

GUJARAT TECHNOLOGICAL UNIVERSITY
BE SEM-V Examination-Nov/Dec.-2011

Subject code: 150301**Date: 29/11/2011****Subject Name: Biomaterials & Implants****Time: 2.30 pm -5.00 pm****Total marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Define polymer. Give name of any six polymer and their biomedical uses. **07**
(b) Write a short note on biomaterial Hydrogels. **07**

- Q.2** (a) Give brief summary of tissue response to Implants. **07**
(b) Write a short note on Surface properties of Biomaterials. **07**

OR

- (b) Write a short note on Drug Incorporation Polymer Gels. **07**

- Q.3** (a) Write a short note on Cobalt-chromium alloys. **07**
(b) Write a short note on stainless steel alloys. **07**

OR

- Q.3** (a) Write a short note on Titanium based alloys. **07**
(b) Explain Corrosion of Metallic Implants. **07**

- Q.4** (a) What is Biodegradable ceramics? Explain any one Biodegradable ceramics. **07**
(b) Write a brief note on materials used for various Dental application. **07**

OR

- Q.4** (a) Write a short note on Glass ceramics. **07**
(b) Define or Explain following terms **07**
1) Shape memory effect 2) Bone cement
3) Autografts 4) Xenografts
5) polymerization 6) filler
7) Inert biomaterial

- Q.5** (a) Write a short note on Intraocular Lens and contact lens. **07**
(b) Explain Blood compatibility of synthetic vascular Implant materials. **07**

OR

- Q.5** (a) Explain any two artificial heart valves. **07**
(b) Explain Material Selection Criteria for Biomaterial. **07**
