

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION MAY 2017
(Fifth Semester)

Branch - **ELECTRONICS**

CORE ELECTIVE-I ROBOTICS & AUTOMATION

Time : Three Hours

Maximum : 75 Marks

SECTION-A (20 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks (10 x 2 = 20)

- 1 What is Cartesian robot?
- 2 Define the process repeatability in robots.
- 3 Write any two application of stepper motor.
- 4 What are the parts of hydraulic drive system?
- 5 What is tactile sensor?
- 6 What is transducer?
- 7 Define gripper.
- 8 What are adhesive grippers?
- 9 Expand FSM.
- 10 Define manipulator.

SECTION - B (25 Marks)

Answer **ALL** Questions

ALL Questions Carry **EQUAL** Marks (5 x 5 = 25)

- 11 a Explain accuracy, resolution and repeatability of robot system.
OR
b Explain the process of articulated robots.
- 12 a Write a note on hydraulic motor.
OR
b Give a short note about control loops.
- 13 a Explain with neat diagram of proximity sensors.
OR
b Give a short note about segmentation.
- 14 a , Give short notes about gripper mechanism.
OR
b What are the applications of end effectors?
- 15 a Describe head changing robot. e
OR
b List out the hierarchical computer system. -

SECTION - C (30 Marks)

Answer any **THREE** Questions

ALL Questions Carry **EQUAL** Marks (3 x 10 = 30)

- 16 Explain with neat diagram of cylindrical and Cartesian robot.
- 17 What is main role of hydraulic drives in modern robotic system?
- 18 Explain the process extraction of vision system.
- 19 Briefly explain about mechanical grippers.
- 20 Explain configuration of robot controller.

Z-Z-Z

END