



C09-EC-605

**3761**

**BOARD DIPLOMA EXAMINATION, (C-09)  
OCT/NOV—2017  
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.  
(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. List any six thyristor family devices.
2. Draw the block diagram of SMPS.
3. Draw the characteristics of TRIAC.
4. Classify converters in any two aspects.
5. Draw circuit diagram for 3-phase half-wave controlled converter with resistive load.
6. Write any three applications of AC regulators.
7. State the factors affecting the speed of AC motors.

- \* 8. Give the classification of transducers.
- 9. List any three applications of inverters.
- 10. Mention any three methods of generating ultrasonic waves.

**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 using two-transistor model and draw the VI characteristics of SCR.
- 12. Explain the operation of DIAC with diagram and draw the VI characteristics of DIAC.
- 13. Explain the working of single-phase full-wave converter with resistive load.
- 14. Define chopper. Explain the methods of controlling the output voltage in chopper.
- 15. Draw and explain the speed control of induction motor using voltage-frequency control.
- 16. Explain the operation of 3-phase bridge inverter with circuit diagram.
- 17. Explain construction and working principle of strain gauge.
- \* 18. Explain construction and working principle of LVDT.

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