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C14-EE-105

4045

BOARD DIPLOMA EXAMINATION, (C-14)

MARCH/APRIL—2021

DEEE - FIRST YEAR EXAMINATION

ELECTRICAL ENGINEERING MATERIALS

Time : 3 hours]

[Total Marks : 80

PART—A

4×5=20

- Instructions :** (1) Answer *any five* questions.
(2) Each question carries **four** marks.
(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. State the conducting materials.
2. List the examples of low resistance materials.
3. Define semi conducting materials.
4. Define insulation resistance.
5. Write the permittivity value of the following dielectric materials (a) air, (b) paper, (c) mica and (d) porcelain.
6. Define fuse.
7. State the need for protective materials.
8. Define the secondary cells.
9. Classify the magnetic materials.
10. Define maintenance free battery.

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PART—B

15×4=60

- Instructions :** (1) Answer *any four* questions.
(2) Each question carries **fifteen** marks.
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

11. Write the properties and applications of copper.
12. Write the properties and applications of aluminium.
13. Explain the formation of *p*-type semiconductor.
14. List the applications of insulating materials.
15. (a) Explain about dielectric loss.
(b) Explain about the process of impregnation.
16. Explain about hysteresis loop.
17. Explain about the construction of lead-acid battery.
18. Write about the precautions to be taken during charging and discharging of battery.

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