

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
BE SEM-VI Examination-Nov/Dec-2011

Subject code: 160301

Date: 21/11/2011

Subject Name: Diagnostic Instrumentation

Time: 10.30 am -1.00 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 Electrocardiograph with the help of block diagram. **07**
(b) Explain the ECG Lead configurations. **07**

- Q.2** (a) Explain the block diagram of programmed electrosphygmomanometer. **07**
(b) Explain the applications of biotelemetry in patient care. **07**

OR

- (b) Explain the block diagram of Biotelemetry transmitter and receiver. **07**

- Q.3** (a) Explain electromagnetic Blood flow meter. **07**
(b) Explain working of Ultrasonic spirometer. **07**

OR

- Q.3** (a) Explain the block diagram of audiometer system Bekesy. **07**
(b) Explain various Respiratory Volumes and capacities. **07**

- Q.4** (a) Explain Image intensifier for Diagnostic X-ray machine. **07**
(b) Explain the components of Endoscope. **07**

OR

- Q.4** (a) Explain following words **08**
 - Laparoscopy,
 - Colonoscopy,
 - Bronchoscopy,
 - Laryngoscopy(b) Write a short note on Tonometer. **06**

- Q.5** (a) Explain the block diagram of Electroencephalograph. **07**
(b) Explain Ultrasonic Doppler-shift based Foetal Heart Rate measurement. **07**

OR

- Q.5** (a) Explain Block diagram of an Echocardiograph. **07**
(b) Give short description of Trade mill and Holter monitoring for the diagnosis of Cardiovascular system. **07**
