	-	2	-	-	20	-	-	30	-	25	50	
	03023002PC03	Industrial Process Automation	3	3	-	-	20	-	20	60	-	50	-	100	
	03023002PC04	Industrial Process Automation Laboratory	1	-	2	-	-	20	-	-	30	-	25	50	
	Professional Elective Course (PEC)-III														
	03023002PE03	Digital Manufacturing and Smart Factories	3	3	-	-	20	-	20	60	-	50	-	100	
	03023002PE05	Intelligent Sensors and Actuators	3	3	-	-	20	-	20	60	-	50	-	100	
	03023202PE01	Advanced Embedded Systems	3	3	-	-	20	-	20	60	-	50	-	100	
	Professional Elective Course Lab (PEC)-III														
	03023002PE04	Digital Manufacturing and Smart Factories Laboratory	1	-	2	-	-	20	-	-	30	-	25	50	
	03023002PE06	Intelligent Sensors and Actuators Laboratory	1	-	2	-	-	20	-	-	30	-	25	50	
	03023202PE02	Advanced Embedded Systems Laboratory	1	-	2	-	-	20	-	-	30	-	25	50	
			Total credits	20											

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

Theory Passing % : 40 Practical Passing % : 50

			Teaching Scheme			Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks	
			(Hours / Week)											
NCrF Credit Level	Subject Code	Subject Name	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int.+Ext.	Int.+Ext.	
	Professional Elective Course (PEC)-IV													
	03023202PE07	Swarm Intelligence	3	3	-	-	20	-	20	60	-	50	-	100
	03023202PE09	Autonomous Navigation and Path Planning	3	3	-	-	20	-	20	60	-	50	-	100
	03023202PE11	Artificial Intelligence and Machine Learning	3	3	-	-	20	-	20	60	-	50	-	100
	Profession Elective Course Lab (PEC Lab)-IV													
	03023202PE08	Swarm Intelligence Laboratory	1	-	2	-	-	20	-	-	30	-	25	50
	03023202PE10	Autonomous Navigation and Path Planning Laboratory	1	-	2	-	-	20	-	-	30	-	25	50
	03023202PE12	Artificial Intelligence and Machine Learning Laboratory	1	-	2	-	-	20	-	-	30	-	25	50
	Multidisciplinary Open Professional Electives Course (MOPEC)-I													
	03020202UE01	Augmented Reality and Virtual Reality	4	4	-	-	20	-	20	60	-	50	-	100
	03020202UE02	Cyber Physical Systems	4	4	-	-	20	-	20	60	-	50	-	100
	03020202UE03	Social Networking	4	4	-	-	20	-	20	60	-	50	-	100
	03020502UE01	Business Analytics	4	4	-	-	20	-	20	60	-	50	-	100
	03020602UE01	Industrial Safety	4	4	-	-	20	-	20	60	-	50	-	100
	03020702U E01	IOT and Smart Cities	4	4	-	-	20	-	20	60	-	50	-	100

