

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-VII • EXAMINATION – WINTER • 2014

Subject Code: 180302**Date: 29-11-2014****Subject Name: Advance Medical Technique****Time: 02:30 pm - 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) What is angioplasty? Discuss advantages, disadvantages and related risk factors of angioplasty. **07**
- (b) Enlist and explain the properties of optical fiber. **07**
- Q.2** (a) Briefly describe the interaction mechanism of laser with tissue. **07**
- (b) Enlist various compression techniques and explain any one in detail. **07**
- OR**
- (b) Enlist and explain various layers of telecommunication services. **07**
- Q.3** (a) Explain the applications of CW Nd:YAG laser in Gastroenterology. **07**
- (b) Enlist various types of arrhythmias originating in atria. Write an algorithm to classify Atrial Flutter (AFL). **07**
- OR**
- Q.3** (a) Write a descriptive note on Cardiac Ablation Catheter Electrode. **07**
- (b) Enlist various types of arrhythmias originating in ventricles. Write an algorithm to classify Premature Ventricular Contraction (PVC). **07**
- Q.4** (a) Explain the below given EEG rhythms: **07**
1. Mu(μ) rhythm
 2. Breach Rhythm
 3. Theta(θ) and delta(δ) waveforms
 4. Beta(β) Waveform
- (b) Write a short note on PACS. **07**
- OR**
- Q.4** (a) Enlist and explain the activities present during non-REM sleep. **07**
- (b) Write a short note on DICOM. **07**
- Q.5** (a) Briefly describe the applications of Photodynamic therapy (PDT) in urology. **07**
- (b) Discuss principles of special optical fibers for UV, Visible and IR Light. **07**
- OR**
- Q.5** (a) Discuss the diagnostic applications of Heart rate variability analysis. **07**
- (b) Write a short note on difference between Back Projection and Filtered Back projection Method for image reconstruction. **07**
