

GUJARAT TECHNOLOGICAL UNIVERSITY
BE – SEMESTER – VIII. EXAMINATION – WINTER 2016

Subject Code: 180302**Date: 21/10/2016****Subject Name: Advance Medical Techniques****Time: 02:30 PM to 05:00 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) Write a short note on diagnostic application of EEG. **07**
(b) What is Endoscopy? Explain the application of lasers in endoscopy. **07**
- Q.2** (a) Explain interaction of LASER with tissue. **07**
(b) Explain back projection method and filtered back projection method of CT scanning in detail **07**
- OR**
- (b) Explain phenomenon of light transmission in optical fiber. **07**
- Q.3** (a) Give classification of heart arrhythmia. Explain the procedure for detection of arrhythmia. **07**
(b) List the applications of Hyperbaric Oxygen Therapy. Explain any one in detail. **07**
- OR**
- Q.3** (a) Explain the instrumentation and applications of non-invasive thermal therapy. **07**
(b) Explain the system, subsystems and components of Laser-Fiber integrated systems. **07**
- Q.4** (a) Enlist various compression techniques and explain any one in detail. **07**
(b) Explain the process of fabrication of optical fibers. **07**
- OR**
- Q.4** (a) Write a descriptive note on Cardiac Ablation Catheter Electrode. **07**
(b) What is PACS? Explain the difficulties to implement PACS and its solutions. **07**
- Q.5** (a) Explain the application of Fiber optic laser system in Orthopaedics. **07**
(b) Write a short note on DICOM. **07**
- OR**
- Q.5** (a) Enlist different imaging techniques of MRI. Explain any one in detail. **07**
(b) Write a short note on Biochemical fiber optic sensor. **07**
