



C09-EC-605

**3761**

**BOARD DIPLOMA EXAMINATION, (C-09)  
MARCH/APRIL—2014  
DECE—SIXTH SEMESTER EXAMINATION  
INDUSTRIAL ELECTRONICS**

Time : 3 hours ]

[ Total Marks : 80

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**PART—A**

3×10=30

**Instructions** : (1) Answer **all** questions.

(2) Each question carries **three** marks.

1. List any six power electronic devices.
2. Write the advantages of GTOSCR over SCR.
3. Write the applications of a diac.
4. Write the applications of converters.
5. Write the need of free wheeling diode in converters.
6. What is a chopper? Give its applications.
7. List the factors affecting speed of AC motors.
8. What are the applications of an inverter?
9. What are the demerits of voltage source inverters?
10. Mention the methods of generating ultrasonic waves.

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**PART—B**

10×5=50

**Instructions** : (1) Answer *any five* questions.

(2) Each question carries **ten** marks.

11. Draw and explain the *V-I* characteristics of GTOSCR with its constructional details. 5+5
12. Draw and explain the *V-I* characteristics of triac with its constructional details. 5+5
13. Draw and explain the working of three-phase fully controlled converter with resistive load. 3+4+3
14. Explain the operation of chopper in all four quadrants. 10
15. Describe the speed control of DC shunt motor using converter. 5+5
16. Draw and explain the operation of single-bridge inverter using MOSFET. 5+5
17. Draw and explain the working principle and construction of an LVDT. 5+5
18. Draw and explain the working principle and construction of a thermocouple. 4+6

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