Seat No.: _____ Enrolment No._____

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**

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