

Total number of printed pages-8

34 (2) ELTH 2.4

2021

(Held in 2022)

ELECTROTHERAPY

Full Marks : 100

Time : Three hours

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

I. Essay type : (answer **any two** out of **three**)

10×2=20

- (a) Define TENS. List various types of TENS and give features of each type and their therapeutic uses.
- (b) Describe production of ultrasound and explain the various methods of applications. Add a note on coupling medium used.
- (c) List various tests used for electro-diagnosis. Explain *any three* in details.

Contd.

II. Short essay type : (*answer any ten*)
5×10=50

- (a) Give the principles of production of LASER.
- (b) What is shock ? Give the precautions to be taken to avoid the same.
- (c) Write in detail about anodal galvanism.
- (d) Outline the benefits of hot pack unit.
- (e) Give the physiological effect of IRR.
- (f) Describe the types of methods used for cryotherapy.
- (g) What is biofeedback ? Give the importance of its use in physiotherapy.
- (h) Give the types of modified direct current used in physiotherapy. Describe *any one* in detail.
- (i) Explain the types of electrode placement in IFT.
- (j) Describe the indications and contra-indications of contrast bath usage.
- (k) Write in details about Nerve Conduction Velocity Studies.

(l) What is whirlpool bath ? Write in details about the method of application and its therapeutic uses.

III. Short answer type : (*answer any five out of seven*)
2×5=10

- (a) What is phonophoresis ?
- (b) Define pain gate theory.
- (c) Give *two* features of faradic current.
- (d) Rheobase and chronaxie.
- (e) Give *two* uses of diadynamic current.
- (f) Mention few factors which decreases the efficiency of ultrasound.
- (g) Give *two* uses of SD curve in electrotherapy.

IV. Multiple choice questions : (*attempt all*)
1×20=20

- (1) Cavitation is result of
- (a) insonation
 - (b) ionization
 - (c) iontophoresis
 - (d) phonophoresis

(2) In polarized state the nerve is not permeable to

- (a) sodium
- (b) potassium
- (c) calcium
- (d) iron

(3) When the piezoelectric crystal change shape the parameter produced is

- (a) amplitude of wave
- (b) frequency of wave
- (c) on and off pulses
- (d) wavelength of wave

(4) A Beta fibers is stimulated by

- (a) high TENS
- (b) low TENS
- (c) Both of the above
- (d) None of the above

(5) Galvanic current is

- (a) an alternating current
- (b) a direct current
- (c) interrupted current
- (d) modified current

(6) In the body the absorption of ultrasound is maximum in

- (a) blood
- (b) nerve
- (c) skin
- (d) bone

(7) Acute inflammation is best treated by

- (a) luminous IR
- (b) non-luminous IR
- (c) luminous IR with short rays
- (d) All of the above

(8) The percentage of transmission of aquasonic gel is

- (a) 59%
- (b) 19%
- (c) 67%
- (d) 72%

(9) LASER promotes wound healing by

- (a) cell proliferation
- (b) increase in RNA production
- (c) increase in collagen formation
- (d) All of the above

- (10) Lewis hunting reaction is present in
- (a) cryotherapy
 - (b) shock wave therapy
 - (c) hydrocollator unit
 - (d) All of the above
- (11) Negativity of resting membrane potential is due to :
- (a) Potassium is more permeable than sodium
 - (b) Three sodium ejected for two potassium
 - (c) Potassium is brought into the cell and sodium expelled out of cell
 - (d) All of the above
- (12) _____ current is used for the stimulation of innervated muscle.
- (a) Faradic
 - (b) Faradic type
 - (c) Surged faradic
 - (d) Interrupted galvanic
- (13) Which is a better electrotherapy modality for stress incontinence ?
- (a) TENS
 - (b) Faradic stimulation
 - (c) IFT
 - (d) IDC
- (14) What is the best therapeutic use of iontophoresis ?
- (a) As local anesthesia
 - (b) To apply antibiotics
 - (c) To apply antiinflammatory drugs
 - (d) For treatment of hyperhydrosis
- (15) Cavitation is _____
- (a) thermal effect of ultrasound
 - (b) non-thermal effect of ultrasound
 - (c) All of the above
 - (d) None of the above
- (16) Which is not a contra-indication of infrared ?
- (a) Psoriasis
 - (b) Defective arterial cutaneous circulation
 - (c) Dermatitis
 - (d) Defective blood pressure regulation
- (17) Spasticity can be reduced by
- (a) heating
 - (b) cooling

(c) SWD

(d) TENS

(18) Stimulation of which fibres closes the gate ?

(a) Large diameter A Beta fibres

(b) Small diameter A Beta fibres

(c) C-fibers

(d) All of the above

(19) Which of the following is not a pure heating method ?

(a) Wax bath

(b) Electric heating pads

(c) Contrast bath

(d) Water and mud packs

(20) Following are the electro-diagnostic tests to detect nerve lesions except

(a) Nerve conduction test

(b) EMG

(c) SD curve

(d) PET-test