

17671

21415

3 Hours / 100 Marks

Seat No.

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- Instructions :** (1) All Questions are *compulsory*.
(2) Answer each next main Question on a new page.
(3) Figures to the right indicate full marks.
(4) Assume suitable data, if necessary.
(5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

- | | Marks |
|--|--------------|
| 1. (A) Attempt any THREE : | 12 |
| (a) State any four therapeutic uses of IR. | |
| (b) Draw neat block diagram of traction unit and state the function of each block. | |
| (c) Suggest application technique of ultrasound therapy for : | |
| (i) Injured body part | |
| (ii) For irregular surface | |
| (d) State and explain the principle of cold therapy. | |
| (B) Attempt any ONE : | 6 |
| (a) Draw neat constructional diagram of ultrasound therapy transducer. Explain the function of matching layer and backing layer. | |
| (b) Explain the effect of electric current on human tissues and with a neat diagram, explain principle of working of electrosurgery. | |
| 2. Attempt any FOUR : | 16 |
| (a) State the need of traction treatment. | |
| (b) State and explain the application techniques of nerve muscle stimulator. | |
| (c) State the significance of leakage current motor. | |
| (d) State the significance of circulatory response and neural response. | |

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- (e) State different methods of cutting and coagulation and explain any two with neat diagram.
- (f) Describe the procedure for testing of grounding system for leakage current.

3. Attempt any FOUR :

16

- (a) State any four properties of lasers.
- (b) Enlist any four technical specifications of ultrasound therapy machine.
- (c) Draw block diagram of solid state cautery machine and give its any four important technical specifications.
- (d) State the steps carried out for maintenance of nerve and muscle stimulator.
- (e) Explain application techniques of cold therapy.

4. (A) Attempt any THREE :

12

- (a) Name the application technique of Short Wave Diathermy (SWD) machine which is used if the elbow joint of patient is to be treated. Explain with neat diagram.
- (b) Draw the block diagram of nerve and muscle stimulator and explain any two blocks.
- (c) Draw the constructional diagram of UV lamp and state why quartz tube is used in it.
- (d) Explain the significance of interferential therapy. Draw neat waveforms for the same.

(B) Attempt any ONE :

6

- (a) State any two modes of electrosurgery and differentiate between two on the basis of four points.
- (b) Explain the principle of high frequency heating with neat diagram. Differentiate between short wave and microwave diathermy on the basis of (i) wavelength (ii) application

5. Attempt any FOUR :

16

- (a) Compare CPM and traction on the basis of any four points.
- (b) State and explain any four effects of short wave on human body.
- (c) Draw neat waveform for surged faradic and biphasic current and explain its application for stimulation.

- (d) State the contra-indications of cold therapy.
- (e) Draw a neat diagram for test of grounding system in patient care area and explain.
- (f) State the concept of electrostatic discharge.

6. Attempt any FOUR :

16

- (a) State the possible faults that can occur on ultrasound machine and short wave diathermy unit. (two of each machine)
- (b) Describe any two methods for accident prevention.
- (c) Differentiate between luminous and non-luminous IR generators on the basis of any four points.
- (d) Suggest the possible solution and state the cause for the following faults on ESU (Electro Surgical Unit)

Faults	Cause	Solution
(1) Deactivation of alarm tones		
(2) Mode buttons do not operate		
(3) Non-responding foot switch's o/p		
(4) Electric shock		

- (e) Identify the figure A and mention the names of electrodes used at position A and position B.

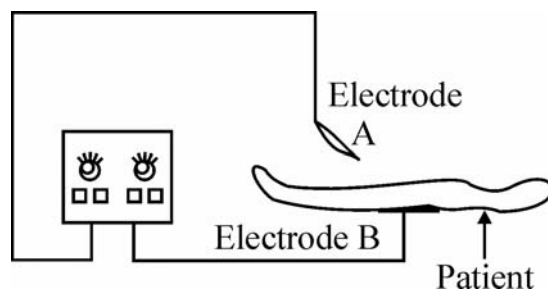


Fig. A

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