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**PRESIDENCY  
UNIVERSITY**  
BENGALURU

**School of Engineering**

**Mid - Term Examinations - November 2024**

**Semester:** 7

**Course Code:** MEC3099

**Course Name:** Autonomous Mobile Robots

**Program:** Mechanical Engineering

**Date:** 5-11-2024

**Time:** 02:00pm – 03:30pm

**Max Marks:** 50

**Weightage:** 25%

**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.**

**2Mx5Q=10M**

- |   |   |         |    |     |
|---|---|---------|----|-----|
| 1 | What is Robot kinematics?                                       | 2 Marks | L1 | CO1 |
| 2 | Why are autonomous mobile robots important in field of robotics | 2 Marks | L1 | CO1 |
| 3 | Are autonomous mobile robots safe?                              | 2 Marks | L1 | CO1 |
| 4 | List the types of autonomous mobile robots.                     | 2 Marks | L1 | CO2 |
| 5 | List the Advantages and disadvantages of GPS system             | 2 Marks | L1 | CO2 |

**Part B**

**Answer ALL Questions. Each question carries 10 marks.**

**4QX10M=40M**

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|----|--|---------|----|-----|
| 6  | What is the difference between an AMR and an AGV?<br>or                    | 10Marks | L2 | CO1 |
| 7  | Briefly explain Robotic vision and applications                            | 10Marks | L2 | CO1 |
| 8  | What types of software are required to run autonomous mobile robots?<br>or | 10Marks | L2 | CO2 |
| 9  | Explain briefly the Global Positioning System                              | 10Marks | L2 | CO2 |
| 10 | Explain briefly the Doppler effect based sensors<br>or                     | 10Marks | L3 | CO2 |
| 11 | List and briefly explain the types of autonomous mobile robots             | 10Marks | L3 | CO2 |
| 12 | Briefly explain the examples of vision sensors<br>or                       | 10Marks | L3 | CO1 |
| 13 | List the Advantages and disadvantages of autonomous mobile robots          | 10Marks | L3 | CO1 |