

17671

21819

3 Hours / 100 Marks

Seat No.

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- Instructions :**
- (1) All Questions are *compulsory*.
 - (2) Illustrate your answers with neat sketches wherever necessary.
 - (3) Figures to the right indicate full marks.
 - (4) Assume suitable data, if necessary.

Marks

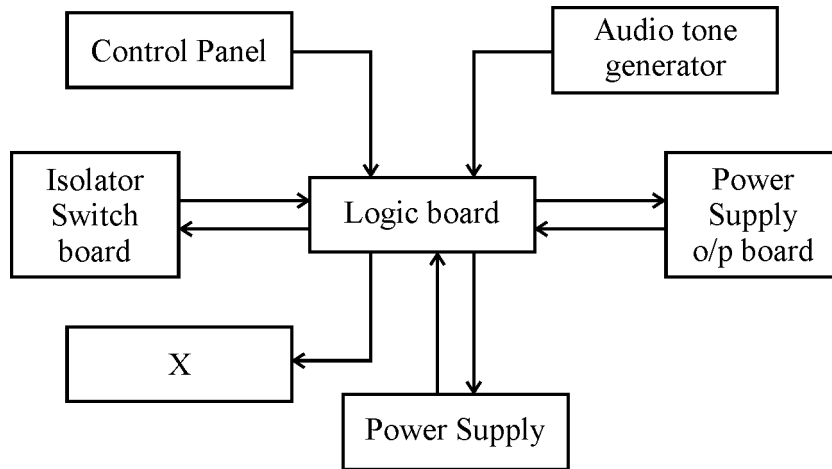
1. (A) Attempt any THREE : 12

- (a) List any four properties of LASER.
- (b) State the need of Continuous Passive Movement.
- (c) Explain one application technique of applying ultrasonics to the body.
- (d) State and explain the principle of cold therapy.

(B) Attempt any ONE : 6

- (a) Draw block diagram of Ultrasonic Therapy Unit. List the two modes of operation of the m/c given. From the block diagram. Name the two blocks which are responsible for switching the mode of operation.

- (b) Identify the block diagram shown, Label the block X and explain use of Audio tone generator block.



2. Attempt any FOUR :

16

- Name the post operative treatment given for the patient. Enlist the two types of treatment under it.
- Explain principle of nerve and muscle stimulator.
- State and explain application techniques of cold therapy. (any two)
- Enlist any four causes of electric shock.
- Define Maintenance and explain the maintenance steps which are carried out for electro surgical unit.
- Describe the concept of ESD.

3. Attempt any FOUR :

16

- List any four medical applications of any laser.
- Enlist any four important technical specifications of ultrasound therapy machine.
- With neat labelled diagram explain principle of surgical diathermy machine.
- Define 'Installation'. Enlist various Installation steps carried out in nerve – muscle stimulator.
- State the contraindications of cold therapy. (any four)

4. (A) Attempt any THREE : 12

- (a) Enlist the two methods of applying electrodes in short wave diathermy treatment and explain any one with neat diagram.
- (b) State the effect of electric current on nerves and muscles.
- (c) Draw and explain principle of operation of UV lamp.
- (d) With neat labelled waveforms explain the principle of interference therapy.

(B) Attempt any ONE : 6

- (a) What is range of high frequency of currents used in surgical diathermy ? Enlist different methods of cutting & Coagulation. Also, explain the same.
- (b) Enlist three different types of Diathermy and explain basic principle of working of short wave diathermy along with a neat diagram.

5. Attempt any FOUR : 16

- (a) Suggest application technique of ultrasound therapy for (i) Irregular Surface, (ii) Injured Body Part.
- (b) Enlist any four technical specifications of microwave diathermy.
- (c) Draw any four current waveforms normally employed in electrotherapy and explain any one in detail.
- (d) Enlist any four physiological effects of cold therapy.
- (e) Define the terms : (i) Micro shock, (ii) Macro shock.
- (f) Describe any two methods of Accident prevention.

P.T.O.

6. Attempt any FOUR :**16**

- (a) Enlist the Installation steps carried out for Ultrasound Therapy Machine.
- (b) Explain physiological effects of electric current.
- (c) Differentiate between luminous and non-luminous IR generators on basis of any four points.
- (d) Suggest possible solution for following faults of ESU.

Fault	Solution
(i) Equipment not turning on.	–
(ii) Electrical shocks to user.	–
(iii) Equipment on but o/p is absent or weak.	–
(iv) Continuous Interference with Monitors.	–
(e) Draw and explain unipolar and Bipolar mode of ESU.	
(f) List out maintenance steps for Nerve Muscle Stimulator.	
