



C09-EC-605

**3761**

**BOARD DIPLOMA EXAMINATION, (C-09)**  
**OCT/NOV—2016**  
**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. Define holding current and latching current of SCR.
3. Compare the characteristics of GTO SCR and SCR in any three aspects.
4. What is chopper?
5. List the applications of AC regulator.
6. List three applications of converter.
7. Give the classification of inverters.

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8. List the factors affecting speed of AC motors.
9. List three applications of ultrasonics.
10. What is transducer?

**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 and working of SCR.
12. Explain the working of SMPS using its block diagram.
13. Explain the working of three-phase half-wave converter using resistive load.
14. Explain the working of single-phase AC regulator.
15. Explain the working of PWM inverter.
16. Explain the speed control of three-phase induction motor by using AC voltage controller.
17. Draw and explain the constructional details of strain gauge. Explain its working principle.
18. Draw and explain the working of pulsed-echo ultrasonic flaw detector.

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