

22546

23124

3 Hours / 70 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) 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****
- a) State any four properties of LASER.
 - b) State any four effects of diathermy machine on Human Body.
 - c) State any four uses of cold therapy.
 - d) Give any four technical specification of Electrosurgical unit.
 - e) State the concept of electrotherapy.
 - f) Suggest application techniques of short wave diathermy for following:
 - i) For small surface treatment area.
 - ii) For large surface treatment area.
 - g) Compare microshock and macroshock. (Any two points)

P.T.O.

- 2. Attempt any THREE of the following:** **12**
- a) Draw a neat labelled diagram of IR lamp. Also give effect of it on human body. (any two)
 - b) Draw constructional diagram of ultrasonic therapy transducer.
 - c) Compare ultrasound therapy machine and short wave diathermy machine on the basis of following points.
 - i) Working principle
 - ii) Frequency
 - iii) Application techniques
 - iv) Applications
 - d) Give maintenance steps to be carried out for Electrosurgical unit.
- 3. Attempt any THREE of the following:** **12**
- a) Give current ranges for following:
 - i) Let-go-current
 - ii) Ventricular fibrillation
 - iii) microshock
 - iv) macroshock
 - b) Suggest the post-operative method for following, also draw Block diagram of the same.
 - i) Patient has undergone knee joint surgery.
 - c) State any four effects of UV radiations on human of body.
 - d) Differentiate between Unipolar and Bipolar modes of Electrosurgical Unit on the basis of following points:
 - i) Diagram
 - ii) Working principle

4. Attempt any THREE of the following: 12

- a) State the types of LASER. Explain any one with neat diagram.
- b) Describe different methods of cutting and co-agulation with neat diagram.
- c) Draw different types of cutting and co-agulation electrodes.
- d) Give concept of Electrostatic discharge.
- e) Describe testing of proper grounding system in patient care area in Hospital.

5. Attempt any TWO of the following: 12

- a) Suggest the therapies for the treatment of following
 - i) Acne
 - ii) Muscle spasm
 - iii) Retinal co-agulation
 - iv) Lumber pain
 - v) Tissue Healing
 - vi) Cataract surgery.
- b) Identify the Block diagram of following therapeutic machine and its missing Block. Also state any two uses of this therapeutic machine. (Fig. No. 1)

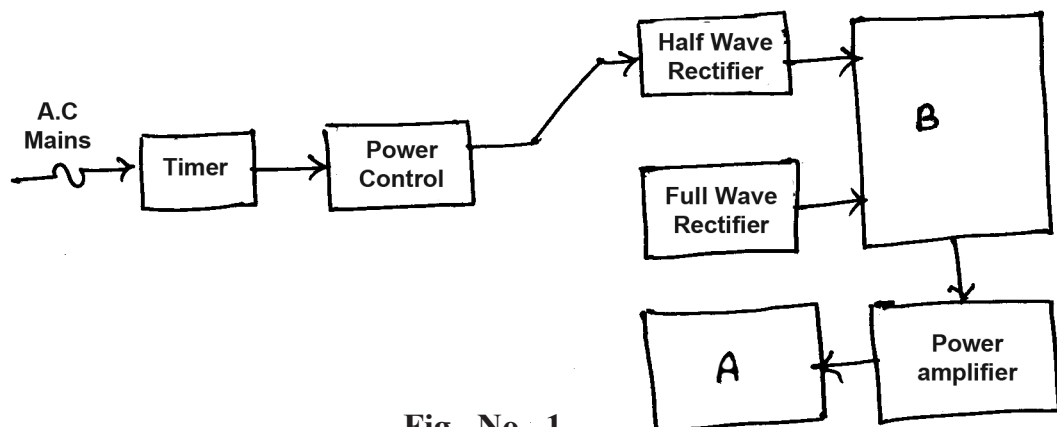


Fig. No. 1

- c) Identify the waveforms given in Fig. No. 2 generated by nerve and muscle stimulator. State their current ranges with one application of each.

