

Test Bank for Advanced Exercise Physiology 1st Ehrman

1. Muscle hypertrophy is thought to be caused by an
 - a. increase in the number of muscle fibers
 - *b. increase in the number of myofibrils
 - c. increase in both the number of muscle fibers and myofibrils
 - d. increase in the number of fascicles

2. All of the following are isoforms of myosin heavy chains except
 - a. Type I
 - *b. Type Ix
 - c. Type IIa
 - d. Type IIx

3. To initiate muscle contraction
 - *a. calcium is released from the sarcoplasmic reticulum
 - b. sodium enters the cytoplasm
 - c. actin binds to troponin
 - d. actin binds to tropomyosin

4. Which protein is not involved in the process of muscle contraction?
 - a. myosin
 - b. actin
 - *c. fibrin
 - d. tropomyosin

5. The myelin sheath helps to
 - *a. speed up the transmission of action potentials
 - b. act as a barrier between the neuron and dendrites
 - c. enhance communication between the CNS and glial cells
 - d. slow the speed of transmission of action potentials

6. The ATPase pump does all of the following except
- a. maintain resting membrane potential
 - b. exchange three Na^+ molecules for two K^+ molecules
 - c. require energy
 - *d. prevent Na^+ molecules from entering the cell
7. Neurotransmitters are stored in
- a. axons
 - *b. synaptic vesicles
 - c. nodes of Ranvier
 - d. calcium channels
8. A motor unit is made up of
- a. myofibrils and muscle fibers
 - *b. a motor neuron and the muscles it innervates
 - c. Type IIa and Type IIx muscle fibers
 - d. a group of sarcomeres
9. Which muscle fibers are recruited first during incremental exercise?
- a. fast twitch (Type IIa)
 - *b. slow twitch (Type I)
 - c. fast twitch (Type IIx)
 - d. slow twitch (Type Ib)
10. Which is not a type of muscle contraction?
- a. eccentric
 - b. concentric
 - *c. isotonic
 - d. isokinetic

11. Type I muscle fibers contain a higher percentage of what compared to Type II muscle fibers?

- a. hemoglobin
- *b. myoglobin
- c. myosin ATPase
- d. calsequestrin

12. The force-length relationship states that

- a. the faster a muscle shortens, the less force is produced
- b. the slower a muscle shortens, the more force is produced
- c. a sarcomere that is stretched very thin will produce the most force
- *d. there exists an optimal length to produce the greatest force

13. Migrating motor complexes coordinate

- *a. peristalsis
- b. interstitial cells of Cajal
- c. enteric nervous system
- d. norepinephrine

14. Calcium signaling is used in which type of muscle cells?

- a. skeletal muscle only
- b. cardiac muscle only
- c. skeletal and cardiac muscles
- *d. skeletal, cardiac, and smooth muscles

15. The stomach's main roles include all of the following except

- a. breaking down food
- b. storing food
- *c. absorbing the majority of food before it passes to the intestines
- d. killing bacteria

16. Gastric emptying is faster with

- a. greater volume, higher osmolarity, and lower glucose concentration
- b. lower volume, higher osmolarity, and lower glucose concentration
- *c. greater volume, lower osmolarity, and lower glucose concentration
- d. lower volume, lower osmolarity, and lower glucose concentration

17. Which substance helps to neutralize stomach acid?

- a. bile
- *b. bicarbonate
- c. hydrochloric acid
- d. insulin

18. Ideally, sport beverages should contain which types of carbohydrate?

- a. glucose only
- *b. fructose and glucose
- c. fructose only
- d. none of the above

19. An adult human body contains 660 skeletal muscles.

- *a. True
- b. False

20. Exercise has been shown to decrease satellite cell production.

- a. True
- *b. False

21. Troponin and tropomyosin regulate the binding of myosin to actin.

- *a. True
- b. False

22. Neurotransmitters in the central nervous system are only excitatory.

- a. True
- *b. False

23. At similar speeds of contraction, a Type I fiber will have a greater force than a Type II fiber.

- a. True
- *b. False

24. A greater amount of myosin ATPase will result in a slower contraction velocity.

- a. True
- *b. False

25. The gastrointestinal system contains specialized cells that act similar to the sinoatrial node in the heart.

- *a. True
- b. False

26. The parasympathetic nervous system can increase peristalsis.

- *a. True
- b. False

27. Smooth muscle is the main type of muscle found in the GI tract.

- *a. True
- b. False

28. Decreasing physical activity has been shown to improve constipation.

- a. True
- *b. False