

17671

16117

3 Hours / 100 Marks

Seat No.

--	--	--	--	--	--	--	--	--	--

- Instructions* – (1) All Questions are *Compulsory*.
(2) Answer each next main Question on a new page.
(3) Illustrate your answers with neat sketches wherever necessary.
(4) Figures to the right indicate full marks.
(5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. a) Attempt any THREE of the following: 12
- (i) Mention the medical applications of LASER (Any four)
 - (ii) Draw the block diagram of CPM machine. State the function of each block.
 - (iii) State the effects of ultrasound on human body and justify why they are suitable for therapeutic purpose.
 - (iv) State the principle of cold therapy.
- b) Attempt any ONE of the following: 6
- (i) Draw the circuit diagram of ultrasound therapy machine and principle of operation of ultrasound therapy machine.
 - (ii) Draw the block diagram of solid - state cautery machine and write the function of each block in detail.

P.T.O.

- 2. Attempt any FOUR of the following:** **16**
- a) Draw the block diagram of traction unit and write principle of operation of traction unit.
 - b) Write the technical specification of electrotherapy.
 - c) List out condition in which contra-indication occur to ice treatment and give reason for it.
 - d) State the methods of accident prevention. Explain any one.
 - e) Explain the procedure for maintenance of electrosurgical units.
 - f) What is Electro Static Discharge (EST) explain in short.
- 3. Attempt any FOUR of the following:** **16**
- a) List the effect of Iron human body.
 - b) Draw the block diagram of ultrasound therapy transducer and explain in short.
 - c) State and explain the effect of electric current on human tissue.
 - d) Draw the diagram of nerve muscle stimulator and give function of each block.
 - e) Write the physiological effects of cold therapy on human body.
- 4. a) Attempt any THREE of the following:** **12**
- (i) Draw the diagram of microwave diathermy machine and explain in short.
 - (ii) State and explain the application techniques of electrotherapy.
 - (iii) Draw the diagram of UV lamp. State the working of any one.
 - (iv) Describe the principle of interference therapy with neat diagram.
- b) Attempt any ONE of the following:** **6**
- (i) List the different cutting and coagulation electrode. Draw the same.
 - (ii) Write the capacitive and inductive field method of short wave diathermy with neat diagram.

5. Attempt any FOUR of the following:**16**

- a) Compare CDM and traction unit on the basis of four points.
- b) Draw the circuit diagram of SWD and write the technical specification of SWD.
- c) Write the principle of operation of nerve muscle stimulator and write any two technical specification of nerve muscle stimulator.
- d) State the principle of cold therapy.
- e) What is micro shock and macro shock ? State their range.
- f) Give the significance of leakage current and explain how it is measured.

6. Attempt any FOUR of the following:**16**

- a) Write the installation steps for ultrasound therapy machine.
 - b) Write the electrical hazard in hospital environment due to leakage current.
 - c) Differentiate between IR and UV lamp.
 - d) Draw the block diagram of electrosurgical unit and give the function of each block.
 - e) State the different modes of electrosurgery. State which mode is suitable for precise cutting and explain the same with neat diagram.
-