

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER-VI (NEW) EXAMINATION – WINTER 2020****Subject Code:2160303****Date:27/01/2021****Subject Name:Therapeutic Techniques & Instrumentation****Time:02:00 PM TO 04:00 PM****Total Marks: 56****Instructions:**

1. Attempt any **FOUR** questions out of **EIGHT** questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		MARKS
Q.1	(a) Give the difference between Pacemaker and defibrillator.	03
	(b) Describe Asynchronous and Synchronous Pacemaker.	04
	(c) Explain Need of Defibrillator and give circuit description of DC defibrillator.	07
Q.2	(a) Explain monophasic and biphasic waveform in defibrillator.	03
	(b) Describe Mechanics of Artificial Ventilation.	04
	(c) Give detail classification of Ventilators and explain it in detail.	07
Q.3	(a) Explain Blood leak detector in brief.	03
	(b) Define: Galvanic current, Surging Current, fulguration, Coagulation.	04
	(c) Write a short note on Hemodialysis Machine with neat diagram.	07
Q.4	(a) Describe safety aspects of Surgical diathermy in brief.	03
	(b) Enlist types of dialyzer. Explain it briefly.	04
	(c) Explain working of portable kidney machine.	07
Q.5	(a) Explain Properties of LASER light.	03
	(b) Describe Principle of surgical diathermy.	04
	(c) Discuss the working principles and applications of Ruby laser system.	07
Q.6	(a) Give the applications of CO2 laser.	03
	(b) Explain working of Heart Lung Machine.	04
	(c) Explain Microwave diathermy unit with circuit diagram.	07
Q.7	(a) Describe coronary angiography in brief.	03
	(b) Explain the Significance of Biotelemetry.	04
	(c) Explain Incubator with neat Diagram.	07
Q.8	(a) Describe Spinal cord stimulator.	03
	(b) Explain apnea detection technique in brief.	04
	(c) Briefly explain design of Anesthesia machine.	07
