Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE SEMESTER VI EXAMINATION – WINTER 2014

Subject Code: 160301 **Date: 26/11/ 2014**

Subject Name: Diagnostic Instrumentation

Time: 02.30pm – 05.00pm **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)**	Write a Short Note on Phonocardiography.	**07**
	(b)	What is audiogram? Draw the bekesy audiometer diagram & explain in detail.	**07**
Q.2	**(a)**	Explain the principle of ultrasonic Doppler shift method for blood flow measurement.	**07**
	(b)	Explain ECG Machine with Neat Block diagram.	**07**
		OR	
	(b)	What is EEG? Explain Multichannel EEG recording system in detail with necessary diagram.	**07**
Q.3	**(a)**	Explain different components of Endoscopes.	**07**
	(b)	Explain A mode of Ultrasound with necessary Block Diagram.	**07**
		OR	
Q.3	**(a)**	Explain sigmoidoscopy and its medical applications.	**07**
	(b)	Explain M mode of Ultrasound with necessary Block Diagram.	**07**
Q.4	**(a)**	Define X-rays & Discuss the properties of x-rays. Explain the internal construction of rotating anode type x-ray tube with suitable diagram.	**07**
	(b)	Write a Technical Note on Auto Refractometer.	**07**
		OR	
Q.4	**(a)**	Discuss the importance of biotelemetry system in medical diagnosis with its basic block diagram.	**07**
	(b)	Enlist different types of Ocular Disorders & Explain Tonometry in detail.	**07**
Q.5	**(a)**	Enlist Different techniques for BP measurement & explain any one method for Direct BP measurement.	**07**
	(b)	Short Note: Wedge Spirometer.	**07**
		OR	
Q.5	**(a)**	Explain Various Techniques use for Heart Rate Measurement.	**07**
	(b)	Explain Following. 1. Cartography & Halter Monitoring 2. Capsule Endoscopy.	**04**

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