

GUJARAT TECHNOLOGICAL UNIVERSITY
B. E. - SEMESTER – VI • EXAMINATION – WINTER 2012

Subject code: 160303**Date: 04/01/2013****Subject Name: Therapeutic Instrumentation****Time: 02.30 pm - 05.00 pm****Total Marks: 70****Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) What is fibrillation? What is the need for a defibrillator? Explain defibrillator analyzers. **07**
- (b) Explain fiber-optic gastric photo coagulator with diagram. **07**
- Q.2** (a) Define electrosurgical apparatus. Explain different modes of operation with appropriate diagrams. **07**
- (b) Write a short note on cardioverter-defibrillator. **07**
- OR**
- (b) Explain construction and working of surgical diathermy machine with diagram. **07**
- Q.3** (a) Explain heart lung machine with necessary diagrams. **07**
- (b) Write a short note on Implantable defibrillator. **07**
- OR**
- Q.3** (a) What is the difference between angiography and angioplasty? Explain coronary and balloon angiography. **07**
- (b) Write a short note on CO₂ laser with diagram. **07**
- Q.4** (a) Draw and explain schematic diagram of a microwave diathermy unit. **07**
- (b) Describe parallel flow and hollow fiber dialyzers with diagram. **07**
- OR**
- Q.4** (a) Write a short note on TENS. **07**
- Q.4** (b) Explain blood leak detector with block diagram. **07**
- Q.5** (a) How is the heat produced? Which are the different methods of heat loss? **07**
- (b) Describe vapor delivery system with diagrams. **07**
- OR**
- Q.5** (a) What is apnea? Discuss the types of apnea. Explain the instrumentation block diagram of apnea detector. **07**
- (b) What is the need for anesthesia? Explain anesthetic delivery system. **07**
