

ME 701(C)  
B.E. VII Semester  
Examination, December 2014  
Industrial Robotics  
Time : Three Hours  
Maximum Marks :70  
<http://www.rgpvonline.com>

Note: Attempt any live questions with internal choices.

1. a) Explain the types of motion for industrial robot.

b) What is an industrial robot? Explain classification of industrial robots.

OR

2. a) Discuss the difference between polar arm and articulated arm configurations.

b) What is repeatability? Discuss about accuracy and resolution.

3. a) Explain classification of End effectors.

b) Explain the significance of point, line and surface contact in the context of gripper design.

OR

4. Define term end effectors? What factors should be embodied in the design of end effectors for use on industrial robots.

b) Explain robot drive system and its types.

5. a) Explain various types of sensor used in industrial robots.

b) Explain in brief machine vision

OR

6. a) Explain proximity and range sensors in detail.

b) What are the characteristics one should check while selecting a sensor?

7. a) Distinguish between VAL and robot programming languages.

b) State various robot programming languages. Discuss them in brief.

OR

8. a) What is program algorithm? Differentiate between walk through and lead through programming.

b) Discuss with help of an example basic characteristic of robot level languages.

9. a) Discuss in brief the various economic considerations in Robotics.

b) What is the importance of work envelope when considering robot design?

OR

10. a) Briefly discuss the mode of programming industrial robots from point of view of safety.

b) What is effectiveness of robots? Suggest six reasons by which the introduction of robots into the workplace may be justified from the economical point of view.