

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V • EXAMINATION – WINTER • 2014****Subject Code: 150301****Date: 01-12-2014****Subject Name: Biomaterials and Implants****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 various tissue adhesives with their material composition. **07**
(b) Write a short note on Bioresorbable & Biologically Derived Materials. **07**
- Q.2** (a) Define polymerization. Explain process of polymerization. **07**
(b) Explain role of polymer in dental applications. **07**
- OR**
- (b) Explain role of polymers in Drug delivery system. **07**
- Q.3** (a) Write a short note on Ti and Ti-based alloy as a biomaterial. **07**
(b) Explain bioactive glass with their temperature time cycle. **07**
- OR**
- Q.3** (a) Give brief idea about Biocompatibility testing of Biomaterials. **07**
(b) Explain Various Materials used in component of total hip replacement. **07**
- Q.4** (a) Explain Interaction of Metallic Biomaterials with the Human Body Environment. **07**
(b) Give compositions and mechanical properties of 316L Stainless Steel. **07**
- OR**
- Q.4** (a) Write a short note on biodegradable polymeric biomaterials. **07**
(b) Write a short note on Biomaterial Surface Properties. **07**
- Q.5** (a) Explain chemical process Corrosion of Metallic Implants. **07**
(b) Explain structure and functioning of any two mechanical heart valve with necessary schematic. **07**
- OR**
- Q.5** (a) Write a short note on Relatively Bioinert Bioceramics. **07**
(b) Role of Biomaterials in Ophthalmic field of biomedical. **07**
