

22546

12425

03 Hours / 70 Marks

Seat No.

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- 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) Assume suitable data, if necessary.  
(6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

**Marks**

**1. Attempt any FIVE of the following:**

**10**

- State the therapeutic uses of IR.
- State the working principle of ultrasound therapy transducer.
- Give concept of electrotherapy.
- State different methods of cutting and coagulation of ESU.
- List any four technical specifications of Nerve Muscle Stimulator.
- Suggest application techniques of short wave diathermy.
- Describe the electric hazard in hospital environment and leakage current through equipment.

P.T.O.

- 2. Attempt any THREE of the following:** **12**
- a) Draw a neat labelled block diagram of traction unit and explain it.
  - b) Describe and list types of SWD.
  - c) Differentiate between ultrasound and Diathermy on basis of:
    - i) Working Principle
    - ii) Frequency
    - iii) Application technique
    - iv) Applications
  - d) Describe the maintenance procedure of electrosurgical unit.
- 3. Attempt any THREE of the following:** **12**
- a) Describe the concept of electrostatic discharge (ESD).
  - b) State need of CPM and draw its block diagram.
  - c) Differentiate between IR and UV with its:
    - i) Working Principle
    - ii) Diagram
    - iii) Types
    - iv) Application
  - d) Identify the machine used in surgery for cutting and coagulation and list the electrodes required for it.
- 4. Attempt any THREE of the following:** **12**
- a) List and explain any four properties of LASER.
  - b) Explain unipolar and bipolar modes in electrosurgery.
  - c) Define the physiological effects of electric shock as micro and macro shock.
  - d) Describe patient safety in ESU unit.
  - e) Describe methods of accident prevention in hospital environment.

5. Attempt any TWO of the following:

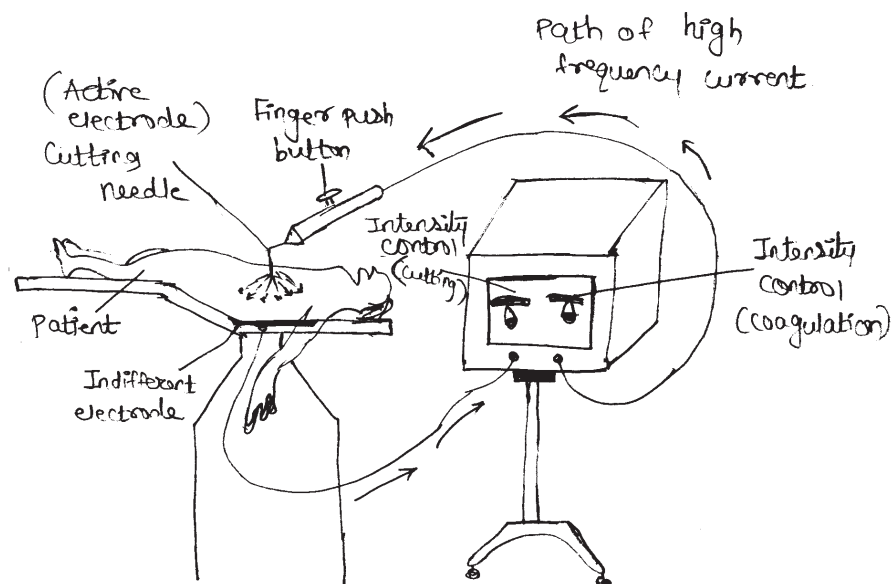
12

- a) Suggest therapies for treatment of following problems:
  - i) Acne
  - ii) Muscle Spasm
  - iii) Retinal coagulation
  - iv) Lumber Pain
  - v) Tissue Healing
  - vi) Cataract surgery
- b) Illustrate installation procedure for diathermy equipment.
- c) Describe the application related contraindications of cold therapy on human body.

6. Attempt any TWO of the following:

12

- a) Identify the given figure and give its working principle. Also list any four technical specifications of it.



**Fig. No. 1**

- b) State and explain ultrasound therapy machine and list its installation procedure with neat diagram.
- c) Draw and explain nerve and muscle stimulator and write application techniques of it.