PVP 14

Code: EE1T5/EE2T6RS

I B.Tech - I Semester – Regular/Supplementary Examinations
November 2018

ELECTRICAL ENGINEERING MATERIALS
(ELECTRICAL & ELECTRONICS ENGINEERING)

Duration: 3 hours Max. Marks: 70

PART – A

Answer ***all*** the questions. All questions carry equal marks

11 x 2 = 22 M

1. a) Explain classification of electrical materials?

   b) Explain the general properties of conductor.

   c) Define semiconducting materials with examples.

   d) Compare intrinsic and extrinsic semiconductors in three aspects.

   e) What is Leakage current in dielectrics?

   f) Examples for Liquid dielectrics.

   g) How to classify the insulating materials.

   h) What are the specific applications to fluorinated liquids?

   i) Explain the magnetic properties of perminvar.

   j) What the effect of temperature in magnetic materials.

   k) Explain about Hysteresis loss.

PART – B

Answer any ***THREE*** questions. All questions carry equal marks.

3 x 16 = 48 M

2. a) State the properties of copper and tin. 8 M

   b) Write a short note on bimetal and its applications. 8 M

3. a) Explain the formation of N-type semiconductors with neat sketch. 8 M

   b) Distinguish between Intrinsic and extrinsic semi conductors. 8 M

4. a) Explain about Dipolar Polarization. 8 M

   b) What are the properties of Piezo Electric materials? 8 M

5. a) Explain the effects of moisture on Liquid insulating materials and preventive methods. 8 M

   b) Explain the thermal and mechanical properties of Resins. 8 M

6. a) What is heat treatment and grain orientation on magnetic properties? 8 M

b) Classify magnetic materials with examples and explain them. 8 M