

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VIII • EXAMINATION – SUMMER 2013****Subject Code: 180302****Date: 13-05-2013****Subject Name: Advance Medical Techniques****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 back projection method and filtered back projection method of CT scanning in detail. **07**
(b) Explain interaction of LASER with tissue. **07**

- Q.2** (a) What is endoscopy? Explain construction of endoscope with its schematic. **07**
(b) Explain Hyperbaric oxygen therapy in detail with its clinical application. **07**

OR

- (b) Write a short note on image guided thermal therapy. **07**

- Q.3** (a) Explain techniques for arrhythmia detection. And give its detail classification. **07**
(b) Explain phenomenon of light transmission in optical fiber. **07**

OR

- Q.3** (a) Explain clinical application of fiber optic LASER therapy in orthopedics. **07**
(b) (i) Write a short note on cardiac ablation catheters. **04**
(ii) Write a short note on angioplasty. **03**

- Q.4** (a) Explain the process of fabrication of optical fibers. **07**
(b) Give the application of LASERS in diagnosis and imaging. **07**

OR

- Q.4** (a) Write a note on endoscopic therapy. **07**
(b) Explain content based data retrieval technique. **07**

- Q.5** (a) Explain the image orientation correction in digital radiography to be Used in PACS. **07**
(b) Discuss the diagnostic applications of EEG. **07**

OR

- Q.5** (a) Explain the principles and working of direct physical fiber optic Sensors. **07**
(b) Discuss the common problems encountered in use of laser fiber optic Systems. **07**
