Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI • EXAMINATION – SUMMER 2013

Subject Code: 160303 Date: 28-05-2		2013	
•	e: 1(Name: Therapeutic Instrumentation 0.30 am - 01.00 pm Total Marks is:	s: 70
	1. 2. 3.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a)	Explain the need of defibrillator. Explain DC defibrillator with schematic diagram.	07
	(b)	Explain implantable defibrillator system. Distinguish monophasic and biphasic waveforms used for defibrillator.	07
Q.2	(a)	Define and explain terminologies related to the performance analysis of dialyzer.	07
	(b)	Differentiate parallel flow dialyzer and hollow fibre haemodialyzer. OR	07
	(b)	Discuss principle, working and applications of ultrasonic therapy unit.	07
Q.3	(a) (b)	Explain the principle and operation of surgical diathermy analyzer. Discuss the safety aspects in electro-surgical units. OR	07 07
Q.3	(a) (b)	Differentiate the characteristics of various lasers applied in medicine. How gastric hemorrhage can be controlled by photo-coagulation using argon ion laser.	07 07
Q.4	(a) (b)	Explain the various types of waveforms used in electrotherapy. Explain principle and operation of microwave diathermy machine. OR	07 07
Q.4 Q.4	(a) (b)	With block diagram explain apnoea detector. How heat loss and production can be controlled in baby incubator?	07 07
Q.5	(a)	Explain schematic diagram of anesthesia machine and patient breathing circuit.	07
	(b)	Explain various patient breathing systems. OR	07
Q.5	(a) (b)	With block diagram explain heart lung machine. Write short note on: Coronary angiography.	07 07
