

(3 Hours)

[Total Marks : 80

- N.B. : (1) Question No 1 is compulsory.
(2) Attempt any three questions out of remaining five questions.
(3) Draw diagrams wherever necessary.
(4) Figures to right indicate marks.

1. Write short notes on 20
(a) Limitations of Bohr's model of atom
(b) Heisenberg's uncertainty principle
(c) Polymer blends
(d) Ferromagnetism and antiferromagnetism
2. (a) Explain how electrical conduction occurs in extrinsic semiconductors. 10
(b) Explain the following terms 10
(i) Luminescence
(ii) Interaction of light with semiconductors
3. (a) Draw iron - iron carbide phase diagram. Mention different phases & explain phase transformation reactions. 10
(b) What is creep? Explain mechanism of creep & its types. 10
4. (a) Explain in detail about use of plastic for food packaging. 10
(b) Write in detail about 10
(i) Ceramics
(ii) Graphite
5. (a) Explain in detail about mechanism & factors affecting corrosion. 10
(b) Explain types of corrosion. 10
6. (a) Explain different materials used for fabrication of equipments in chemical industries. 10
(b) Explain the factors affecting selection of materials for equipments in chemical industries. 10
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