

GUJARAT TECHNOLOGICAL UNIVERSITY
B. E. - SEMESTER – VI • EXAMINATION – WINTER 2012

Subject code: 160301**Date: 02/01/2013****Subject Name: Diagnostic****Time: 02.30 pm - 05.00 pm****Total Marks: 70****Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Explain the functional block diagram of Electrocardiogram. **07**
(b) Draw schematic circuit diagram of 12 leads in ECG system. **07**
Derive their inter-relationship.

- Q.2** (a) Explain principal, working and application of Tonometer. **07**
(b) How heart sound can be used for diagnosis? Explain. **07**

OR

- (b) What are the different volumetric and capacity measures used in spirometry? Define each. **07**

- Q.3** (a) Explain colonoscopy and its medical applications. **07**
(b) What are the diseases related to Kidney & Urinary system and how it can be diagnosed. **07**

OR

- Q.3** (a) Discuss the use of EEG for nervous system disorder diagnosis. **07**
(b) Explain Driven-right-leg circuit for minimizing common-mode interference. **07**

- Q.4** (a) What is EOG? Explain diagnosis of ophthalmic disorder using EOG. **07**
(b) Explain the block diagram of multi-channel Electroencephalogram and its diagnostic applications. **07**

OR

- Q.4** (a) Explain the principle and working of audiometer. **07**
Q.4 (b) What are the different indirect methods of blood flow measurement? Explain Electromagnetic blood flow meter. **07**

- Q.5** (a) Explain instrumentation of endoscopy for gynecological problems. **07**
(b) Discuss the x-ray image intensifier used for fluoroscopic system. **07**

OR

- Q.5** (a) List applications of Biotelemetry and explain any one in detail. **07**
(b) Explain Different mode of Ultrasound imaging for medical diagnostic applications. **07**
