



C09-EC-605

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**BOARD DIPLOMA EXAMINATION, (C-09)
MARCH/APRIL—2018
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 symbols of (a) LASCR, (b) SBS and (c) GTOSCR.
2. Draw the characteristics of SCR.
3. Write a short note on SCS.
4. Give any three applications of converters.
5. Draw circuit diagram for 3-phase full-wave controlled converter with resistive load.
6. Define (a) chopper and (b) AC regulator.
7. Classify inverters based on the type of output voltage and type of connection.

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8. State the factors affecting the speed of DC motors.
9. List three applications of inverters.
10. Mention any three applications of strain gauge.

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 construction of TRIAC and draw the VI characteristics of TRIAC.
12. Explain the triggering of SCR using UJT with a neat diagram.
13. Explain the working of single-phase half-wave converter with RL load.
14. Explain the operation of four-quadrant chopper.
15. Draw and explain the speed control of induction motor using voltage-frequency control.
16. Explain the operation of a 3-phase bridge inverter at 120° conduction with circuit diagram.
17. Explain the construction and working of thermocouple transducer.
18. Explain the construction and working of piezoelectric ultrasonic generator.

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