



C09-AEI-604

3717

BOARD DIPLOMA EXAMINATION, (C-09)

MARCH/APRIL—2021

DAEIE - SIXTH SEMESTER EXAMINATION

INDUSTRIAL AUTOMATION

Time : 3 hours]

[Total Marks : 80

PART—A

4×5=20

- Instructions :** (1) Answer *any five* questions.
(2) Each question carries **four** marks.
(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. What is meant by relay based control?
2. List any two parts of PLCs.
3. Write the basic principle of PLC.
4. List any two control elements used in Automation.
5. Mention any two communication standards and protocols used in industrial automation.
6. Define SCADA.
7. List any two softwares used to develop graphic symbols in SCADA.
8. Mention any two drawbacks of Direct Digital Control.
9. Draw the block diagram of data logger.
10. List any two advantages of robot.

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PART—B

15×4=60

- Instructions :** (1) Answer *any four* questions.
(2) Each question carries **fifteen** marks.
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

11. Explain the interfacing of PLC with PC.
12. Explain PLC instruction set.
13. Explain the working of inductive proximity switches.
14. Explain the principle of operation of Rotary encoders.
15. Explain how SCADA is interfaced with PLC.
16. (a) Explain the working of PLC in manual and auto mode.
(b) Explain how tags are attached with memory in SCADA.
17. Draw and explain the block diagram of data acquisition system.
18. Explain the operation of simple Robot and list any two applications of it.

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