

GUJARAT TECHNOLOGICAL UNIVERSITY
BE – SEMESTER – VI (NEW).EXAMINATION – WINTER 2016

Subject Code: 2160303**Date: 25/10/2016****Subject Name: Therapeutic Techniques & 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.

- Q.1** (a) Explain various types of electro-surgery techniques and their specific applications. **07**
(b) Explain operational principle of surgical diathermy analyser. **07**
- Q.2** (a) Explain principle of dialysis with necessary schematic. Explain functions and working of dialyser. **07**
(b) Explain structure and working of coil hemodialyser and hollow fiber hemodialyser. **07**
- OR**
- (b) Explain working of portable kidney machine with necessary diagram. **07**
- Q.3** (a) What is the need of DC defibrillator? Explain working of DC defibrillator with synchronizer. **07**
(b) Explain detail classification of Ventilators. **07**
- OR**
- Q.3** (a) Enlist and explain performance aspects of DC defibrillator. **07**
(b) Write a short note on types of Cardiac Pacemakers. **07**
- Q.4** (a) Give detail explanation of LASER's operational principle. **07**
(b) Explain concept of Ultrasonic heat therapy with their applications in medical field. **07**
- OR**
- Q.4** (a) Explain functional block diagram of CO₂ laser. **07**
(b) Explain concept of High frequency heat therapy. Draw and explain simplified circuit diagram of short-wave diathermy unit. **07**
- Q.5** (a) What is apnea? Explain apnea detection techniques. **07**
(b) Explain Complete schematic of anesthesia machine. **07**
- OR**
- Q.5** (a) Explain procedure of coronary angiography and balloon angiography with necessary schematic. **07**
(b) Write a short note on Biotelemetry and their clinical significance. **07**
