Roll No. ⬚⬚⬚⬚⬚⬚⬚⬚⬚⬚⬚   Total No. of Pages : 02

Total No. of Questions : 18

B.Tech.(Automation & Robotics) (2018 Batch)   (Sem.–3)
INDUSTRIAL AUTOMATION AND ROBOTICS
Subject Code : BTAR-301-18
M.Code : 76500

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

Write briefly :

1. What is the Socio economic consideration of Industrial Automation?

2. What are flow control valve? Give one example with diagram.

3. What do you mean by direct and indirect control of double acting cylinders?

4. Explain the concept Robotic Machine Vision.

5. What is the function of Teach Pendent Box in robotics?

6. Give the difference between seat type and spool type valves.

7. What are robot end-effectors?

8. What is importance of feeders in industries?

9. What do you mean by Low cost Automation?

10. Explain various wrist motions of Robots.

SECTION-B

11. Discuss basic structure and working of Pneumatic cylinders. Give its advantages and disadvantages.

12. Explain with suitable diagram 'Vibratory Bowl Feeder'.

13. Write a short note on robot programming.

14. With suitable diagram explain 'Quick exhaust valve'.

15. Discuss the concept of industrial automation and explain types of automations.

SECTION-C

16. Discuss using suitable example designing of a logic circuit for a given time displacement diagram.

17. Discuss with neat diagram the coanda effect and explain its industrial applications.

18. Discuss the basic architecture and components of PLC.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.