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**PRESIDENCY UNIVERSITY BENGALURU**

**SCHOOL OF ENGINEERING SET-B**

 **END TERM EXAMINATION – MAY/JUNE 2024**

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| **Semester :** Semester VI - 2021**Course Code :** MEC3073**Course Name :** Robotic System Design**Program :** B. Tech.  | **Date :** June 12, 2024**Time :** 1:00 PM - 4:00 PM**Max Marks :** 100**Weightage :** 50% |

**Instructions:**

1. *Read all questions carefully and answer accordingly.*
2. *Question paper consists of 3 parts.*
3. *Scientific and non-programmable calculator are permitted.*
4. *Do not write any information on the question paper other than Roll Number.*

# PART A

|  |  |  |
| --- | --- | --- |
| **1.****2.** | **ANSWR ANY 5 QUESTIONS****1.** What are Mechanical grippers?**2**. What is robot chassis?**3.** List different types of robot programming methods. | **5Q X 2M=10M**(CO1) [Knowledge](CO2) [Knowledge] (CO3) [Knowledge](CO1) [Knowledge](CO2) [Knowledge](CO2) [Knowledge](CO3) [Knowledge] |
| **4**. Write a short note on Relays.**5.** What are PCBs?**6**. Write a short note on wheel chassis.**7**. Explain wrist interface and its types. | **PART B** |
|  | **ANSWR ANY 5 QUESTIONS** | **5Q X 10M=50M** |
| **8.** | **8**. List different types of gears and explain. |  |

(CO1) [Comprehension]

1. Explain gripper force analysis. (CO2) [Comprehension]
2. With suitable diagram explain the working of DC gearless motor.

(CO3) [Comprehension]

1. What are rotary actuators? Explain.

(CO1) [Comprehension]

1. List out different factor to consider selection of gripper.

(CO2) [Comprehension]

1. With neat sketch explain translation gripper mechanism.

(CO3) [Comprehension]

1. What are the differences between online and offline programming?

(CO1) [Comprehension]

**PART C**

#  ANSWR ANY 2 QUESTIONS 2Q X 20M=40M

1. List out different types of gripper mechanism. Explain any two.

(CO1) [Application]

1. With suitable diagram explain the working of Pneumatic gripper mechanism.

(CO2) [Application]

1. With suitable diagram explain wrist assembly and its features.

(CO3) [Application]