



C14-EC-602

4736

**BOARD DIPLOMA EXAMINATION, (C-14)**  
**MARCH/APRIL—2018**  
**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. Draw volt-ampere characteristics of TRIAC.
2. Write any three disadvantages of series voltage regulated power supplies.
3. Classify transducers on the basis of method of applications and principle of operation.
4. Write any three applications of LVDT.
5. Classify industrial heating methods.
6. Write any three applications of dielectric heating.
7. What are different types of PLCs?

- \* 8. What is the meaning of ladder diagram in PLCs?
9. Write any three examples for closed loop control system.
10. Write any three merits and demerits of open-loop control system.

**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 different modes of TRIAC triggering.
12. (a) Compare the characteristics of GTO SCR and SCR. 3  
 (b) Draw and explain the working of single-phase bridge inverter using MOSFET. 3+4=7
13. Explain the working principle, construction and applications of strain gauge.
14. Explain the principle of MEMS devices and its uses.
15. Draw the circuit of HF power source for induction heating and explain its working. 5+5=10
16. Draw the basic circuit of AC resistive welding and explain its working. 4+6=10
- \* 17. Explain the principle of operation of PLCs.
18. Explain the closed loop system with the help of a block diagram.

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