C16–EE–105

6039

BOARD DIPLOMA EXAMINATION, (C-16)

OCT/NOV—2018

DEEE—FIRST YEAR EXAMINATION

ELECTRICAL ENGINEERING MATERIALS

Time : 3 hours] [*Total Marks* : 80

PART—I 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. State the electrical properties of conducting materials.

2. Write short notes on color coding of resistors.

3. Define Semi conducting material. Give examples.

4. State the factors affecting the insulation resistance.

5. List any three properties of impregnated paper.

6. State the factors affectig dielectric loss.

7. Define magnetostriction.

8. What is meant by soldering and state the soldering materials.

9. State any three differences between primary cell and secondary cell.

10. List any three applications of maintenance free batteries.

PART–B

10×5=50

Instructions : (1) Answer *any* **five** questions.
(2) Each questions carries **ten** marks.
(3) Answers should be comprehensive and the criteria for valuation are the content but not the length of the answer.

11. (a) State the properties and applications of ACSR conductors.

(b) State any five requirements of High resistive material.

12. (a) State the properties and applications of Nichrome.

(b) Distinguish between copper and aluminium in five aspects.

13. (a) Explain the formation of P types Semiconductor with neat sketch.

(b) Explain the process of Polarization in dielectric materials.

14. State the properties and applications of sulphar-hezafluoride and hydrogen.

15. Explain hysteresis loop in magnetic materials.

16. (a) Explain the working of couple material.

(b) State the function of Fuse? State the materials used for fuse wire.

17. Explain construction of Lead-acid battery with neat sketch.

18. (a) Explain the constant voltage method of charging a battery with circuit diagram.

(b) A battery is charged at 5 A for 4 hours at an average voltage of 13.8 V and discharged for 6 hours at 2.83 A at an average voltage of 12 V. Find ampere-hour efficiency and watt-hour efficiency.

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