3761

BOARD DIPLOMA EXAMINATION, (C–09)
MARCH/APRIL—2016
DECE—SIXTH 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. Draw the characteristics of *(a)* SUS and *(b)* SBS.

2. Compare GTOSCR and SCR in any three aspects.

3. Draw the symbols of *(a)* DIAC, *(b)* TRIAC and *(c)* SCS.

4. What is a chopper? Give any two applications of chopper.

5. What is the need for a free-wheeling diode?

6. Draw the circuit diagram for single-phase full wave converter with resistive load.

7. Classify inverters in any two aspects.

8. Draw the circuit diagram of 3-phase bridge inverter.

9. State the factors affecting the speed of DC motors.

10. Mention any three applications of thermocouple transducers.

PART—B 10×5=50

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

11. Explain the operation of SCR with diagram and draw the VI characteristics.

12. Explain the working of SMPS with block diagram.

13. Explain the working of 3-phase half wave converter with resistive load.

14. Explain the operation of single phase AC regulator with resistor load.

15. Draw and explain the speed control of induction motor using voltage-frequency control.

16. Explain the construction and working of LVDT.

17. Explain the working of pulsed echo ultrasonic flaw detector with neat diagram.

18. Explain the working of capacitive transducer and its applications.

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