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C09-AEI-604

**3717**

**BOARD DIPLOMA EXAMINATION, (C-09)**

**OCT/NOV—2014**

**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.

(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. List the components of relay-based control panel.

2. Mention the advantages of PLC.

3. State the basic principle of PLC.

4. Draw the diagram of fibre-optic sensor.

5. Mention different types of actuator.

6. List various tags associated with SCADA.

7. Define SCADA.

- \* 8. List the drawbacks of DDC.
9. Draw the block diagram of data logger system.
10. List the applications of robot.

**PART—B**

10×5=50

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

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

(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. Draw the functional block diagram of PLC and explain its operation. 10
12. Explain about bit instructions used in PLC programming. 10
13. (a) Draw the ladder logic to control the star-delta starter. 5  
(b) Explain about the graphical symbols used in SCADA. 5
14. Explain the working of inductive and capacitive proximity switches. 5+5
15. Explain the working of reed switches and pneumatic switches. 5+5
16. Explain the interfacing of SCADA with PLC. 10
- \* 17. Explain the distributed control system (DCS) with block diagram. 10
18. Define robot and explain the working of robot. 10

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