



C14-EC-106

4039

BOARD DIPLOMA EXAMINATION, (C-14)

OCT/NOV—2017

DECE—FIRST YEAR EXAMINATION

ELECTRONIC 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. Define valence band, conduction band and forbidden energy gap.
2. List out any three methods to prevent corrosion of conductors.
3. What are insulating materials? Give examples.
4. Define ferromagnetic materials. Give examples.
5. Write any three applications of ferrites.
6. List out the types of screwdrivers used in electronic workshop.
7. What are the advantages of adhesives?
8. Mention the use of flux in soldering process.
9. What is tempering?
10. List the precautions to be taken while working on machines.

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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.** State the applications of the following conducting materials :  
4+3+3=10
- (a) Copper
  - (b) Aluminium
  - (c) Gold
- 12.** (a) Explain Y, A, E, B, F, H and C class insulating materials. 7  
(b) Compare thermoplastic and thermosetting resins. 3
- 13.** (a) Distinguish between soft and hard magnetic materials. 6  
(b) State the factors affecting the hysteresis loss. 4
- 14.** (a) Define alloying. Explain the need of alloying briefly. 7  
(b) Write any three applications of ceramic materials in electrical engineering. 3
- 15.** Explain the following hand tools used in electronic workshop with neat diagrams :  
5+5=10
- (a) Hammer
  - (b) Cold chisel
- 16.** Explain wave soldering process briefly. Write its applications. 10
- 17.** What is annealing? Explain the process of annealing. 10
- 18.** (a) Draw any five safety symbols and write their meanings. 5  
(b) State any five general electrical safety rules followed in industry. 5

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