



HBC-9537

Seat No. _____

Third Year B. Physiotherapy Examination

August - 2017

Electro Therapy - II

Time : 3 Hours]

[Total Marks : 100

SECTION - I

1 Long essay : (any two) 2×10=20

- (1) Define TENS. Describe the mechanism, types, indications and techniques of application of various types of TENS.
- (2) Define modified direct current. Discuss the role of modified direct current in the treatment of various conditions.
- (3) Discuss the bio-feedback and its type. Discuss in detail about mechanism and uses of bio-feedback in physiotherapy.

2 Short essay : (any two) 2×5=10

- (1) Deltoid inhibition
- (2) Russian current
- (3) Types of nerve injury.

3 Very short essay : (any five) 5×2=10

- (1) Fibrillation potential
- (2) Chronaxie
- (3) Synapse anatomy
- (4) Draw diagram of transverse section of nerve
- (5) Motor point
- (6) Cosine law.

4 Multiple choice question (MCQ) : 10×1=10

- (1) Which of the following ions are used for treatment of oedema redirects ?
 - (a) Iodide
 - (b) Histamine
 - (c) Hyaluronidase
 - (d) Zinc

- (2) Fasciculation potentials are found in :
- (a) Partial denervation
 - (b) Muscle cramps
 - (c) Complete denervations
 - (d) Reinnervation
- (3) The unit of impedance is :
- (a) Volt
 - (b) Ohm
 - (c) Mho
 - (d) Henry
- (4) The most effective modification of faradic type currents is :
- (a) Surging
 - (b) Interruption
 - (c) (a) and (b)
 - (d) None of the above
- (5) Interrupted direct current stimulation of denervated muscles procedures :
- (a) No response
 - (b) Brisk contractions
 - (c) Tetanic contractions
 - (d) Sluggish contractions
- (6) Rheobase is altered in:
- (a) Depending on skin resistance
 - (b) Temperature
 - (c) Type of muscle
 - (d) All of the above
- (7) Wallerian degeneration takes about :
- (a) 1 week
 - (b) 14 weeks
 - (c) 14 days
 - (d) 4 days
- (8) Denervation is characterized by :
- (a) Fasciculation potential
 - (b) Fibrillation potential
 - (c) Positive sharp wave
 - (d) (b) and (c)
- (9) S.D. curve can be done after :
- (a) 3 weeks after nerve lesion
 - (b) 4 weeks after nerve lesion
 - (c) 5 weeks after nerve lesion
 - (d) 6 weeks after nerve lesion
- (10) High voltage pulsed galvanic current used for:
- (a) To promote wound healing
 - (b) Edema reduction
 - (c) Pain reduction
 - (d) All of the above

SECTION - II

- 5** Long essay : (any **two**) **2×10=20**
- (1) Discuss the principles of IFT and its different methods of application.
 - (2) Discuss the physiological effects of electric current on nerve and muscle.
 - (3) Define pain. Describe the pain pathway. Add note on the mechanism of pain relief.
- 6** Short essay : (any **two**) **2×5=10**
- (1) Discuss the various combination therapy
 - (2) Sinusoidal current
 - (3) Iontophoresis.
- 7** Very short essay : (any **five**) **5×2=10**
- (1) Motor unit action potential
 - (2) Impedance of current flow
 - (3) Faradism under pressure
 - (4) Dia dynamic current
 - (5) Salutatory conduction
 - (6) Kink point.
- 8** Multiple choice question (MCQ) : **10×1=10**
- (1) Action potential is set up only when the resting membrane depolarizes to :
 - (a) -70 mV
 - (b) $+30$ mV
 - (c) -15 mV
 - (d) -55 mV
 - (2) The speed of propagation of nerve impulse, depends upon :
 - (a) The diameter of the nerve and type of nerve
 - (b) Presence of mylinesheth
 - (c) Length of the nerve
 - (d) All of the above
 - (3) Usage of sinusoidal currents over the skin causes:
 - (a) Mild prickling sensation
 - (b) Marked prickling sensation
 - (c) Burning sensation
 - (d) Stabbing sensation

- (4) Interrupted direct current stimulation of denervated muscle produces :
- (a) No response
 - (b) Sluggish contraction
 - (c) Tetanic contractions
 - (d) Brisk contraction
- (5) Chances of chemical burns are the greatest in the use of :
- (a) Sinusoidal currents
 - (b) Constant direct current
 - (c) Interrupted direct current
 - (d) Surged faradic currents
- (6) For the treatment of chronic inflammatory conditions
- (a) Anodal galvanism
 - (b) Cathod galvanism
 - (c) None of the above
 - (d) All of the above
- (7) S D curve is -
- (a) Quantitative test
 - (b) Qualitative test
 - (c) Both (a) and (b)
 - (d) None of the above
- (8) EMG is used in the diagnosis of :
- (a) Myopathies
 - (b) LMN lesions
 - (c) Myasthenia gravis
 - (d) All of the above
- (9) Metal oxide rectifiers are used for :
- (a) High voltage currents
 - (b) Low voltage currents
 - (c) Medium voltage currents
 - (d) None of the above
- (10) Accommodations is well exhibited by the
- (a) Nerves
 - (b) Muscle
 - (c) Skin
 - (d) All of the above