C16–EC–505

6633

BOARD DIPLOMA EXAMINATION, (C–16)

NOVEMBER—2020

DECE—FIFTH SEMESTER EXAMINATION

INDUSTRIAL ELECTRONICS

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 intrinsic stand-off ratio of UJT.

2. List the applications of SCR.

3. List the application of inverters.

4. List the applications of SMPS.

5. Classify electrical transducers on the basis of principle of operation and applications.

6. List applications of resistance strain guage.

7. Classify industrial heating methods.

8. List the applications of dielectric heating.

9. Define transfer function of control system.

10. State the need for PLC.

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 construction and working of GTO SCR.

12. Explain the construction and working of TRIAC with its volt ampere characteristics.

13. Explain the speed control of DC motor using SCR.

14. Explain the working of SMPS with the block diagram.

15. Explain the construction and working of Piezo-electric transducer.

16. Explain construction and working of Pulsed-echo ultrasonic flaw detector.

17. Explain about the electrodes used in dielectric heating and method of coupling to RF generator.

18. Draw and explain the block diagram of a closed loop control system and describe with an example.

★ ★ ★