

- Q.27 What are Laser? Describe different type of laser.  
 Q.28 Define therapeutic instrument. Explain ECG Waveform.  
 Q.29 What are Autoclave? Explain components of Autoclave.  
 Q.30 Explain Electro-surgery Technique.  
 Q.31 What are Laser? Explain its working principle.  
 Q.32 Explain Directionality characteristic of laser.  
 Q.33 Explain Physiological Function of kidney.  
 Q.34 What are Laser? Explain characteristic of Laser.  
 Q.35 Explain the Neonatal Intensive Care Unit.

#### **SECTION-D**

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

- Q.36 What is Autoclave? Explain its connection for inlets & outlets with block diagram.  
 Q.37 What is Electro therapy? Draw diagram of different waveform.  
 Q.38 Draw and explain principle of surgical diathermy machine with block diagram.

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#### **5th Sem. / Medical Electronics**

#### **Subject:- Therapeutic Medical Instruments (TMI)**

Time : 3Hrs.

M.M. : 100

#### **SECTION-A**

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

- Q.1 Which of the following is a unique property of LASER  
 a) Directional      b) Speed  
 c) Coherence      d) Wavelength  
 Q.2 The functional Unit of kidney  
 a) Neruogalia      b) Neurons  
 c) Nephrons      d) None of these  
 Q.3 Ruby Laser, the colour of laser light is due to \_\_\_\_\_ a atom  
 a) Oxygen      b) Aluminium  
 c) Xenon      d) Chromium  
 Q.4 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

(40)

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Q.5 How many type of dialysis are there

- a) 2
- b) 3
- c) 4
- d) 5

Q.6 Pasteurization is

- a) a few spore bacteria get killed by pasteurization
- b) milk is heated to 70°C & held for 30 minutes
- c) milk is rapidly cooled to 0°C
- d) it is done for checking milk born infection

Q.7 Which of the following is the main principle of dialysis

- a) Capillary action
- b) Reverse - osmosis
- c) Adhesion
- d) None of the above

Q.8 Which of the following part work as a kidney in dialysis

- a) Hemolyser
- b) Nephrolyser
- c) Dialyser
- d) None of the above

Q.9 Which Laser is used in light detection and ranging

- a) Ruby Laser
- b) He-Ne Laser
- c) CO<sub>2</sub> Laser
- d) Semisolid Laser

Q.10 What property of sound wave act like principle of ultrasound

- a) Reflection & Refraction
- b) Reflection
- c) Refraction
- d) Propagation

## SECTION-B

**Note:** Objective type questions. All questions are compulsory. (10x1=10)

Q.11 What are Autoclave?

Q.12 What is electric field?

Q.13 What are Electron Transition?

Q.14 Define fulguration.

Q.15 Full form of SWD.

Q.16 Expand LASER.

Q.17 What are Medical instruments?

Q.18 What are Photon Energy?

Q.19 Expand TENS.

Q.20 Define Anesthesia.

## SECTION-C

**Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 What are stimulator? Explain Magnetic stimulator.

Q.22 Explain the layout of CSSD department.

Q.23 What are Microwave Diathermy? Explain Production of Microwave.

Q.24 Describe the component of laser.

Q.25 Define Shortwave diathermy. Explain the Production of heat within the body.

Q.26 Explain capacitive plate method application of short wave diathermy.