Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VIII EXAMINATION – WINTER 2015

Subject Code:180302	Date:16/12/2015

Subject Name: Advance Medical Techniques

Time: 2:30pm to 5:00pm 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 the importance of image reconstruction techniques in medical imaging? Explain any one image reconstruction techniques for CT image.	07
	(b)	Write a short note on Data Registration and Fusion in imaging modality.	07
Q.2	(a) (b)	What is Arrhythmia? Enlist various types of arrhythmias originates in the heart. Explain the difference between Direct fiber optic sensors and Indirect fiber optic sensors with an appropriate diagram.	07 07
		OR	
	(b)	Write a short note on EEG diagnostic application.	07
Q.3	(a) (b)	Explain various systems and subsystems of Endoscopic imaging system? Explain the various diagnostic applications of Heart rate variability analysis. OR	07 07
Q.3	(a)	What is Endoscopy? How are lasers used in Endoscopy?	07
Ų.S	(a) (b)	Discuss the Photodynamic therapy with a proper diagram.	07
Q.4	(a) (b)	Write a short note on PACS System. What is cardiac Catheterization? Write a short note on Angioplasty. OR	07 07
Q.4	(a) (b)	Explain the medical applications of LASER in Gastroenterology and oncology. Write a short note on Biochemical fiber optic sensor.	07 07
Q.5	(a)	Write a short note on Neurosurgery by fiber optic laser system.	07
	(b)	Explain in detail about optical fiber and its modes?	07
0.5	(.)	OR	05
Q.5	(a)	Explain the Image guided thermal therapy with the Delivery Strategies.	07
	(b)	Write a short note on Hyperbaric Oxygen Therapy.	07
