

Total number of printed pages-11

34 (2) ELTH

2016

**ELECTROTHERAPY**

Full Marks : 100

Time : Three hours

***The figures in the margin indicate full marks for the questions.***

- I. Essay Type (Answer **any two**) :  $2 \times 10 = 20$
1. Define TENS. Types of TENS. Physiological and therapeutic effects of TENS. Indications and contra-indications.
  2. Define UVR. Types of UVR. Production of UVR. Indications and contra-indications of UVR.
  3. Define pain. Enlist the theories of pain in details.

Contd.

II. Short Essay Type (Answer **any ten**) :

10×5=50

1. What is LASER ? Principles of production of LASER.
2. Methods of application of ultrasound.
3. Define micro-wave diathermy. Enlist the wavelength and frequency of micro-wave diathermy. Explain the dangers of micro-wave diathermy.
4. Explain about sensory nerve conduction velocity and motor nerve conduction velocity.
5. Explain about the neural response and circulatory response of cryotherapy.
6. What is magnetic stimulation ? Explain in details about the indications and contra-indications.
7. What is PEME ? Write the production and indications of PEME.

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8. Draw the electromagnetic spectrum. Write about cross-fire method and dangers in details of short wave diathermy.

9. What is SD curve ? Define chronaxie and rheobase. Enlist the differences between chronaxie and rheobase.

10. What is IRR ? Give its wavelength and parameters. Discuss the types of IRR generation.

11. What is biofeedback ? What are the different types of biofeedback used ? What are the uses of biofeedback ?

12. What is paraffin wax ? Methods of application of paraffin wax.

III. Short answer type (Answer **any five**) :

5×2=10

1. What is shock ? What are the causes of electric shock ?
2. Enlist some home programmes for median nerve and ulnar nerve.

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Contd.

3. What is phonophoresis ? What are the drugs used in phonophoresis ?
4. What are the physiological effects of contrast bath ?
5. What is galvanic current ? Name the facial muscles.
6. What is transformer ? Give the type and function of transformer.
7. Name some common ions used in iontophoresis.

IV. Multiple choice questions :  $20 \times 1 = 20$

1. The ideal dose of UVR for production of expected effects in Acne Vulgaris -
  - (a)  $E_1$  dose
  - (b)  $E_2$  dose
  - (c)  $E_3$  dose
  - (d)  $E_4$  dose

2. Rheobase is
  - (a) Maximum tolerable current for a nerve impulse at long duration
  - (b) Minimum current for a nerve impulse at short
  - (c) Minimum current for a nerve impulse at long duration
  - (d) none of above
3. Which current is used for stimulation of innervated muscles ?
  - (a) surged faradic
  - (b) interrupted galvanic
  - (c) faradic
  - (d) none of above
4. Magnetic stimulation is called -
  - (a) Electromagnetic induction

- (b) Induction stimulation
  - (c) Eddy currents
  - (d) None of the above
5. Monochromacity is -
- (a) single wavelength and definite frequency
  - (b) phases are in the same phase
  - (c) laser beams remain collinatted
  - (d) none of the above
6. Depression and schizopfhrenia can be cured by -
- (a) magnetic stimulation
  - (b) IFT
  - (c) TENS
  - (d) Stimulation
7. Therapeutic effects of whirlpool bath -
- (a) piezo effect

- (b) gentle debridement of dirt and tissues
  - (c) increased arterial blood supply
  - (d) releiving pain
8. Capnometer biofeedback :
- (a) measures skin electrical activity
  - (b) measures abdominal or chest movement
  - (c) measures peripheral blood flow
  - (d) measures  $PCO_2$  &  $O_2$
9. Klumpke's paralysis is
- (a) upper trunk of brachial plexus
  - (b) lower trunk of brachial plexus
  - (c) both of them
  - (d) none of them
10. Macro-current is defined as
- (a) current less than 1mA

- (b) current used in galvanism
- (c) current more than 1mA
- (d) alternating current

11. Fluidotherapy is

- (a) heating and cooling apparatus
- (b) stainless steel tanks or baths of various sizes
- (c) form of dry heating with tiny cellulose particles
- (d) non-invasive analgesic technique

12. Excitatory cold technique

- (a) applied for 3 times
- (b) applied over time
- (c) temp. is lowered upto 0°C-10°C
- (d) all of above

13.  $z = \frac{1}{2FC_1}$  here z is

- (a) capacitance in microfarad
- (b) frequency in Hz
- (c) skin resistance
- (d) current

14. Faradic footbath is

- (a) measures process
- (b) has a point electrode
- (c) electrical stimulation
- (d) none

15. Scalds is caused by

- (a) moist heat
- (b) dry heat
- (c) ice burn
- (d) all of above

16. Faradic current is

- (a) 0.1-1ms
- (b) 1ms - 10ms
- (c) 10ms - 100ms
- (d) none

17. Galvanic current is

- (a) short duration
- (b) long duration
- (c) alternating current
- (d) all

18. Cathode is

- (a) positive
- (b) unidirectional
- (c) modality
- (d) negative

19. Frequency of SWD is

- (a)  $10^7$  Hz to  $10^8$  Hz
- (b)  $10^8$  Hz to  $10^{11}$  Hz
- (c) 30 - 3m
- (d) 3 - 30m

20. SP involves

- (a) MF and DF
- (b) DF and MF
- (c) Both
- (d) None

