



C09-AEI-604

**3717**

**BOARD DIPLOMA EXAMINATION, (C-09)  
MARCH/APRIL—2013  
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 different types of PLC. 3
2. Write about PLC-based control panel. 3
3. Define a PLC. 3
4. Draw a neat sketch of capacitive proximity sensor. 3
5. List the control elements used in automation. 3
6. Define SCADA. 3
7. List the various types of SCADA software used in automation. 3

- 8.** Draw the block diagram of data acquisition system. 3
- 9.** List the drawbacks of DDC. 3
- 10.** Define an expert system. 3

**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.** Explain the block diagram of PLC. 10
- 12.** (a) Explain the relay-based PLC. 4
- (b) Compare between PLC-based and Relay-based control panels. 6
- 13.** (a) List the various instructions used in ladder programming. 5
- (b) Explain how to use the SCADA software to develop graphical symbols. 5
- 14.** Explain the communication standards RS-232 and RS-485. 10
- 15.** Explain about reed switches and pneumatic switches. 10
- 16.** Explain the attaching of tags with memory. 10
- 17.** Explain the block diagram of DDC. 10
- 18.** Explain the working of a simple robot and list the advantages. 10

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