**6612**

**BOARD DIPLOMA EXAMINATION**

**MARCH/APRIL - 2019**

**DIPLOMA IN APPLIED ELECTRONICS AND INSTRUMENTATION**

**INDUSTRIAL AUTOMATION**

**FIFTH SEMESTER EXAMINATION**

**Time: 3 Hours** **Total Marks: 80**

## PART - A (3m x 10 = 30m)

*Note 1:Answer all questions and each question carries 3 marks*

*2:Answers should be brief and straight to the point and shall not exceed 5 simple sentences*

1. List types of PLCs based on I/O's and configuration
2. List the applications of PLCs.
3. Draw the ladder diagrams for NOR and NAND gates
4. Draw the ladder diagram of retentive timer
5. Define ladder diagram.
6. List three applications of SCADA
7. Draw the block diagram of Data acquisition system
8. State the role of Computers in Process control
9. List three applications of CNC Machine
10. State the need for communication interface

## PART - B (10m x 5 = 50m)

*Note 1:Answer any five questions and each carries 10 marks*

*2:The answers should be comprehensive and the criteria for valuation is the content but not the length of the answer*

11. Explain the Block diagram of PLC
12. (a)State the Importance of Automation (3M)
    (b)Define Programmable Logic Controller and list its two advantages (7M)
13. .(a)Draw ladder diagram of Sequential control of induction motors. (5M)
    (b) Explain the ladder diagram of Sequential control of induction motors. (5M)
14. (a) Draw the ladder diagram of traffic light controller (7M)
    (b) Explain the ladder diagram of traffic light controller (3M)

15. Explain Remote Terminal Unit of SCADA

16. (a) Draw the block diagram of simple robot (4M)
    (b)Explain the operation of simple robot (6M)

17. Explain the block diagram of Data Logger

18. Explain serial communication using USB.

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