

Total Pages—3 III—Sem/ELECT/2018(W)(New)

ELECTRICAL ENGINEERING MATERIALS

(Code : EET-302)

Full Marks : 80

Time : 3 hours

Answer any **five** questions including Q. Nos. 1 & 2

Figures in the right-hand margin indicate marks

1. Answer the following in short : 2 × 10
- (a) What is Curie point ?
 - (b) What is ACSR and where it is used ?
 - (c) What is varistor ?
 - (d) What is enamel ?
 - (e) ✓ What do you mean by skin effect ?
 - (f) What do you mean by paramagnetic material ?
 - (g) ✓ Write names of four numbers of insulating materials and their uses.

(Turn Over)

(2)

(h) What do you mean by Hysteresis ?

(i) What is the effect of porosity ?

(j) Define forbidden energy gap.

2. Answer the following questions : 5 × 6

(a) Make a comparison between conductor and insulator.

(b) Explain superconductivity and its application.

(c) With neat sketch explain about Hall-effect generator and write their application.

(d) What are thermocouple materials ? State their application.

(e) What are Ferrites ? What are their chief properties and field of application ?

(f) Explain briefly about the fuse materials.

3. Explain with the help of energy diagram *n*-type and *p*-type semiconductor. 10

(3)

4. Explain the effect of temperature on resistivity. 10
5. Draw and explain hysteresis loop for ferro-magnetic material. 10
6. What do you mean by intrinsic and extrinsic semiconductors? Explain *N*-type and *P*-type materials. 10
7. Write short notes on any two : 5×2
- (i) Polarisation
 - (ii) PVC
 - (iii) Dielectric materials.
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