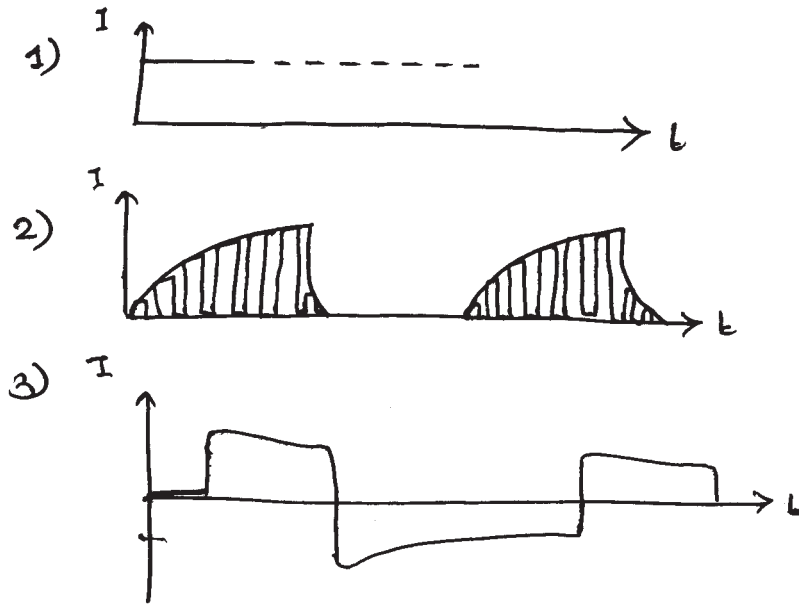


Fig. No. 2

6. Attempt any TWO of the following:

12

- a) Identify missing Blocks of Fig. No. 3 and state any four uses of this machine.

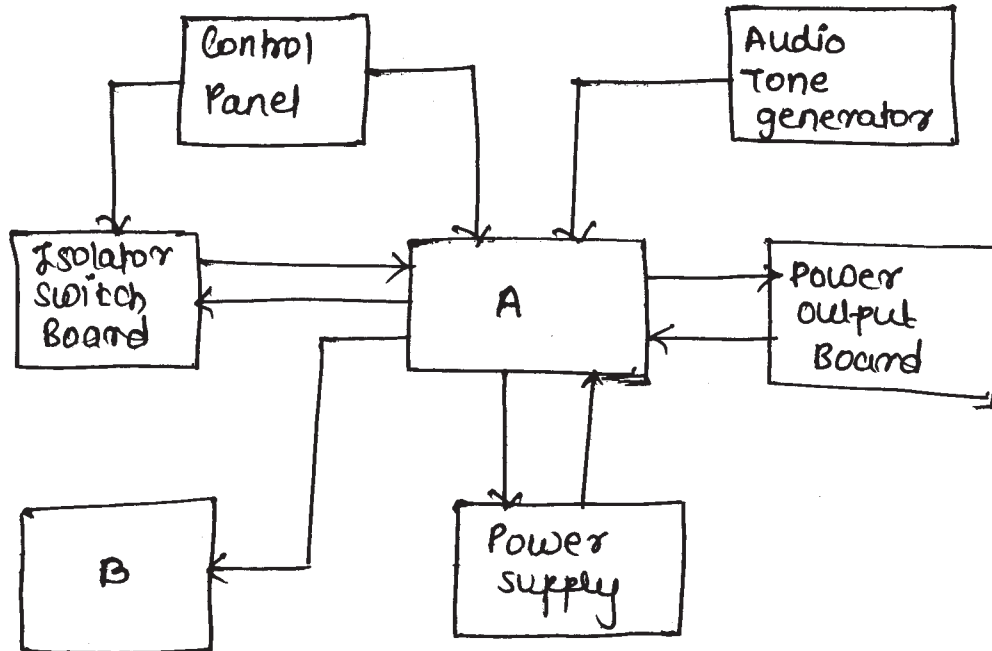


Fig. No. 3

- b) State and explain application techniques of ultrasound.
 c) State and explain any three contraindication of cold therapy.
