

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VI • EXAMINATION – SUMMER • 2014****Subject Code: 160303****Date: 23-05-2014****Subject Name: Therapeutic Instrumentation****Time: 10:30 am - 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 the specification and circuit diagram of DC defibrillator. **07**  
(b) Explain requirement and application of implantable defibrillator. **07**
- Q.2** (a) Discuss the function and working of dialyzer. **07**  
(b) With block diagram explain working of hemodialysis machine. **07**
- OR**
- (b) Compare parallel flow, coil and hollow fiber types of hemodialyser. **07**
- Q.3** (a) Explain the terms; electrotomy, fulguration, coagulation and desiccation in surgical diathermy. **07**  
(b) Explain construction and working of surgical diathermy machine. **07**
- OR**
- Q.3** (a) Explain types of LASER and their medical applications. **07**  
(b) Discuss the application of LASER for retinal detachment. **07**
- Q.4** (a) Explain the various electrodes and current waveforms used in electrotherapy. **07**  
(b) Write short note on; spinal cord stimulation. **07**
- OR**
- Q.4** (a) Explain the principle and method used for phototherapy devices for incubator. **07**  
(b) What is Apnea? Explain the method of Apnea detection. **07**
- Q.5** (a) With schematic, explain anesthesia machine. **07**  
(b) What are the different types of patient breathing circuits? Explain. **07**
- OR**
- Q.5** (a) What is a catheter? What are its applications? **07**  
(b) Explain the principle of coronary angiography technique. **07**

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