Seat No.: Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VIII (OLD) - EXAMINATION - SUMMER 2017

Subject Code: 1	180302			Date: 02/05/2017
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Subject Name: Advance Medical Techniques

Instructions:

- 1. Attempt all questions.
- 2. Make suitable assumptions wherever necessary.
- 3. Figures to the right indicate full marks.

(b) Explain endoscopic ultrasound imaging system.

Q.1	(a)	what is the objective of compression of an image? Discuss the types of	
		redundancies occurring. Draw and explain block diagram of transform based	0
		image compression.	
	(b)	Explain in detail DICOM Image Communication Standard.	07
Q.2	(a)	How does Arrythmia detect? Discuss its classification.	07
	(b)	What is Aneurysm? Explain AAA treatment with various grafts.	07
		OR	
	(b)	Explain the types of Embolic Filters and its applications.	07
Q.3	(a)	Draw and explain flowchart diagram for laser angioplasty and Photodynamic	07
		therapy.	
	(b)	Discuss in detail application of fiber optic laser in Oncology.	07
		OR	
Q.3	(a)	Discuss in detail application of fiber optic laser in Opthalmology.	07
	(b)	Explain the principles of laser interaction with tissues.	07
Q.4	(a)	What is Filtered back projection technique for CT image reconstruction? Explain	07
		with necessary equations.	
	(b)	How are optical fibers fabricated? Explain in detail.	07
		OR	
Q.4	(a)	Define the following terms: (i) Numerical Aperture, (ii) Modes in fiber, (iii)	07
_		Skew rays, (iv) Refraction.	
	(b)	Explain in detail back projection technique for CT image reconstruction.	07
Q.5	(a)	Briefly describe endoscopic imaging system principles.	07
	(b)	Give examples of laser therapy using photomechanical mechanisms.	07
		OR	
Q.5	(a)	What is NADH Fluorimetry? Explain in detail.	07

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