



C09-AEI-604

**3717**

**BOARD DIPLOMA EXAMINATION, (C-09)**  
**OCT/NOV—2015**  
**DAEI—SIXTH SEMESTER EXAMINATION**  
**INDUSTRIAL AUTOMATION**

*Time : 3 hours ]*

*[ Total Marks : 80*

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**PART—A**

3×10=30

**Instructions :** (1) Answer **all** questions.

(2) Each question carries **three** marks.

1. State the basic principle of PLC.
2. List any three components of relay-based control panel.
3. Mention the different types of PLC.
4. Draw the diagram of pneumatic switch.
5. List three communication standards used in data transfer in PLCs.
6. Mention three advantages of SCADA.
7. Define SCADA.

- \* 8. Draw the block diagram of data acquisition system.
9. List three drawbacks of DDC.
10. Mention three advantages of robot.

**PART—B**

10×5=50

**Instructions** : (1) Answer *any five* questions.

(2) Each question carries **ten** marks.

11. Explain the working of PLC with block diagram.
12. Explain interfacing of PLC with PC.
13. (a) Draw and explain the PLC ladder diagram for forward rotation of induction motor. 5
- (b) Write a short note on 'attach tag with memory'. 5
14. Explain capacitive proximity switch with legible diagrams.
15. Explain the operation of the following : 5+5
- (a) Colour sensors
- (b) Reed switch
16. Explain the development of graphic symbols using SCADA software.
- \* 17. Explain the data logger system with its block diagram.
18. Define robot and explain the operation of simple robot.

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