



PRESIDENCY UNIVERSITY

BENGALURU

Roll No.																			
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Make Up Examinations - December 2025

Date: 26 - 12- 2025

Time: 9:30am - 12:30pm

School: SOE	Program: B.Tech		
Course Code : MEC3065	Course Name: Introduction to Robotics and Automation		
Semester: MK	Max Marks: 100	Weightage: 50%	

CO - Levels	C01	C02	C03	C04
Marks	24	26	26	24

Instructions:

(i) Read all questions carefully and answer accordingly.

(ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks.

10Q x 2M=20M

1.	What is a Robot?	2 Marks	L1	C01
2.	What are the translation motion in robot?	2 Marks	L1	C01
3.	List out the configuration of robot.	2 Marks	L1	C02
4.	What is the basic concept of Sensor?	2 Marks	L1	C02
5.	What is work volume?	2 Marks	L1	C02
6.	What is the need of Automation?	2 Marks	L1	C03
7.	List out the application of automation	2 Marks	L1	C03
8.	What are the limitations of automation.	2 Marks	L1	C03
9.	What is Flexible automation system (FMS).	2 Marks	L1	C04
10.	List out the types of FMS layout.	2 Marks	L1	C04

Part B

Answer the Questions.

Total Marks 80M

11.	a.	With simple sketch explain the Mechanical gripper used in robot.	10 Marks	L2	CO1
	b.	Explain the following types of robot. i) point to point robot ii) Continuous path robot iii) Controlled path motion.	10 Marks	L2	CO1
Or					
12.	a.	With simple sketch explain the pneumatic/Vacuum gripper used in robot.	10 Marks	L2	CO1
	b.	Explain the anatomy of Robot with simple diagram.	10 Marks	L2	CO1
Or					
13.	a.	Explain few important features of sensors used in the robot and automations.	10 Marks	L2	CO2
	b.	Explain working principle of touch sensor with simple sketch.	10 Marks	L2	CO2
Or					
14.	a.	Explain the working principal of Eddy current proximity sensor with simple sketch.	10 Marks	L2	CO2
	b.	With simple diagram, explain the Capacitive proximity sensor used in robots.	10 marks	L2	CO2
Or					
15.	a.	Explain the programmable automation systems with its advantages and limitations	10 Marks	L2	CO3
	b.	Explain the Automation USA principles used in industry.	10 marks	L2	CO3
Or					
16.	a.	List out the advantages and limitations of Fixed automation	10 Marks	L2	CO3
	b.	Explain the ten strategies for automation and process improvements used in industry.	10 Marks	L2	CO3
Or					
17.	a.	Explain the components of Flexible Manufacturing system (FMS)	10 Marks	L2	CO4
	b.	Describe the FMS single line layout system with simple diagram	10 Marks	L2	CO4
Or					
18.	a.	Explain the FMS Rectangular layout system with simple diagram	10 Marks	L2	CO4
	b.	Explain the FMS Loop layout system with simple diagram	10 Marks	L2	CO4