Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VI • EXAMINATION – SUMMER • 2014

Subject Code: 160301 **Date: 19-05-2014**

Subject Name: Diagnostic Instrumentation

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 the use and application of tread mill test and holter monitoring in cardiovascular diagnosis.	**07**
	(b)	Explain the various volumes and capacities to be measured in spirometry.	**07**
Q.2	**(a)**	What are the different techniques are available for G I track diagnosis? Explain sigmoidoscopy.	**07**
	(b)	Explain the principle and working of pyelography.	**07**
		OR	
	(b)	List the diseases related to kidney and urinary system. Explain diagnosis technique for any one disease related to kidney.	**07**
Q.3	**(a)**	What are the various systems available for nervous system diagnosis? Explain the EEG technique for nervous system diagnosis.	**07**
	(b)	With block diagram explain the foetal monitoring system	**07**
		OR	
Q.3	**(a)**	Explain sigmoidoscopy and its medical applications.	**07**
	(b)	What are the types of ECG systems? Explain the 12-leads ECG system.	**07**
Q.4	**(a)**	What are the various bioelectrical signals are used for analysis of ocular disorder? Explain applications of refractometry in ocular diagnosis.	**07**
	(b)	Discuss the various types of audiometers and explain the parameters to be measured in audiometry.	**07**
		OR	
Q.4	**(a)**	Explain the system for placement of electrode in EEG acquisition. With block diagram explain the multichannel EEG system.	**07**
	(b)	List the types of blood flow meter and discuss any one in detail.	**07**
Q.5	**(a)**	Discuss the use of endoscopy in gynecological diagnosis.	**07**
	(b)	What is biotelemetry? Discuss the significance of biotelemetry in diagnostic applications.	**07**
		OR	
Q.5	**(a)**	Explain the block diagram and applications of fluoroscopy.	**07**
	(b)	Explain principle and working of echoencephalography.	**07**

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