

Module 12 Quiz: Muscular System

Name: _____ Date: _____

Part A: Multiple Choice (7 points)

Choose the best answer for each question. (1 point each)

1. The functional unit of muscle contraction is the:
 2. A) Muscle fiber
 3. B) Myofibril
 4. C) Sarcomere
 5. D) Motor unit

6. Which protein makes up the thick filaments in muscle?
 7. A) Actin
 8. B) Myosin
 9. C) Troponin

10. D) Tropomyosin

11. The neurotransmitter at the neuromuscular junction is:
 12. A) Epinephrine
 13. B) Dopamine
 14. C) Acetylcholine

15. D) Serotonin

16. Which ion triggers muscle contraction?
 17. A) Sodium
 18. B) Potassium

19. C) Calcium

20. D) Chloride

21. According to the sliding filament theory:

22. A) Filaments shorten during contraction

23. B) Filaments slide past each other

24. C) Sarcomeres lengthen

25. D) Z-lines move apart

26. Slow-twitch muscle fibers are best suited for:

27. A) Short bursts of power

28. B) Endurance activities

29. C) Quick, explosive movements

30. D) Anaerobic activities

31. A motor unit consists of:

32. A) A single muscle fiber

33. B) A motor neuron and all the muscle fibers it innervates

34. C) The neuromuscular junction

35. D) Actin and myosin

Part B: Free Response (3 points)

Answer each question in complete sentences.

1. (1 point) Describe the steps of the sliding filament theory of muscle contraction.

1. (1 point) Explain the role of ATP in muscle contraction and relaxation.

1. (1 point) Compare slow-twitch (Type I) and fast-twitch (Type II) muscle fibers.
