

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI • EXAMINATION – SUMMER 2013****Subject Code: 160301****Date: 24-05-2013****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 block diagram of Electroencephalograph and Give detail of front panel control. **07**

(b) Explain types of ECG recorders. **07**

Q.2 (a) Write a short note on Tonometer. **07**

(b) Explain working of Doppler type ultrasonic blood flow meter with schematic diagram. **07**

OR

(b) Explain construction and working of Electromagnetic Blood flow meter. **07**

Q.3 (a) Explain Instrumentation of Electro-sphygmomanometer. **07**

(b) Explain block diagram of the audiometer system Bekesy. **07**

OR

Q.3 (a) Explain single channel telemetry system and Give clinical significance of Biotelemetry. **07**

(b) Give disorders related to respiratory system. Explain instrumentation of Spirometer. **07**

Q.4 (a) Explain Diseases related to Kidney & Urinary system and their diagnosis. **06**

(b) Explain following terms: **08**
1) Intravenous pyelography, 2) Perimetry,
3) choleptography, 4) Protoscopy

OR

Q.4 (a) Explain the working of fluoroscopy. How it is differ from x-ray technique. **07**

Q.4 (b) Explain working principles of MRI and its clinical applications. **07**

Q.5 (a) Explain M-mode of ultrasound imaging and discuss their diagnostic applications. **07**

(b) Explain Right leg drive circuit for minimizing common mode interface in ECG. **07**

OR

Q.5 (a) Explain various diseases related to G.I. tract with techniques to diagnose those diseases. **07**

(b) Explain Multi channel recording system of EEG with control panel details. **07**
