



C16-AEI-504

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BOARD DIPLOMA EXAMINATION, (C-16)

NOVEMBER—2020

DAEI—FIFTH SEMESTER EXAMINATION

INDUSTRIAL AUTOMATION

Time : 3 hours]

[Total Marks : 80

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. Define PLC.
2. List the manufacturers of PLC.
3. List different PLC instruction sets.
4. Draw the ladder diagram of EX-OR gate.
5. Define ladder diagram.
6. List three applications of SCADA.
7. State the role of computers in process control.
8. Draw the diagram of data acquisition system.
9. List the applications of CNC machine.
10. List the commonly used processors in embedded systems.

PART—B

10×5=50

- Instructions :** (1) Answer *any five* questions.
(2) Each question carries **ten** marks.
(3) Answers should be comprehensive and the criteria for valuation are the content but not the length of the answer.

11. Explain the block diagram of PLC.
12. Compare relay based and PLC based control panels.
13. Explain the ladder diagram for DOL starter and star-delta starter.
14. Draw the ladder diagrams for AND, OR, NOT, NAND, NOR and EX-OR gates.
15. Explain interfacing of SCADA with PLC.
16. Explain the block diagram of data logger.
17. Explain the block diagram of direct digital control systems.
18. Explain serial communication using USB.
