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

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(ME) (2011 Onwards) (Sem.–5)

INDUSTRIAL AUTOMATION AND ROBOTICS

Subject Code : BTME-504

Paper ID : [A2131]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION 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 has to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.

SECTION - A

1. Write briefly :

a. Differentiate between Automation and Mechanization.

b. Give the symbol of 4/2 paddle operated spring return DC valve.

c. Draw the symbol of twin pressure valve.

d. What is Solenoid?

e. What is Memory Function?

f. Define Coanda Effect.

g. What are the basic components of PLC?

h. What do you mean by Yaw in robotics?

i. What is Transfer Device?

j. What is Robot Welding?

SECTION - B

2. What do you mean by Automating Industry? Elaborate.

3. What are the basic trouble shootings in hydraulics?

4. List down the commonly used sensors in robotics.

5. Explain the construction and working of reciprocating tube feeder.

6. Explain Logic Ladder diagram with its common component.

SECTION - C

7. What are the various types of directional control valves used in hydraulics systems? Explain with neat sketch

8. How robots are classified on the basis of geometry? Explain with neat sketch.

9. Write short notes on:

   (a) Machine Vision

   (b) Low cost automation