

Code: 20ME2702B

**IV B.Tech - I Semester – Regular / Supplementary Examinations
OCTOBER 2024**

**ROBOTICS
(Common for ALL BRANCHES)**

Duration: 3 hours

Max. Marks: 70

Note: 1. This paper contains questions from 5 units of Syllabus. Each unit carries 14 marks and have an internal choice of Questions.

2. All parts of Question must be answered in one place.

BL – Blooms Level

CO – Course Outcome

			BL	CO	Max. Marks
UNIT-I					
1		Explain about Robot Anatomy in detail with neat sketch.	L2	CO1	14 M
OR					
2	a)	Discuss briefly the different classification systems of robots.	L2	CO1	8 M
	b)	Discuss briefly about robot specifications.	L2	CO1	6 M
UNIT-II					
3		What are the types of actuators? Explain briefly the working of pneumatic actuator with neat sketch.	L2	CO1 CO2	14 M

OR					
4	a)	What are the types of gripper mechanisms? Explain any two of them in detail.	L2	CO1 CO2	8 M
	b)	What are the requirements and challenges of end effector?	L1	CO1 CO2	6 M
UNIT-III					
5	What is offline programming? Compare it with on-line programming.		L3	CO1 CO3	14 M
OR					
6	What are robot programming languages? Discuss briefly.		L2	CO1 CO3	14 M
UNIT-IV					
7	a)	What are the uses of sensor in robotics?	L1	CO1 CO4	7 M
	b)	Explain about any one type of force sensor with neat sketch.	L2	CO1 CO4	7 M
OR					
8	Explain about Proximity and Range sensors in detail with neat sketches.		L2	CO1 CO4	14 M
UNIT-V					
9	List out some real time applications of robot in industry and explain any two of them in detail.		L2	CO1 CO4	14 M

OR

10	Explain in detail about the robot applications in assembly and inspection operations.	L2	CO1 CO4	14 M
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