

GUJARAT TECHNOLOGICAL UNIVERSITY**DIPLOMA ENGINEERING - SEMESTER-VI • EXAMINATION – SUMMER • 2014****Subject Code: 361703****Date: 28-05-2014****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.
4. English version is considered to be Authentic.

- Q.1** (a) Classify blood pressure measuring methods. Explain any one transducer. **07**
(b) Define respiration rate. list the respiration rate measurement techniques and explain any one. **07**
- Q.2** (a) Define bio-electricity. Explain its generation within the living tissue. **07**
(b) Draw and explain ECG block diagram. **07**
OR
(b) Explain standard lead system for an ECG. **07**
- Q.3** (a) Classify bio-electrodes. State the application and explain care to be taken while using it. **07**
(b) Explain characteristic of X rays and also state the application of X-rays. **07**
OR
- Q.3** (a) Draw and explain block diagram of X ray machine. **07**
(b) Explain ECG electrodes with neat sketches. **07**
- Q.4** (a) Draw and explain block diagram CT scan **07**
(b) Explain block diagram of muscle stimulator with application **07**
OR
- Q. 4** (a) Explain block diagram of Hemo-dialysis machine. **07**
(b) Explain block diagram of electro surgical machine **07**
- Q.5** (a) Describe defibrillator in detail. **07**
(b) Write short note on “echocardiography” **07**
OR
- Q.5** (a) Write short note on “pacemaker” **07**
(b) Describe working principle of blood cell counter. **07**
