



BA-9537

Seat No. _____

Third Year B. Physiotherapy Examination

March - 2021

Electro Therapy - 2

Time : 3 Hours]

[Total Marks : 100

SECTION-I

- 1 Long Answer Questions : (any 2 out of 3) 20**
- (1) Write in detail about electro-diagnostic tests with emphasis on SD curve.
 - (2) What is Biofeedback ? Describe in detail principles of biofeedback.
 - (3) Describe in detail about interferential current therapy. Its physical principles along with the treatment parameters in quadripolar application for Low back pain.
- 2 Short answer questions : (any 2 out of 3) 10**
- (1) Cathodal and Anodal galvanism
 - (2) Functional electrical stimulation
 - (3) Types of Nerve injuries
- 3 Very short answer : (any 5 out of 6) 10**
- (1) Salutatory conduction
 - (2) Checking of apparatus for electrical stimulation
 - (3) Define combination therapy
 - (4) Glidemeister effect
 - (5) Factors affecting NCV
 - (6) Electro placement for faradism under pressure for U.L.
- 4 Multiple choice question : 10**
- (1) The resting membrane potential of Nerve cell is :
(A) -70 mV (B) -50 mV
(C) -120 mV (D) 1 mV
 - (2) Wallerian degeneration is completed by :
(A) 20 days (B) 14 days
(C) 7 days (D) 1 month

- (3) The low frequency currents have a frequency of :
- (A) 50 Hz (B) 100-150 Hz
(C) 1-100 Hz (D) None of the above
- (4) Which of the ions delivered through Iontophoresis can be used in the treatment of calcific deposits ?
- (A) Zinc (B) Hyaluronidase
(C) Chloride (D) Acetate
- (5) Cold reduces pain as it :
- (A) Reduces transmission of neural impulses
(B) Acts as counter irritant
(C) Releases opioids
(D) All of the above
- (6) Skin resistance can be decreased by
- (A) Warming
(B) Cooling
(C) Drying
(D) Use of low voltage current
- (7) Insertional activity is found in :
- (A) Denervated muscle (B) Innervated muscle
(C) Both A and B (D) None of the above
- (8) Conventional TENS is :
- (A) High intensity, low frequency stimulation
(B) Low intensity, low frequency stimulation
(C) High intensity, high frequency stimulation
(D) High frequency, low intensity stimulation
- (9) Rheobase :
- (A) Smallest intensity producing muscle contraction at maximum pulse duration
(B) Highest intensity required at maximum pulse duration.
(C) Shortest duration of impulses requiring maximum current intensity
(D) Longest duration of impulses requiring maximum intensity of current
- (10) During an EMG evaluation the active electrode is placed on :
- (A) The muscle belly
(B) 2 cm proximal on the muscle belly
(C) 2 cm distal on the muscle belly
(D) Near by bony prominence

SECTION-II

- 5 Long answer questions : (Any 2 out of 3) **20**
- (1) What is principle of Iontophoresis ? Explain the drugs used. What are the indications, contra-indications and dangers ?
 - (2) Describe physiology of pain and its pathway with modulation.
 - (3) Discuss various types of TENS and its role in the post herpetic neuralgia.
- 6 Short answer questions : (any 2 out of 3) **10**
- (1) Quadriceps and Deltoid inhibition technique.
 - (2) Abnormal EMG potential
 - (3) Difference between Russian current and Dyadynamic current
- 7 Very short answer : (any 5 out of 6) **10**
- (1) Kink point
 - (2) Erb's palsy
 - (3) H-Reflex
 - (4) Define Chronaxie and Rheobase
 - (5) Motor unit action potential
 - (6) Surge modulation and pulse modulations
- 8 Multiple Choice Questions : **10**
- (1) The superimposition of A delta fibers and C fibers by the large-diametered A beta fibers forms the basis of :
(A) Specificity theory (B) Pattern theory
(C) Pain-gait theory (D) All of the above
 - (2) Modification of the parameters of TENS resulted in the emergence of :
(A) Burst TENS (B) Modulated TENS
(C) Brief intense TENS (D) All of the above
 - (3) The most comfortable forms of current that can be used for simulation is :
(A) Interferential currents
(B) Pre-modulated currents
(C) Russian currents
(D) All of the above
 - (4) For flat foot the best line of treatment is :
(A) Ultrasound therapy (B) Faradic foot bath
(C) Short wave diathermy (D) All of the above

- (5) The resistance offered by the epidermis to the flow of electric current is :
- (A) 10 Ohms (B) 100 Ohms
(C) 1,000 Ohms (D) 100,000 Ohms
- (6) Motor point is situated often at :
- (A) The junction of proximal 2/3rd with the distal 1/3rd of the muscle belly
(B) The junction of proximal 1/3rd with distal 2/3rd of the muscle belly
(C) The junction of proximal and distal halves
(D) The proximal end of muscles
- (7) When a sensory nerve is stimulated :
- (A) The orthodromic impulses are unable to pass the first synapse
(B) The antidromic impulses travel upwards
(C) The orthodromic impulses travel upwards and reaches conscious levels of brain
(D) The orthodromic impulse travel downwards.
- (8) The unit of capacitance is :
- (A) Henry (B) Coulomb
(C) Ampere (D) Farad
- (9) The work done when a force of 1 Newton acts through a distance of 1 metre is :
- (A) 1 Joule (B) 1 Calorie
(C) 1 Watt (D) 1 Newton
- (10) Pick out the 'right' statement.
- (A) Closer the electrodes placed deeper, is the course of current within the tissue.
(B) Greater the distance between the 2 electrodes, more superficial the current
(C) Greater the distance between the 2 electrodes, deeper the current travel
(D) A and B
-