Seat No.:	Enrolment No.

Subject Code: 160301

**Subject Name: Diagnostic Instrumentation** 

## **GUJARAT TECHNOLOGICAL UNIVERSITY**

BE - SEMESTER - VI (OLD). EXAMINATION - WINTER 2016

Date: 26/10/2016

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. 0.1 (a) Explain the instrumentation of Echocardiograph with block diagram. 07 (b) Compare the advantages and risks of PET scan and CT scan imaging techniques. **07 Q.2** (a) Explain the construction and applications of Image Intensifier in X-ray machine. 07 **(b)** Draw and explain the block diagram of electronic stethoscope. 07 Draw and explain the block diagram of Electro-sphygmomanometer. **07 (b)** 0.3 (a) What is Echoencephalograph? Describe the instrumentation used for 07 measurement. (b) List diseases which can be diagnosed by treadmill test. Explain any two protocols 07 for treadmill test. OR (a) Enlist the technical specifications for foetal ultrasound probe. What precautions **Q.3** 07 should be considered before application of probes? Explain the instrumentation for holter monitoring. Name any three automated 07 **(b)** analysis technics for holter monitoring data. Explain various modes of Doppler machine and their applications for diagnosis 07 **Q.4** (a) of cardiac anomalies. **(b)** Define telemedicine. Draw the generalized block diagram for biotelemetry. 07 OR (a) Enlist any five GI tract disorders and suggest diagnostic technique to each of the 07 **Q.4** disorder. **(b)** Write a technical note on Electronystagmogram (ENG). **07 Q.4** Q.5 (a) Write a technical note on split lamp microscope. 07 Which diagnostic test is referred for asthmatic patient? Describe the **(b)** 07 instrumentation in detail. OR Define nephralgia. Describe the diagnostic instrumentation for nephralgia. **07** Q.5 (a) What instrumentation is used for deaf mutism patient? Explain the block diagram 07 of AEP measurement.

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