

- N.B. (1) Attempt any four questions from six questions.  
(2) Figure to right indicate full marks.  
(3) Draw diagrams wherever necessary.

1. Answer the following :-  
(a) Classify Ceramics.  
(b) Explain the term "biocompatibility of biomaterials"  
(c) What are the applications of Titanium and its alloys?  
(d) Explain biomaterials used in heart valves.  
(e) Explain biomaterials used in artificial kidney. 20
2. (a) Explain any two methods for measurement of surface properties of biomaterials. 10  
(b) Write short note on:-  
(i) Polyethylene  
(ii) polyurethanes. 10
3. (a) Explain properties and applications of stainless steel. 10  
(b) Explain the various experiments carried out to test biocompatibility of stainless steel. 10
4. (a) Explain different types of corruptions which occur in metallic implants. 10  
(b) Explain various generations of breast implants. 20
5. Write short notes on:-  
(a) Sutures  
(b) Any two in-vivo test for biomaterials.  
(c) Composites.  
(d) Bioglass 20
6. Write short notes on:-  
(a) Hydrogel  
(b) Maxillofacial implants  
(c) PMMA  
(d) Zirconia.