

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-VIII • EXAMINATION – SUMMER 2014

Subject Code: 180302**Date: 31-05-2014****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 Generation of LASER from active medium? **07**
(b) Explain in detail LASER interaction with Human Tissue? **07**
- Q.2** (a) Explain transmission of Light in Optical Fiber? **07**
(b) Explain various systems and subsystems of Endoscopic imaging system? **07**
- OR**
- (b) Explain the Principles of Biochemical Fiber Optic Sensor along with its application? **07**
- Q.3** (a) Explain PDT technique with its advantages and disadvantages? **07**
(b) Explain in detail application of Endoscope in Cardiovascular system? **07**
- OR**
- Q.3** (a) Enlist various diagnostic application of LASER and explain any one in detail? **07**
(b) Enlist and explain various Optical Properties of Human Tissues? **07**
- Q.4** (a) Explain Backprojection Techniques for CT Reconstruction? **07**
(b) Discuss in detail application of Fiber Optic Laser in Urology? **07**
- OR**
- Q.4** (a) Explain Angioplasty technique in detail? **07**
(b) Discuss in detail application of Fiber Optic Laser in Neurology? **07**
- Q.5** (a) Explain Thermal Therapy in detail and its relative advantages compared to other techniques? **07**
(b) Discuss the possible complication associated with Hyperbaric Oxygen Therapy? **07**
- OR**
- Q.5** (a) Explain the EEG Signal Processing with necessary block diagram? **07**
(b) Explain PACS technique with its application? **07**
