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BEI 1301

Electronics Materials & Components (New) (1010)

P. Pages : 2

Time : Three Hours

Max. Marks : 100

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Answersheet should be written with blue ink only. Graph or diagram should be drawn with the same pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Attempt **any two** questions from each unit.
5. Figures to the right indicates full marks.
6. Assume suitable Data if require.

UNIT - I

1. a) What are semiconductor materials ? Classify the semiconductor material. 10
b) Discuss the various factors on which the choice of conducting material depends. Also mention various properties of Copper. 10
c) Discuss the properties of soft & hard magnetic materials explain magnetic ferrites. 10

UNIT - II

2. a) Draw & explain Aluminium electrolytic & Ceramic capacitor. 10
b) What is a Resistor ? Explain the process of manufacturing wire wound resistor. 10
c) Classify the Transformer according to frequency range for their operation & Explain. 10

UNIT - III

3. a) Draw & explain zone refining & vapourisation method of semiconductor process. 10
b) Explain fabrication process of LED. 10

- c) Explain the fabrication steps in npn epitaxial planar Transistor. 10

UNIT - IV

4. a) Explain in detail monolithic IC fabrication sequence. 10
- b) Explain the fabrication process of photo transistor & give their Application. 10
- c) What is photolithography ? Explain in detail photolithography process. 10

UNIT - V

5. a) Explain the Design Rules of PCB in Power Electronics Application. 10
- b) What are different types of laminates used for PCB fabrication, state their properties. 10
- c) Explain photo printing method of transfer of conductor pattern to copper clad laminate. 10
