B.Tech. - Electronics & Telecommunication Engineering (NEP) Semester-II

STPCCETC205 - Electronic Materials & Components

P. Pages : 1 **GUG/S/25/16809**

Time : Two Hours * 4 3 9 7 * Max. Marks : 40

Notes : 1. All questions carry marks as indicated.
2. Assume suitable data wherever necessary.
3. Illustrate your answers wherever necessary with the help of neat sketches.

1. A) Define: **7**
i) Magnetic permeability. ii) Hysterics
iii) Retentivity iv) Coercivity

B) Define super conductor material. Explain super conductor material with their example. **7**

OR

2. A) What is magnetization. Explain paramagnetic and diamagnetic material with their example. **7**

B) Define: **7**
i) Dielectric loss angle (δ)
ii) Power Factor $(\tan\delta)$
iii) Q factor or Insulation Quality.
iv) Loss factor of dielectric.

3. A) What is resistance. State the types of resistors and explain carbon composition fixed resistor with neat diagram. **7**

B) Explain the construction of plastic film and ceramic capacitor. **7**

OR

4. A) What is transformer. Draw structure of transformer and explain voltage ratio, current ratio and impedance ratio. **7**

B) Draw and explain V-I characteristics of UJT. **7**

5. A) What is cable. State their types. Explain the construction of Ribbon and flat twin cable. **6**

B) What is PCB. State the types of PCB and explain components mounting technique on PCB. **6**

OR

6. A) What IC. Explain different types of IC packages with neat construction. **6**

B) Draw and explain common anode 7-segment display. **6**

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