



C14-EE-105

4045

**BOARD DIPLOMA EXAMINATION, (C-14)
OCTOBER/NOVEMBER-2018
DEEE-FIRST YEAR EXAMINATION**

ELECTRICAL ENGINEERING MATERIALS

Time : 3 Hours]

[Total Marks: 80

PART-A

4X10=40

- Instructions :**
1. Answer **All** questions.
 2. Each question carries FOUR marks
 3. Answer should be brief and straight to the point
1. Define the terms (a) Hardening, and (b) Annealing.
 2. State any four requirement of (a) High restive materials.
(b) List any four examples of High Resistive materials.
 3. (a) Define Semi-Conducting materials.
(b) List the Semi conductor materials.
 4. (a) List the Factors affecting Insulation Resistance.
(b) List the applications of Glass.
 5. (a) Define Polarization.
(b) What are the values of Dielectric constant of Air and Transformer oil?
 6. (a) What are the Different types of Magnetic Materials?
(b) List any two examples of Magnetic materials.
 7. (a) Define Fuse.
(b) State the different types of materials used as Fuse.
 8. (a) What is Soldering?
(b) What is Enamel coated copper wire?
 9. (a) Define Capacity of battery.
(b) What are the factors effecting capacity of a Battery.

10. (a) List the indication of a fully charged Lead acid Battery.
(b) List any four applications of Lead acid battery.

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PART-B

10X4=40

Instructions :

1. Answer any **four** questions. Each question carries **ten** marks.
2. Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer

11. (a) Explain the properties and Applications of carbon.
(b) Explain Colour codes used for Resistors.
12. (a) State the main requirements of Low Restive materials.
(b) Explain the properties and applications of Aluminium.
13. (a) Explain the difference between the Extrinsic and Intrinsic semi conductors.
(b) State the propertied of Germanium and Silicon.
14. (a) Classify the Insulating Materials based on temperature.
(b) List the properties and applications of PVC.
15. (a) Explain Di-electric loss and mention the factors effecting Di-electric loss.
(b) Explain Thermo couple Material with a neat sketch.
16. (a) Explain B-H curve of a Ferro magnetic material with a neat sketch.
(b) Write the equations for Hysteresis loss and Eddy Current loss and expand the terms.
17. (a) Explain the charging of Batteries by Constant Current method.
(b) State the precautions to be taken during charging and discharging of batteries.
18. (a) Explain the construction and working of Maintenance free batteries.
(b) State the applications maintenance free batteries.
