



C23-EE-105

23060

BOARD DIPLOMA EXAMINATION, (C-23)

OCTOBER/NOVEMBER—2024

DEEE – FIRST YEAR EXAMINATION

ELECTRICAL ENGINEERING MATERIAL SCIENCE

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. List any three applications of Carbon.
2. Distinguish between P and N Type semiconductors in any three aspects.
3. Classify insulating materials on the basis of temperature.
4. What are the factors affecting Dielectric loss?
5. Classify the magnetic materials with examples.
6. Define co-efficient of coupling of two coils.
7. State Fleming's left hand rule.
8. State Faraday's laws of electromagnetic induction.
9. State Gauss theorem.
10. Define Electric field density.

PART—B

10×5=50

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

11. Mention the properties and applications of Manganin and Constantan.
12. Explain the formation of N type semiconductors with a neat sketch of diagram.
13. Mention the properties and applications of Impregnated paper and PVC.
14. Explain polarization of Dielectric material with a neat sketch of diagram.
15. Explain different types of Magnetic materials.
16. Derive expression for magnitude of the force on a current carrying conductor in a magnetic field.
17. Derive expression for energy stored in magnetic field.
18. Obtain formula for capacitance of a parallel plate capacitor.

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