

Assigned-10/13/2023. Due by 10/18/2023 in class by 3:35 pm! Homework will not be accepted at the end of class!

-Dr. DeCoster

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Instructions: Short answers may be indicated on this sheet; add additional sheets for longer answers.

1. Each muscle fiber is usually innervated by how many nerve endings?-
2. How is skeletal muscle connected to the bone?
3. Sort the following components in descending order according to size: Actin, muscle fiber, myofilaments, myosin filament, and myofibril.
4. What is the role of calcium in sliding filament theory?
5. What is the role of troponin in the sliding filament theory?
6. What electrical event triggers a neuromuscular synaptic activity at the axon terminal?
7. What is the main neurotransmitter for neuromuscular interaction?
8. During sustained muscle contraction do we use mainly stored ATP or newly generated ATP?
9. In reference to the mechanism for controlling the force of muscle contraction, which two key words are the best choices? a) frequency; b) temperature; c) amplitude; d) threshold; e) heart-rate.
10. In general, is the innervation ratio proportional or inversely proportional to the size of the muscle?

11. Does the diagonal arrangement of the thick and thin filaments in the function of smooth muscle cells in the intestine give more or less control over moving materials through the lumen?
12. What is the purpose of having smooth muscle cells with both acetylcholine and norepinephrine receptor sites?
13. Which type of cancer causes more problems?: benign or malignant?
14. A type of blood cancer that can originate in the bone marrow is:
15. A cancer causing agent is called:
16. True or false?- anti-angiogenic factors may slow the rate of cancer?
17. True or false?- safety and efficacy are tested in Phase I clinical trials?
18. True or false?- a double blind test is less effective than a blind test?
19. Which is the better type of control in biomedical testing?: a) sham group or b) untreated control group?
20. True or false?- inflammation can influence cancer.
21. Immune evasion would be positive or negative feedback for cancer?
22. True or false?: oxidizing compounds can destabilize the genome.
23. Anti-apoptotic genes would be expected to have what effect on cancer?: a) no effect; b) increase it; c) decrease it.
24. Caveoli allow which: a) rapid efflux of Ca^{++} or b) rapid influx of Ca^{++} .
25. When calcium binds to calmodulin, would calcium be considered a 1)primary messenger; 2) second messenger; or 3)tertiary messenger?