Seat No.: _____ Enrolment No._____

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**

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