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C14-EC-106

4039

BOARD DIPLOMA EXAMINATION, (C-14)

OCT/NOV—2016

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. Classify the conducting materials based on their resistivity.

2. List any three electrical properties of an iron.

3. Define thermoplastic and thermosetting resins.

4. Define soft and hard magnetic materials.

5. List any three applications of ceramic materials in electrical engineering.

6. List any six important hand tools in electronic workshop.

7. List the metals used for riveting.

- * 8. Define soldering.
- 9. What is the purpose of annealing?
- 10. What are the reasons for electric shock?

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 diagrams of conductor, semi-conductor and insulator.
- 12. (a) Explain Y, A, E, B, F, H and C class of insulating materials. 7
- (b) Compare between thermoplastic and thermosetting resins. 3
- 13. List the important magnetic materials and explain the effect of temperature on magnetism. 5+5
- 14. (a) Define ferrites. 5
- (b) Explain the suitability for ferrites for high frequency applications. 5
- 15. Explain riveting.
- 16. Explain the process of wave soldering.
- * 17. Explain the properties of (a) hardness, (b) toughness, (c) brittleness, (d) ductility, (e) elasticity and (f) strength of the metals.
- 18. Explain the causes of fire and fire accidents in industry.
