

- Q.28 What are stimulator. Explain Magnetic stimulator.  
 Q.29 What are Laser. Explain Characteristic of Laser.  
 Q.30 Explain Role of Biomedical Engg. In CSSD.  
 Q.31 What are Microwave Diathermy. Explain Production of Microwave.  
 Q.32 What are laser. Describe different type of laser.  
 Q.33 Explain Physiological Function of kidney.  
 Q.34 What are neonatal therapy. Explain Neonatal Intensive Care Unit.  
 Q.35 What are short ware diathermy. Explain block diagram of shortwave diathermy machine.

#### **Section-D**

**Note: Long answer type questions. Attempt any two questions out of three Questions. (2x10=20)**

- Q.36 Draw and Explain principle of surgical diathermy machine with block diagram.  
 Q.37 What are laser therapy. Explain the basic operation principle of laser.  
 Q.38 Describe Autoclave. Explain its working principle & application in detail.

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**5th Sem., Branch : Med. Eltx.**  
**Subject : Therapeutic Medical Instrument (TMI)**

Time : 3 Hrs. M.M. : 100

#### **SECTION-A**

**Note: Multiple choice Questions. All Questions are compulsory. (10x1=10)**

- Q.1 Microwave frequency range are extended from  
 a) 3 MHZ to 30 MHZ  
 b) 30 MHZ to 300 MHZ  
 c) 500 MHZ to 30000 MHZ  
 d) None of above
- Q.2 Full form of LASER  
 a) Light amplification by stimulated emission of radiation  
 b) Light absorbent and stimulated emission of radiation  
 c) Light absorbing solar energy radiation  
 d) Light amplification singular emission of radiation
- Q.3 Dialysis commonly refers to  
 a) Hemodialysis                  b) Chemo dialysis  
 c) Liver dialysis                  d) Pancreatic dialysis
- Q.4 Removal and killing of all organism are known as  
 a) Destruction                  b) Sterilization  
 c) Pasterurization              d) None of these

- Q.5 Which of the following is a unique property of LASER  
 a) Directional                  b) Speed  
 c) Coherence                  d) Wavelength
- Q.6 Pasteurization is  
 a) A few spring bacterial get killed by pasteurization  
 b) Milk is heated to  $70^{\circ}\text{C}$  & held for 30 minutes  
 c) Milk is rapidly cooled to  $0^{\circ}\text{C}$ .  
 d) It is done for checking milk born infection
- Q.7 Ultrasound are applied for obtaining image  
 a) Liver                  b) Spleen  
 c) Both A & B                  d) None of these
- Q.8 Short wave diathermy which may have frequency  
 a) 27.12 MHZ                  b) 26.12 MHZ  
 c) 25.12 MHZ                  d) 24.12 MHZ
- Q.9 Autoclaves are used in the medical applications to perform \_\_\_\_\_.  
 a) Vulcanization                  b) Heating  
 c) Sterilization                  d) Cleaning
- Q.10 The functional Unit of kidney  
 a) Neuroglia                  b) Neurons  
 c) Nephrons                  d) None of these

### Section-B

**Note:** Objective type questions. All questions are compulsory.  $(10 \times 1 = 10)$

- Q.11 Expand TENS.

- Q.12 Define Electric Stimulator.
- Q.13 What are Medical Instruments.
- Q.14 Define fulguration.
- Q.15 What are dialyzer.
- Q.16 Name instruments which are used in Surgical Diathermy.
- Q.17 What re Electron Transition.
- Q.18 Expand CSSD.
- Q.19 What are Autoclave.
- Q.20 Full form of SWD.

### Section-C

**Note:** Short answer type Questions. Attempt any twelve questions out of fifteen Questions.  $(12 \times 5 = 60)$

- Q.21 Define therapeutic instrument. Explain ECG Waveform.
- Q.22 Explain Central Sterile Supply Department.
- Q.23 Explain Shortwave Diathermy technique.
- Q.24 What are laser. Explain its working principle.
- Q.25 Define Shortwave diathermy. Explain the Production of heat within the body.
- Q.26 What are dialyzer. Explain parallel flow dialyzer.
- Q.27 What are cardiac pacemaker. Explain type of cardiac pacemaker.