GUJARAT TECHNOLOGICAL UNIVERSITY DIPLOMA ENGG.- SEMESTER-VI EXAMINATION – OCTOBER 2012

Subject code: 361703 Date: 29-10-2012

Subject Name: Biomedical Instrumentation

Time: 2:30 pm – 5:00 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) (b)	Define Bio-potential. Explain the theory of bio-potential generation. Explain the Instrumentation amplifier. State the applications.	07 07
Q.2	(a) (b)	List the types of blood pressure transducer and explain any one in detail. List the types of temperature transducer and explain any one in detail	07 07
	()	OR	
	(b)	List the respiration transducers and Explain any one detail	07
Q.3	(a)	Draw and explain ECG block diagram.	07
	(b)	Explain the standard lead systems for ECG.	07
		OR	
Q.3	(a)	Draw EEG block diagram and explain working principle.	07
	(b)	ExplainUltrasonic foetal monitor with applications.	07
Q.4	(a)	Explain working Principle and Block Diagram of electro-surgery machine	07
	(b)	Explain working Principle & Block Diagram of Blood Cell Counter.	07
	()	OR	
Q.4	(a)	Explain working Principle & Block Diagram of Hemo-dialysis machine.	07
Q.4	(b)	Explain block diagram of muscle stimulator with application.	07
Q.5	(a)	Write short note on Echocardiography.	07
	(b)	Write short note on CT Scan machine.	07
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Q.5	(a)		07
	` ′	Draw and Explain X-ray machine block diagram	07
