

Roll No



**PRESIDENCY UNIVERSITY
BENGALURU**

SET B

**SCHOOL OF ENGINEERING
END TERM EXAMINATION - JAN 2024**

Semester : Semester III - 2022

Course Code : MEC3065

Course Name : Introduction to Robotics and Automation

Program : B.Tech.

Date : 08-JAN-2024

Time : 9:30AM - 12:30 PM

Max Marks : 100

Weightage : 50%

Instructions:

- (i) Read all questions carefully and answer accordingly.
- (ii) Question paper consists of 3 parts.
- (iii) Scientific and non-programmable calculator are permitted.
- (iv) Do not write any information on the question paper other than Roll Number.

PART A

ANSWER ALL THE QUESTIONS

4 X 5M = 20M

1. Write a short note on Robot configurations. (CO1) [Knowledge]
2. List and explain types of flexibility. (CO2) [Knowledge]
3. What are the main differences between Fixed and Flexible automation ? (CO2) [Knowledge]
4. List and explain Automation principles and strategies. (CO2) [Knowledge]

PART B

ANSWER ALL THE QUESTIONS

5 X 10M = 50M

5. A type of proximity sensor which is used to detect metallic objects and detect magnetic losses due to eddy current that are generated on a conductive surface by an external magnetic field. Identify the type of sensor and explain with suitable diagram. (CO1) [Comprehension]
6. With suitable diagram explain jointed arm robot configuration. (CO2) [Comprehension]
7. What are the basic components Flexible manufacturing system? Explain. (CO3,CO2) [Comprehension]
8. With suitable diagram explain Inductive type proximity sensors. (CO3) [Comprehension]

9. With suitable diagram explain any one type of flexible manufacturing system layout.
(CO4) [Comprehension]

PART C

ANSWER ALL THE QUESTIONS

2 X 15M = 30M

10. With the help of suitable diagram list and explain different types of flexible manufacturing layouts.
(CO4) [Application]
11. With suitable example list and explain different types of automation and compare.
(CO5) [Application]