C14-EE–606

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BOARD DIPLOMA EXAMINATION, (C-14)

MARCH/APRIL—2021

DEEE - 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. Mention the requirements of automation.

2. Define transfer function.

3. List different input and output devices used in control systems.

4. List the types of controllers.

5. State the purpose of tacho-generator.

6. State the properties of transfer function.

7. List the basic elements used in block diagram reduction technique.

8. Define linear and time-variant control system.

9. State the advantages of PLC.

10. Draw the ladder diagrams for *(a)* NOR gate and *(b)* NOT gate.

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 importance of control engineering in day to day life and industry.

12. *(a)* State the equivalence of physical system components into electrical system elements.

(b) Explain PI controller with block diagram.

13. Describe AC and DC solenoids.

14. Explain the concept of Electrical, Electronics and Digital Controllers.

15. Explain the working of Synchros-transmitter as error detector.

16. Explain the obtaining of Transfer function relating to Electrical systems with suitable example.

17. Explain any two ladder diagram.

18. Explain the ladder diagram for STAR-DELTA starter.

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