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Total No. of Pages : 02

Total No. of Questions : 09

B.Tech. Ind. Engg. & Mgt. (Spl. in TQM) (Sem.-5)

INDUSTRIAL AUTOMATION AND ROBOTICS

Subject Code : IEM-501

M.Code : 70992

Time : 3 Hrs.

Max. Marks : 40

INSTRUCTIONS TO CANDIDATES :

1. Attempt All EIGHT questions from SECTION-A carrying TWO marks each.
2. Attempt any SIX questions out of EIGHT from SECTION-B carrying FOUR marks each.

SECTION-A**1. Answer briefly :**

- a) Define Automation.
- b) What do you mean by pneumatic logic circuits?
- c) What do you mean by Conda effect?
- d) Describe classification of robotics based on geometry and devices.
- e) What do you mean by PLC?
- f) Write various industrial applications of robots.
- g) Describe Manipulators.
- h) What do you understand by MCU? What are its functions?

SECTION-B

2. Explain Economic aspects in robot applications.
3. Classify robots and give their applications.
4. Write a detailed note on pneumatic and hydraulic actuators and valves.
5. Explain in detail :
 - a) Work cell organization in robotic environment.
 - b) Work Cell Design and Control
6. Illustrate structure of end effectors in detail.
7. Explain the following in detail with respect to Robot Technology :
 - a) Precision of movement
 - b) Configuration of a robot controller
8. Describe in detail Intelligent Robots.
9. Explain in detail :
 - a) Safety in robots
 - b) Issues in implementation of robotics in industry.

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.