FirstRanker.com
Firstranker's choice
www.FirstRanker.com www.FirstRanker.com

Roll No. | | | | | | | | | | | | |

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech (ME) (Sem.–6)

INDUSTRIAL AUTOMATION & ROBOTICS

Subject Code : PE-408

Paper ID : [A0866]

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Write briefly :

a. What do you mean by automation?

b. Explain the basic function of hydraulic fluid.

c. Differentiate between fixed, programmable and flexible automation.

d. Explain the need of a filter and lubricator in pneumatic systems.

e. Draw truth table of a flip flop with start-up preference.

f. Differentiate between operation of an unloading valve and pressure relief valve.

g. Describe a meter in hydraulic circuit.

h. What is gripper?

i. Draw figure of a jointed arm robot and explain the various joints.

j. List applications of robot.

www.FirstRanker.com

www.FirstRanker.com

FirstRanker.com
Firstranker's choice
www.FirstRanker.com www.FirstRanker.com

SECTION-B

2. Why automation is required in industry?

3. Explain the construction and working of a time delay valve.

4. Explain the construction and working of vibratory bowl feeder.

5. Differentiate between open and closed loop systems.

6. Explain the concept of degrees of freedom associated with the robotics. Explain the degrees of freedom associated with a robot wrist.

SECTION-C

7. Discuss the role of robot in industry. And justify the applications of robotics in industry.

8. Differentiate between hydraulics and pneumatics. What are the advantages of hydraulics over pneumatics?

9. Write short note on :

   a. Robot vision

   b. Mechanical servo system

   c. Automated packaging

www.FirstRanker.com

www.FirstRanker.com