

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER– VI (NEW) EXAMINATION – WINTER 2021****Subject Code:3160303****Date:26/11/2021****Subject Name:Therapeutic Instrumentation****Time:10:30 AM TO 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. Simple and non-programmable scientific calculators are allowed.

MARKS

Q.1	(a) Give the differences between External pacemakers and implantable pacemakers.	03
	(b) Define Fibrillation. What is the need of Defibrillator?	04
	(c) Write types of Defibrillator. Briefly explain DC defibrillator with circuit diagram.	07
Q.2	(a) Describe functions of kidney.	03
	(b) Explain Asynchronous and Synchronous Pacemaker.	04
	(c) Explain Haemodialysis machine with schematic diagram.	07
OR		
	(c) Explain Different types of dialyzer in detail.	07
Q.3	(a) Describe Electro surgery Techniques.	03
	(b) Explain cardioverter with diagram.	04
	(c) Write a short note on Electrosurgical diathermy machine.	07
OR		
Q.3	(a) Define: Coagulation, Fulguration, and Desiccation.	03
	(b) Discuss electrodes used in surgery.	04
	(c) Write a short note on working of Heart Lung Machine.	07
Q.4	(a) What is di-pulse Therapy?	03
	(b) Discuss about Intra-aortic balloon pump (IABP).	04
	(c) Explain Microwave diathermy unit with circuit diagram.	07
OR		
Q.4	(a) What is electrotherapy?	03
	(b) Write a short note on Spinal Cord Stimulator.	04
	(c) Explain Transcutaneous electrical nerve stimulation (TENS) in Detail.	07
Q.5	(a) What are the types of incubators?	03
	(b) Explain Mechanics of Artificial Ventilation.	04
	(c) Explain Gas supply system of Anesthesia machine	07
OR		
Q.5	(a) Describe the need for Anesthesia.	03
	(b) What is Infusion Pump?	04
	(c) Explain detail classification of Ventilators.	07
