

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VIII (OLD) EXAMINATION – WINTER 2018

Subject Code: 180302

Date: 19/11/2018

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 descriptive note on DICOM. **07**
(b) Explain the interaction of laser beams with various types of materials. **07**
- Q.2** (a) Compare and contrast the procedure of angioplasty & stents. **07**
(b) Explain the indications and outcomes of hyperbaric oxygen therapy (HOT). **07**
- OR**
- (b) Describe the treatment of the retinal damage through application of laser. **07**
- Q.3** (a) Describe the application of fiber optic laser system in Gastroenterology. **07**
(b) Describe the application of fiber optic laser system in neurosurgery. **07**
- OR**
- Q.3** (a) Write a technical note on CT image Reconstruction techniques. **07**
(b) Describe any one algorithm for heart rate variability measurement. **07**
- Q.4** (a) Explain the construction of special optical fibers for UV, Visible and IR Light. **07**
(b) Write a technical note on MRI Image reconstruction. **07**
- OR**
- Q.4** (a) Write a short note on photodynamic therapy (PDT). **07**
(b) What is PACS? Explain the difficulties to implement PACS and its solutions. **07**
- Q.5** (a) Describe the technique of image guided thermal therapy. **07**
(b) Discuss the effects of thermal interaction between laser and Tissue. **07**
- OR**
- Q.5** (a) Explain Cardiac ablation Catheters. **07**
(b) Explain the procedure of endoscopy with necessary diagrams. **07**
