

GUJARAT TECHNOLOGICAL UNIVERSITY**Diploma Engineering - SEMESTER-VI • EXAMINATION – WINTER • 2014****Subject Code: 3340304****Date: 04-12-2014****Subject Name: Diagnostic Medical Instrumentation****Time: 02:30 pm - 05:00 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) Draw and explain generalized block diagram of an instrumentation system **07**
(b) Describe working principle of Electrocardiograph and explain its block diagram. **07**
- Q.2** (a) Enlist different techniques of BP measurements. Explain any one in detail. **07**
(b) Explain ear oxymeter in detail. **07**
OR
(b) Explain pulse oxymeter in detail. **07**
- Q.3** (a) Explain 10-20 electrode placement method used for EEG **07**
(b) Explain different types of heart sounds in detail. **07**
OR
- Q.3** (a) Explain Electroencephalograph with its working principle. **07**
(b) Explain phonocardiograph in detail. **07**
- Q.4** (a) Explain instantaneous heart rate meter. **07**
(b) Draw and explain apnoea monitor in detail. **07**
OR
- Q. 4** (a) Explain photoelectric method of pulse rate measurement. **07**
(b) Define spirometry. Enlist its types and explain any one in detail. **07**
- Q.5** (a) Enlist and describe various types of audiometers **07**
(b) Describe various lung volumes & capacities **07**
OR
- Q.5** (a) Enlist and explain Types of hearing aids. **07**
(b) Define air and bone conduction. Enlist different types of hearing transducer and explain any one in detail. **07**

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