

GUJARAT TECHNOLOGICAL UNIVERSITY**M.E –IIst SEMESTER–EXAMINATION – JULY- 2012****Subject code: 1723104****Date: 10/07/2012****Subject Name: Advance Biomaterials****Time: 10:30 am – 13:00 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) Explain used of various polymers as a Biomaterials. **07**
(b) What is polymerization? Explain types of polymerization. **07**

- Q.2** (a) Give brief summary of Interaction between tissues and Implants. **07**
(b) Write a short note on Surface properties of Biomaterials. **07**

OR

- (b) Write a short note on heart valve prostheses. **07**

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

OR

- Q.3** (a) Write a short note on Titanium based alloys. **07**
(b) Write a short note on materials used for various Dental applications. **07**

- Q.4** (a) What are the uses of Biodegradable ceramics? Explain composition of any Biodegradable ceramics. **07**
(b) Explain Blood compatibility of synthetic vascular Implant materials. **07**

OR

- Q.4** (a) Define Bioactive ceramics. Explain Glass ceramics including temperature-time cycle for glass ceramics. **08**
(b) Explain following terms **06**
 - Filler
 - Glass transition temperature
 - xenografts

- Q.5** (a) Write a short note on Biomaterials used for various application of ophthalmology. **07**
(b) Explain composition and properties of biomaterials for parts of artificial Hip joint. **07**

OR

- Q.5** (a) Write a short note on Sterility and Infection related issues for Biomaterials. **07**
(b) Explain manufacturing issues for Biomaterials. **07**