

2202E007

**BACHELOR OF VOCATION**  
**Robotics and Automation**  
**Subject: Fundamental of Robotic System**  
**Subject Code: RA-501**  
**Semester: First**  
**February 2022**  
**Theory (External): 35 Marks**  
**Time: 03 Hours**

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**Instructions to the Students**

1. This Question paper consists of two Sections. All sections are compulsory.
2. Section A comprises 10 questions of objective type in nature. All questions are compulsory. Each question carries 1 mark.
3. Section B comprises 8 essay type questions out of which students need to do any 5. Each question carries 5 marks.
4. Read the questions carefully and write the answers in the answer sheets provided.
5. Do not write anything on the question paper.
6. Wherever necessary, the diagram drawn should be neat and properly labelled

Roll Number									

**SECTION -A (SHORT/OBJECTIVE TYPE QUESTIONS)**  
(10x1=10 Marks)

- A) Define Robot.
- B) What is active and passive gripper?
- C) Define pitch, yaw and roll.
- D) Write down some industrial applications of robots.
- E) What is welding torch?
- F) Define payload.
- G) What is robotic gun?
- H) What are end effectors of a robot?
- I) Define rotation and transformation.
- J) What is an electronics manipulator?

**SECTION -B (ESSAY TYPE QUESTIONS)**  
(5x5=25 Marks)

- Q 1 Differentiate between flexible automation and robotic technology.
- Q 2 What are the classifications of industrial robots?
- Q 3 Explain robotic drive mechanism in details.
- Q 4 Write a short note on MIG and BIW welding lines?
- Q 5 Explain the different type of manipulators in details.
- Q 6 Explain the classification of robot end effectors.
- Q 7 Describe path planning in the automotive industry.
- Q 8 Describe trajectory planning in robots.

**“END OF PAPER”**

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