

321

Register No.:

April 2024

Time - Three hours
(Maximum Marks: 100)

- [N.B. 1. Answer all questions under Part-A. Each question carries 3 marks.
2. Answer all the questions either (A) or (B) in Part-B. Each question carries 14 marks.]

PART - A

1. What is the purpose of an end effector?
2. Define yaw.
3. Write any three applications of pneumatic drives.
4. What is a capacitive sensor?
5. What is meant by kinematics?
6. Write any three motion commands.
7. What is the use of rapid prototyping?
8. What is an STL file?
9. What are the advantages of photo polymerization?
10. Write short notes on ultrasonic AM.

[Turn over.....

PART - B

11. (a) Classify robots on the basis of work envelopes and work volume.

(Or)

(b) Explain about the four types of robot controls.

12. (a) Write short notes on Grippers. Also explain the selection and design consideration in robot gripper.

(Or)

(b) Explain about Machine Vision system.

13. (a) Explain about teach pendant with a neat sketch.

(Or)

(b) Explain the applications of robots in manufacturing.

14. (a) (i) Compare additive manufacturing process with CNC machining. (7).

(ii) Explain the classification of AM process. (7)

(Or)

(b) Explain AM unique capabilities and DFAM for part quality improvement.

15. (a) Explain about powder bed fusion process.

(Or)

(b) Explain about Beam deposition process.
