MODEL PAPER – SUMMATIVE EXAMINATION

C-23-EE-105

BOARD DIPLOMA EXAMINATION, (C-23)

DEEE – FIRST YEAR EXAMINATION

EE-105: ELECTRICAL ENGINEERING MATERIAL SCIENCE

Time: 3 hours **Total marks: 80**

PART-A **10 X 3 = 30**

Instructions:

i. Answer all questions.
ii. Each question carries three marks.
iii. Answers should be brief and straight to the point and shall not exceed five simple sentences

1. Define the terms (a) Hardening (b) Annealing (CO1)
2. State any three applications of ACSR Conductors. (CO1)
3. Classify insulating materials. (CO2)
4. Define Polarisation in Dielectric Materials. (CO2)
5. Define Magnetostriction in magnetic materials. (CO3)
6. State Coulombs laws of Magnetism. (CO4)
7. State Lenz's law. (CO4)
8. State Fleming's Right Hand rule. (CO4)
9. Define Di-electric strength and Di-electric constant. (CO5)
10. List the factors affecting the capacitance of a capacitor. (CO5)

PART-B **5 X 10 = 50**

Instructions:

i. Answer any five questions.
ii. Each question carries ten marks.
iii. The answers should be comprehensive and the criteria for valuation are the content but not the length of the answer.

11. Distinguish between Copper and Aluminium in any ten aspects. (CO1)
12. Explain the formation of (i) P – type semiconductor and (ii) N – type semiconductor (CO1)
13. Define Insulation resistance and explain factors affecting insulation resistance (CO2)
14. Explain the properties of PVC and state its applications. (CO2)
15. Explain (i) Soft Magnetic materials (ii) Hard Magnetic materials (CO3)
16. Derive an expression for the magnitude of the force on a current carrying conductor inside a magnetic field. (CO4)

17. Compare Magnetic circuit with Electric circuit in different aspects (CO4)

18. Derive an expression for equivalent capacitance when two Capacitors C_1 and C_2 are connected in Series (CO5)