Please check that this question paper contains 09 questions and 01 printed pages within first ten minutes.

[Total No. of Questions: 09] [Total No. of Pages: 01]

Uni. Roll No. …….

18-01-2022(E)

Program: B.Tech.
Semester: 5th Semester
Name of Subject: Industrial Automation and Robotics
Subject Code: PCME-114
Paper ID: 16381

Time Allowed: 02 Hours **Max. Marks: 60**

NOTE:

1) Each question is of 10 marks.
2) Attempt any six questions out of nine
3) Any missing data may be assumed appropriately

1. What are fluidic sensors? Explain the working of any one sensor with the help sketch.
2. With neat sketch explain the operation of simple pressure relief valve and sequence valve with spring loading.
3. Explain centrifugal hopper with neat sketch.
4. Explain architecture of a Programmable logic controller with the help of neat sketch.
5. Discuss the construction and working of the following fluidic components:
   i) OR/NOR
   ii) Proximity detector (any one type)
6. Design a pneumatic logic circuit by using Cascade method for the following sequence of cylinders: In a two cylinder circuit, cylinder A extends in first step, B extends in second step, cylinder A retracts in third step & cylinder B retracts in fourth step.
7. Explain any four types of robot programming. Name the important requirements of programming languages.
8. Discuss the concept of low cost automation with suitable examples.
9. Draw a circuit diagram for speed control of a double acting cylinder by using 4/2 DC valve.

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