Total No. of Questions :8]   [Total No. of Printed Pages :2

[2]

Roll No ....

MMMD-302(D)
M.E./M.Tech., III Semester
Examination, June 2016
Robotics and Robot Application
(Elective-II)
Time : Three Hours

Maximum Marks : 70

Note: Attempt any five questions. All questions carry equal marks.

1. a) Discuss the advantages and disadvantages of using robots in Industry.   7

   b) Explain the relationship of robotics with industrial automation.   7

2. a) Enlist the chronology of developments related to robotics technology until 1990.   7

   b) Discuss the advantages of programmable and flexible automation in Industry.   7

3. a) Define a robot and with a diagram explain the anatomy of a robot.   7

   b) Describe the complete classification of Robotic Systems.   7

4. a) Explain how the performance of robotic system is studied.   7

   b) Compare three basic types of drives enlisting their merits and demerits.   7

5. a) Discuss briefly about the grippers and give its classification.   7

   b) Explain the features and applications of any two types of wrist.   7

6. An Industrial Robot with a prismatic joint has a telescoping range of 0.6m. The robots control memory has the following bit storage capacity.

   a) 10 bit storage capacity

   b) 12 bit storage capacity   14

7. a) Discuss about direct and inverse kinematics.   7

   b) What is composite homogeneous transformation? Explain the rules applied in the formation of the same.   7

8. a) Describe the principal functions of robot vision system.   7

   b) What are the critical informations required for task programming of robot?   7

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