

(3 Hours)

Total Marks: 80

N.B. : (1) Question no. 1 is compulsory.

(2) Answer any 3 out of remaining 5 questions.

(3) Figures on the right indicate full marks.

(4) Assume data wherever necessary

1. (a) Discuss applications of Silicone [05]
 (b) Compare thermoplastic and thermosetting polymers? [05]
 (c) Discuss the importance of Biocompatibility in materials [05]
 (d) What are applications of Hydroapatite ? [05]
2. (a) Discuss biological testing of biomaterial. [10]
 (b) Describe different types of corrosions which can occur in metallic implants [10]
3. (a) Discuss the properties and applications of Nitinol. [10]
 (b) Explain surface characterization technique – ESCA. [10]
4. (a) Discuss the properties and applications of stainless steel. [10]
 (b) Discuss the properties and applications of titanium at its alloys. [10]
5. (a) Classify composites. Explain their applications in fabrication of biodevices and implant [10]
 (b) State various biomaterials used in heart valves and discuss their properties. [10]
6. Write short notes on [20]
 (a) Materials used for dental implants
 (b) Bioglass
 (c) Materials used for Intraocular lens
 (d) Polyethylene