Module 06 Quiz: Metabolism

Name: ____ ***Date:*** _____

Part A: Multiple Choice (7 points)

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

1. ATP is best described as:
2. A) A protein
3. B) The energy currency of cells
4. C) A type of lipid
5. D) Genetic material
6. Enzymes work by:
7. A) Increasing activation energy
8. B) Lowering activation energy
9. C) Providing energy for reactions
10. D) Changing the products of a reaction
11. The overall equation for cellular respiration is:
12. A) $CO_2 + H_2O \rightarrow$ Glucose + O_2
13. B) Glucose + $O_2 \rightarrow CO_2 + H_2O$ + ATP
14. C) Glucose $\rightarrow$ Lactic acid + ATP
15. D) ADP + P $\rightarrow$ ATP
16. Glycolysis occurs in the:
17. A) Nucleus
18. B) Mitochondria

19. C) Cytoplasm

20. D) Chloroplast

21. The electron transport chain produces ATP by:

22. A) Substrate-level phosphorylation
23. B) Fermentation
24. C) Chemiosmosis

25. D) Dehydration synthesis

26. When oxygen is NOT available, cells may carry out:

27. A) Aerobic respiration
28. B) Photosynthesis
29. C) Fermentation

30. D) The citric acid cycle

31. Which factor can denature an enzyme?

32. A) Optimal temperature
33. B) Extreme pH
34. C) Optimal pH
35. D) Proper substrate concentration

Part B: Free Response (3 points)

Answer each question in complete sentences.

1. (1 point) Explain the relationship between enzymes and activation energy.

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1. (1 point) Compare the ATP yield of aerobic respiration and fermentation. Why is fermentation less efficient?

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1. (1 point) Describe what happens to muscle cells during intense exercise when oxygen cannot be delivered fast enough.