Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

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

Subject Code: 160301		t Code: 160301 Date: 05/05/20	Date: 05/05/2017	
Su	bjec	t Name: Diagnostic Instrumentation		
Ti	me:	10:30 AM to 01:00 PM Total Marks:	70	
Ins	2	ons: . Attempt all questions Make suitable assumptions wherever necessary Figures to the right indicate full marks.		
Q.1	(a)	Give explanation of 12 channel ECG lead connection system with necessary schematic.	07	
	(b)	Explain working principle of electromagnetic blood flow measurement techniques.	07	
Q.2	(a)	Explain Oscillometric blood pressure measurement technique with necessary diagram.	07	
	(b)	How trade mill used in noninvasive diagnosis of Cardiopulmonary system? OR	07	
	(b)	Enlist all respiratory disorder with their effects on spirogram.	07	
Q.3	(a)	 Enlist G.I. tract disorders. Also define/explain following terms Cystoscopy Colonoscopy 	07	
	(b)	• Protoscopy Explain working of noncontact type applanation tonometer with necessary schematic.	07	
Q.3	(a)	OR Enlist various disorders related to nervous system with their diagnosis method. Also give their effect on bioelectric signals waveforms.	07	
	(b)	Give difference between pure tone audiometer and speech audiometer. What is the need of masking in audiometry?	07	
Q.4	(a) (b)	Explain all components of Biotelemetry system. Explain barium meal studies used for G.I. tract diagnosis. OR	07 07	
Q.4	(a) (b)	Explain block diagram of EEG system with type of EEG waveforms. Give brief information about Diseases related to Kidney & Urinary system and their diagnosis.	07 07	
Q.5	(a) (b)	Draw and explain working of image intensifier. Explain fetal Heart rate monitoring methods. OR	07 07	
Q.5	(a) (b)	Explain working principle of MRI and types gradients coils used in MRI. Define Spirogram. Explain working of wedge spirometer.	07 07	
