

GUJARAT TECHNOLOGICAL UNIVERSITY
B.E SEM-VII Examination-Nov/Dec.-2011

Subject code: 171006**Date: 29/11/2011****Subject Name: Biomedical 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 an introduction to the man- instrument system in details. **07**
(b) Define terms: i) Electrocardiography ii) Echocardiography. **07**

- Q.2** (a) Explain a propagation of action potential. **07**
(b) Describe different transducers used for biomedical application in details. **07**

OR

- (b) Explain difference of action potential, resting potential and bioelectric potential **07**

- Q.3** (a) Explain a heart and cardiovascular system in details. **07**
(b) Explain a biopotential electrode. **07**

OR

- Q.3** (a) Explain a biochemical transducer. **07**
(b) Explain a plethysmography and colour doppler measurement. **07**

- Q.4** (a) Explain terms: i) ECG and ii) EMG **07**
(b) Explain the components of a Biotelemetry System in details. **07**

OR

- Q.4** (a) Explain terms: i) EEG and ii) Pace Maker **07**
(b) Explain the difference between CT scan and PET scan **07**

- Q.5** (a) Describe the blood pressure measurement in details. **07**
(b) Explain a diathermy unit for surgery and therapy. **07**

OR

- Q.5** (a) Explain a heart rate measurement. **07**
(b) Describe the hazards and methods of accident prevention. **07**
