

**GUJARAT TECHNOLOGICAL UNIVERSITY****M. E. - SEMESTER – II • EXAMINATION – WINTER • 2013****Subject code: 1723104****Date: 31-12-2013****Subject Name: Advance Biomaterials****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) What is Implant? Explain Retinal Implant. **07**  
(b) Write a short Note on Co based alloys. **07**
- Q.2** (a) Explain Free Radical Polymerization in detail. **07**  
(b) Short Note: Polyolefin **07**
- OR**
- (b) Short Note: PMMA **07**
- Q.3** (a) Explain Dental Filling composites in detail. **07**  
(b) Write a Short Note on Gold. **07**
- OR**
- Q.3** (a) Explain Ceramics used as a Bio materials **07**  
(b) Write a Short Note on NITINOL **07**
- Q.4** (a) Explain Dental Implants in detail. **07**  
(b) What is BioMEMS? Discuss various Risks & drawback associated with BioMEMS. **07**
- OR**
- Q.4** (a) Short Note: IOL **07**  
(b) How to calculate performance of Biomaterials? Discuss various compatibility factors of Biomaterials in detail. **07**
- Q.5** (a) Explain different components of HIP prosthesis. **07**  
(b) What is the need of Sterilization? Explain various sterilization techniques. **07**
- OR**
- Q.5** (a) Explain Hypersensitivity and Carcinogenicity of Implants. **07**  
(b) Short Note: Ti based alloys **07**

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