CBCS SCHEME

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BMT602

Sixth Semester B.E./B.Tech. Degree Examination, Dec.2025/Jan.2026
Industrial Robotics

Time: 3 hrs. Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

		Module – 1	M	L	C
Q.1	a.	Define Robotics. Classify the robots based on their configuration.	10	L1	CO1
	b.	With a neat sketch explain the components of robotics system.	10	L2	CO1
		OR			
Q.2	a.	Explain the different types of robot drive system.	10	L2	CO1
	b.	Explain with a neat block diagram configuration of a control system for a robot joint.	10	L2	CO1
		Module – 2			
Q.3	a.	Illustrate Homogeneous transformation and robot kinematics relating to robot motion analysis.	10	L2	CO2
	b.	List the factors in the selection of design of grippers.	10	L1	CO2
		OR			
Q.4	a.	Define End Effectors. Explain the types of end effectors.	10	L2	CO2
	b.	List and explain the desirable features of sensors.	10	L4	CO2
		Module – 3			
Q.5	a.	Discuss the Goals of AI research.	10	L2	CO3
	b.	Explain the methods of robot programming.	10	L2	CO3
		OR			
Q.6	a.	Explain Capabilities and limitation of lead through programming.	10	L2	CO3
	b.	Explain problem representation and problem solving methodology.	10	L2	CO3
		Module – 4			
Q.7	a.	Classify and explain the types of robotic cell layouts.	10	L1	CO4
	b.	Describe the considerations in work cell design.	10	L2	CO4
		OR			
Q.8	a.	Explain the functions of work cell control.	10	L2	CO4
	b.	Define Interlocks. Discuss the function and types of interlocks.	10	L1	CO4
		Module – 5			
Q.9	a.	List the features of Welding Robot.	10	L4	CO5
	b.	Explain the requirement of robotic system in spray coating and benefits of robot spray coating.	10	L2	CO5
		OR			
Q.10	a.	Discuss any 10 overall application of robotics.	10	L2	CO5
	b.	Write a note on machine vision inspection system.	10	L2	CO5

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