Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VI (NEW) EXAMINATION – SUMMER 2022

Subject Code:3160301 Date:01/06/2022

Subject Name:Diagnostic Instrumentation

Time:10:30 AM TO 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.**
4. **Simple and non-programmable scientific calculators are allowed.**

			MARKS
Q.1	**(a)**	Define Cardiac Output. And Enlist Various Unipolar and Bipolar Leads.	**03**
	(b)	Draw neat ECG Waveform and Give Significance of it.	**04**
	(c)	Explain ECG Machine with Neat Block Diagram.	**07**
Q.2	**(a)**	What is Halter Monitoring? And Give Normal Value of Blood Pressure.	**03**
	(b)	Classify Various Heart Sounds and Give characteristics of each.	**04**
	(c)	Explain Single Channel Telemetry system with necessary Block Diagram.	**07**
		OR	
	(c)	Explain Basic Block Diagram of ECG Telemetry System.	**07**
Q.3	**(a)**	Give Frequency and amplitude range of ECG, EEG and EMG.	**03**
	(b)	Explain BRUCE and Balke Ware Protocol for Treadmill.	**04**
	(c)	Explain Basic Block Diagram of EEG Machine in detail.	**07**
		OR	
Q.3	**(a)**	Explain: Alzheimer, Parkinson's, Cerebral Palsy	**03**
	(b)	Differentiate between Air Conduction and Bone Conduction.	**04**
	(c)	Explain basic Block Diagram of EMG Machine in Detail.	**07**
Q.4	**(a)**	Give Full Form of: ABER, ASSR, EOG.	**03**
	(b)	What is Nystagmus? Explain ENG.	**04**
	(c)	Enlist various types of Spirometer and Explain Basic Spirometer with necessary Diagram.	**07**
		OR	
Q.4	**(a)**	What is Hearing Loss? What is Normal Range of Audible Frequency?	**03**
	(b)	Explain Mechanism of Hearing.	**04**
	(c)	Give the Basic Function of Pneumotachometer and Differentiate between Differential Manometer and Hot Wire Anemometer.	**07**
Q.5	**(a)**	What is Glaucoma. And Give Normal Value of IOP?	**03**
	(b)	Define: Total Lung Capacity, Vital Capacity, Residual Volume, Tidal Volume.	**04**
	(c)	What is Visual Acuity? Explain Static and Kinetic Perimetry in Detail.	**07**
		OR	
Q.5	**(a)**	Short Note on EOG.	**03**
	(b)	Enlist Essential parameters for telemedicine.	**04**
	(c)	Enlist Different Types of tonometry and Explain Goldman and Applanation Tonometry.	**07**

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