

Q-4. A 45-year-old woman who works in an office had been experiencing tingling in her index and middle fingers and thumb of her right hand. Recently, her wrist and hand had become weak. Her physician ordered a nerve conduction test to evaluate her for carpal tunnel syndrome. Which one of the following nerves has the slowest conduction velocity?

- a. $A\alpha$ fibers ✓
- b. $A\beta$ fibers
- c. $A\gamma$ fibers
- d. B fibers
- e. C fibers

Q-8. The actual cause of absolute refractory period in a nerve fiber is:

- a. Closure of inactivation gates of Na channels
- b. Closure of activation gates of Na channels
- c. Opening of the inactivation gates
- d. Closure of K gates
- e. Opening of the K gates

Q-6. A 30 years old male got a stab wound injury in upper limb and his the ulnar nerve was injured in it. Which type of cells are responsible for making regeneration tube in a damaged nerve?

- a. Neuron
- b. Schwann cells
- c. Oligodendrocytes
- d. Node of Ranvier
- e. Golgi cells

Q-19. Red (slow) fibers are characterized by the following except:

- a. Contains much blood capillaries.
- b. Glycogen stores is low.
- c. Contains high concentration of myoglobin.
- d. Depends on anaerobic oxidation.
- e. Are fatigue resistant

Q-17. Weight lifting can result in a dramatic increase in skeletal muscle mass. This increase in muscle mass is primarily attributable to which of the following?

- a. Increase in number of muscle fibers
- b. Increase in no of myofilaments in individual muscle fibers
- c. Increase in skeletal muscle blood supply
- d. Increase in the number of motor neurons
- e. Increase in the number of neuromuscular junction

Q-15. What does not shorten during isotonic contraction of a skeletal muscle fiber?

- a. Sarcomere length
- b. A bands
- c. I bands
- d. Z-line
- e. Calmodulin



Q-2. Due to stimulation of a muscle at rapid rate it may undergo smooth sustained contraction known as tetanization. The mechanism of its onset is due to following mechanism:

- a. Spatial summation
- b. Frequency summation
- c. Tetany
- d. Convergence
- e. Loss of refractory period.

Q-11. Nernst potential (also called equilibrium potential) is positive for

- a. Cl^-
- b. K^+
- c. Na^+ & K^+
- d. Na^+
- e. K^+ & Cl^-

Q-14. Calsequestrin is a protein which is present in the:

- a. A- band of skeletal muscle fiber
- b. I – band of skeletal muscle fiber
- c. Sarcoplasmic reticulum of skeletal muscle fiber
- d. Sarcoplasm of the skeletal muscle fiber
- e. Sarcoplasm of smooth muscle fiber

Q-3. A medical student was studying the histological appearance of a neuron. The hall mark basophilic structure in the cytoplasm of neurons are nissl granules, which consist of rough endoplasmic reticulum and ribosome. The main function of nissl granules is:

- a. Formation of neurotransmitters
- b. Formation of Lipofuscin granules
- c. Formation of myelin sheath
- d. Formation of waste material
- e. Formation of Schwann cell

Q-1. A hyper ventilating 20 years old young girl was brought to the emergency department with a typical position of the hands at the wrist due to spasm of muscles. An intravenous injection of calcium salt results in improvement of her condition. What is the medical term of her condition?

- a. Tetanus
- b. Tetanization
- c. Treppe
- d. Tetany
- e. Traumatic injury

Q-13. Which of the following is a neuromuscular junction blocker?

- a. Neostigmine
- b. Diisopropyl fluorophosphate
- c. Physostigmine
- d. Curariform drugs
- e. Acetylcholine esterase enzyme

Q-7. A 50 years old male visited the physician with the complaint of tingling and burning sensation in feet and mild weakness in lower limbs. He also had an ulcer on the left big toe. He had high blood sugar levels. On nerve conduction study, slowing of conduction velocity in peripheral nerves of lower limbs was observed. The most probable diagnosis is:

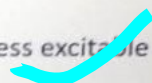
- a. Diabetic neuropathy
- b. Diabetic autonomic neuropathy
- c. Diabetic Myopathy
- d. Myasthenia gravis
- e. Duschene muscular dystrophy

Q-16. Rigor mortis i.e. stiffening of body after death results from:

- a. Accumulation of rigid proteins molecules in sarcoplasm.
- b. Carbon dioxide accumulation in body after death
- c. Death of tissues due to unavailability of oxygen
- d. Decrease in body temperature after death
- e. Lack of ATP, Which is necessary to break actin myosin link

Q-9. What happens to the excitable tissue cells in extreme hypokalemia?

- a. The membrane becomes more excitable
- b. The membrane becomes hypo-polarized
- c. The membrane becomes more negative and excitable
- d. The membrane becomes gradually less negative & RMP vanishes ultimately leading to death
- e. Membrane becomes hyperpolarized and less excitable



Q-5. In an electrical synapse:

- a. There is direct exchange of ions between the two neurons through gap junction
- b. Impulse travels only backwards through the electrical synapse
- c. In it, the impulse can even bypass the gap junctions
- d. Chemical transmitter is involved once the ions have passed through it
- e. Electrical synapses are found in neural systems that require slow response

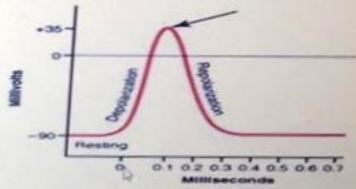
Q-18. Which of the following exercises includes *predominately* isometric contraction?

- a. Running
- b. Jumping
- c. Swimming
- d. Weight lifting
- e. Cycling

Q-20. The enzyme involved in smooth muscle relaxation is:

- a. Myosin ATPase
- b. Myosin Phosphorylase
- c. NaK ATPase
- d. Myosin Phosphatase
- e. Myosin light chain Kinase

Q-10. During a nerve action potential, a stimulus is delivered as indicated by the arrow shown in the following figure. In response to the stimulus, a second action potential:



- a. Of smaller magnitude will occur
- b. Of normal magnitude will occur
- c. Of normal magnitude will occur, but will be delayed
- d. Will occur but will not have an overshoot
- e. Will not occur at all



Q-12. A motor unit in muscle fiber consist of:

- a. Axon its branches and the muscle fibers it is supplying.
- b. All the muscle fibers supplied by a single nerve fiber.
- c. All muscle fibers supplied by a single axon and its branches.
- d. The α -motor neurons present in the anterior horn cell, its axonal branches supplying to different muscle fibers.
- e. The distance between the two Z- lines

That's it

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