



C14-EC-602

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**BOARD DIPLOMA EXAMINATION, (C-14)**  
**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. List any three applications of power electronic devices.
2. Compare between GTOSCR and SCR in any three aspects.
3. Define transducer and state its two functions.
4. What is ultrasonics?
5. List any three merits of induction heating method.
6. List three types of electrical welding.
7. State the basic principle of PLC.
8. Draw six flowchart symbols.
9. Mention any three examples for closed-loop control system.
10. State the merits of open-loop control system.

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**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 TRIAC using neat diagrams.
- 12.** Explain the working of SMPS with block diagram.
- 13.** Explain the construction and working principle of a strain gauge.
- 14.** Explain the principle of MEMS devices.
- 15.** Draw the circuit of HF power source for induction heating and explain its working.
- 16.** Explain the principle of dielectric heating and state its applications.
- 17.** Explain the use of statement list in PLCs.
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- 18.** Explain an open-loop control system with examples.

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