



C14-EC-106

**4039**

**BOARD DIPLOMA EXAMINATION, (C-14)**

**SEPTEMBER/OCTOBER - 2020**

**DECE—FIRST YEAR EXAMINATION**

**ELECTRICAL AND ELECTRONICS ENGINEERING  
MATERIALS AND PRACTICES**

*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. Write any three differences between conductors and semiconductors.
2. Define corrosion.
3. Define thermoplastic and thermosetting resins.
4. Define paramagnetic and ferromagnetic materials.
5. List three types of soldering joints for joining electrical conductors.
6. List the alloys used for bimetallic strips and fuse materials.
7. List the different types of hacksaw blades.
8. Mention the names of various cutting tools used with drilling machine.

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1

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9. List the different types of heat treatment processes.
10. Draw any three safety symbols used in electrical industry.

**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 energy-band diagram.
12. Explain the factors affecting the insulating resistance.
13. (a) Explain the use of laminations for reducing hysteresis loss. 5
- (b) Explain the merits of cold rolled grain-oriented steel in transformers. 5
14. Explain about the low resistivity copper alloys.
15. Explain the use of cold chisels.
16. Explain the process of wave soldering.
17. Explain the process of normalizing and hardening.
- \* 18. Explain the major hazards which may arise from the use of electrical equipments.

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