

GUJARAT TECHNOLOGICAL UNIVERSITY**M. E. Sem. – IInd - Examination – June/July- 2011****Subject code: 1723104****Subject Name: Advance Biomaterials****Date: 27/06/2011****Time: 10:30 am – 01:00 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 tissue response to implants. **07**
(b) Write a short note on metallic corrosion. **07**

Q.2 (a) Explain biodegradable synthetic polymers. **07**
(b) What is polymerization? Explain steps of polymerization reactions. **07**

OR

(b) Mention the characteristics of Titanium based alloys for Biomedical applications. **07**

Q.3 (a) Give the contribution of inert ceramics in biomedical fields. **07**
(b) Explain resorbable ceramics. **07**

OR

Q.3 (a) Write technical notes on surface reactive ceramics. **07**
(b) Explain biological tolerance of implant metals. **07**

Q.4 (a) Write a short note on HIP prosthesis. **07**
(b) Explain schematic diagram of bone cement mixing and injecting in the intramedullary cavity. **07**

OR

Q.4 (a) Briefly describe inflammation, carcinogenicity and Hypersensitivity of biomaterials. **07**
(b) How cobalt chromium alloys is useful for Biomedical applications. **07**

Q.5 (a) Describe "BIOMEMS". **08**
(b) Give name, chemical structure, properties and biomedical uses of any three polymers. **06**

OR

Q.5 (a) How biomaterials have helped ophthalmology? **07**
(b) Write technical notes
1) Dental materials for Deep Cavities **04**
2) Filling dental materials **03**
