**CELLULAR RESPIRATION ANSWER KEY**

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40 points total

**MULTIPLE CHOICE - 2pts each**

1. B
2. C
3. A
4. D
5. A
6. D

**TRUE/FALSE – 2pts each**

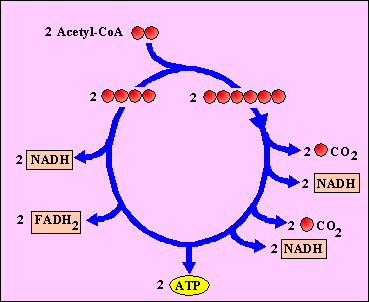
1. T
2. F

**SHORT ANSWER**

1. Use the table to chart the differences between alcoholic and lactic acid fermentation (6pts)

|  |  |  |
| --- | --- | --- |
|  | Alcoholic Fermentation | Lactic Acid Fermentation |
| Reactants | Pyruvic acid + NADH | Pyruvic acid + NADH |
| Products | Alcohol + CO2 + NAD+ | Lactic Acid + NAD+ |
| An organism in which this process takes place | Yeast and various microorganisms | Animals (humans!), unicellular organisms can produce LA as waste |

1. Draw a diagram of the Kreb’s Cycle, labeling the reactants and products. (6pts)



1. Give two differences and two similarities between photosynthesis and cellular respiration. You may use the Venn Diagram below if you wish. (4pts)

Similarities: involve the movement of electrons through a membrane to generate energy, both occur in plants

Differences: the products of cellular respiration are the reactants of photosynthesis and vice versa, PS “deposits” energy while CR “withdraws,” one takes place in mitochondria and the other takes place in chloroplasts, etc.

**ESSAY – 8pts**

1. Identify the three main ATP stores in your muscles and explain “oxygen debt” in the context of a long-distance race such as a marathon. Why would a runner in oxygen debt begin to breathe heavily? *COMPLETE SENTENCES PLEASE!*

* (3pts) Mention 3 stores: ATP in muscles, new ATP made by lactic acid fermentation, ATP made by cellular respiration
* (2pts) Define oxygen debt: mention accumulation of lactic acid in muscles causing soreness.
* (2pts) Explain heavy breathing and the necessity of extra oxygen in the muscles
* (1pt) Structure, grammar, spelling