

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.
