

Total number of printed pages-10

34 (2) ELTH

2020

ELECTROTHERAPY

Full Marks : 100

Time : Three hours

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

I. Essay Type Questions :

Answer **any two** out of **three** $10 \times 2 = 20$

(a) Define Laser. Discuss about the different types of lasers and its therapeutic effects, indications and contraindications.

(b) Define IFT. Write in details about the physiological and therapeutic effects of IFT. Mention its dosage along with indications and contraindications.

(c) Define SD curve. Explain the procedure for plotting SD curve and mention its significance.

Contd.

II. Short Essay Type : Answer **any ten**
5×10=50

- (a) Define TENS. Classify them. Mention its dosage parameter, indications and contraindications.
- (b) Define Shock. Explain the types of shocks, and its safety precautions.
- (c) Define Cyclotherm. Write in details about the therapeutic uses. Mention indications of cyclotherm.
- (d) Define Cryotherapy. Explain its principle, techniques and methods of application with dosages.
- (e) Define Pain. Explain about the Pain gate theory.
- (f) Define Ultrasound therapy. Explain in details about the production of ultrasound and its principles.
- (g) What is Wax Bath Therapy? Write in details about the various methods of applications. Mention contraindications of Wax Bath Therapy.
- (h) What is Low Frequency Current? Discuss in details, the physiological effects of Faradic Type Current.

- (i) Define Contrast Bath. Write in details about the therapeutic effects along with the indications and contraindications.
- (j) Write a note on the technique of giving "Faradism Under Pressure".
- (k) Define SWD. Explain the principles of production of SWD with diagram.
- (l) Define IRR. Classify IRR generators. Write in details about the effects of IRR.

III. Short Answer Type :
Answer **any five** out of **seven** 2×5=10

- (a) What are Valves? What are the types of valves?
- (b) Faradic Foot Bath.
- (c) Chronaxie and Rheobase.
- (d) Dangers of Direct current.
- (e) Name some superficial heating modalities.
- (f) Indications of ice pack.
- (g) What is Whirlpool Bath?

IV. Multiple-Choice Questions : Attempt **all**
1×20=20

- (1) Contraindications for Cryotherapy are, except —
- (a) Cold urticaria
 - (b) Arteriosclerosis
 - (c) Raynaud's disease
 - (d) Acute tendinitis
- (2) In ultrasound, acoustic streaming refers to _____ waves.
- (a) Undirectional
 - (b) Bidirectional
 - (c) Multidirectional
 - (d) Both (a) and (b)
- (3) Wax Bath should be maintained at a temperature of:
- (a) 30° – 50°
 - (b) 40° – 60°
 - (c) 40° – 44°
 - (d) None of the above

- (4) Microwaves are electromagnetic radiations that lie between radiowaves and —

- (a) X-ray
- (b) IRR
- (c) UVR
- (d) Gamma rays

- (5) In Step-up transformer —

- (a) number of turns in the secondary coil is twice that in the primary
- (b) number of turns in the secondary coil is equal to the primary
- (c) number of turns of wire in primary coil is more than the secondary
- (d) number of turns in primary and secondary is same

- (6) Tuning is done for :

- (a) Resonance
- (b) Adjustments
- (c) Increase the output
- (d) All of the above

(7) The progression of E₃ dose in UVR therapy is :

- (a) 25%
- (b) 50%
- (c) 75%
- (d) 100%

(8) The wavelength of UVB is :

- (a) 280 - 315 nm
- (b) 260 - 280 nm
- (c) 315 - 400 nm
- (d) 220 - 260 nm

(9) What is the frequency of MWD ?

- (a) 2450 MHz
- (b) 4350 MHz
- (c) 1890 MHz
- (d) 2750 MHz

(10) Unit of impedance is :

- (a) volt
- (b) henry
- (c) joules
- (d) ohm

(11) Wallerian degeneration takes about—

- (a) 1 week
- (b) 14 weeks
- (c) 14 days
- (d) 4 days

(12) Drug of choice for wound healing in Iontophoresis is _____.

- (a) Dexamethasone
- (b) Lidocaine
- (c) Aluminium
- (d) Iodine

(13) Low TENS works on the principle of _____.

- (a) Endogenous opiate
- (b) Pain gate therapy
- (c) Descending pain suspension
- (d) Presynaptic inhibition

(14) Density of current in tissues close to the electrode while treating with SWD is —

- (a) least
- (b) greatest
- (c) moderate
- (d) None of the above

(15) The types of muscle fibers mostly activated by electrical stimulation are :

- (a) Type I fibers
- (b) Type IIA fibers
- (c) Type IIB fibers
- (d) None of the above

(16) A δ fibers having conduction velocity between —

- (a) 5 and 20 m/s
- (b) 10 and 30 m/s
- (c) 10 and 20 m/s
- (d) 5 and 30 m/s

(17) Capacitor is also known as :

- (a) Dielectric
- (b) Condenser
- (c) Variable capacitor
- (d) None of the above

(18) Penetration depth for He-Ne Laser (Red Light) is :

- (a) 1.5 – 2.5 mm
- (b) 1 – 4 mm
- (c) 1 – 2 mm
- (d) 1.5 – 3.5 mm

(19) Faradic type contraction —

- (a) tetanic like contraction
- (b) tetanic contraction
- (c) Both
- (d) None of the above

(20) A current that produces greater muscular hypertrophy with gain in strength is :

(a) Direct current

(b) Faradic current

✓(c) Russian current

(d) Diadynamic current.