



C09-EC-605

**3761**

**BOARD DIPLOMA EXAMINATION, (C-09)  
MARCH/APRIL—2017  
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. Sketch the ISI symbols for SUS, SBS, SCS. 1+1+1=3
2. Give the different triggering modes of TRIAC. 3
3. Give the definition of transducer. 3
4. Explain the principle of thermocouple. 3
5. List the applications of AC regulator. 3
6. Mention the methods to control the speed of AC motor. 3
7. List the applications of inverter. 3
8. Give some examples of active transducers. 3

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9. Draw the two transistor model of SCR. 3
10. List the methods of generating ultrasonic waves. 3

**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 working of SMPS with block diagram. 5+5=10
12. (a) Explain the working LASCR. 4  
 (b) Explain the working of IGBT. 6
13. Draw and explain the working of three phase fully controlled converter with resistive load. 5+5=10
14. Explain the operation of chopper in all four quadrants. 10
15. Explain the construction and working of LVDT. 10
16. Explain the working of single-phase full-bridge inverter. 10
17. Draw and explain the working of pulsed echo ultrasonic flow detector. 5+5=10
18. Explain the working principle, construction and working of Piezo-electric transducer. 3+3+4=10

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