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Total No. of Printed Pages: [01]

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M. Tech ME (Semester – 2nd)
INDUSTRIAL AUTOMATION & ROBOTIC
Subject Code: MMEE2208
Paper ID: [191010]

Time: 03 Hours

Maximum Marks: 60

Instruction for candidates:

1. Section A is compulsory. It carries 16 marks. It consists of 4 questions of 4 marks each.
2. Section B consist of 4 questions of 8 marks each. The student has to attempt any 3 questions out of it.
3. Section C consist of 3 questions of 10 marks each. The student has to attempt any 2 questions.

Section – A (4 marks each)

- Q1. Discuss the significance of automation in Production System and explain what an advanced automation function is?
- Q2. Discuss the principles and design considerations of automated material handling systems?
- Q3. Discuss the differences between Process Industries versus Discrete–Manufacturing industries?
- Q4. Discuss the significance of modeling and simulation for plant automation?

Section – B (8 marks each)

- Q5. What is flow lines as well as transfer mechanisms and discuss the fundamentals of transfer lines?
- Q6. Discuss the functions of FMS and discuss its planning and implementation procedure?
- Q7. Discuss the functional requirements and configuration of distributed control system?
- Q8. Discuss the modern tools and future perspective requirements for plant automation?

Section – C (10 marks each)

- Q9. Explain in brief basic elements of an automated system and discuss various levels of automation with suitable examples?
- Q10. What is quality control function and discuss the traditional as well as modern quality control methods?
- Q11. Discuss the significance of Automatic process control and explain various building blocks of automation system?