SAINIK SCHOOL GOPALGANJ
ASSIGNMENTS
BIOLOGY (44)

Chapter 14: Respiration in Plants **Class: XI**

General Instructions

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1. All questions are compulsory.
2. Question1 to 10 is multiple choice questions.
3. Question 11 to 15 is short answer questions.
4. Question 16 to 20 is long answer questions

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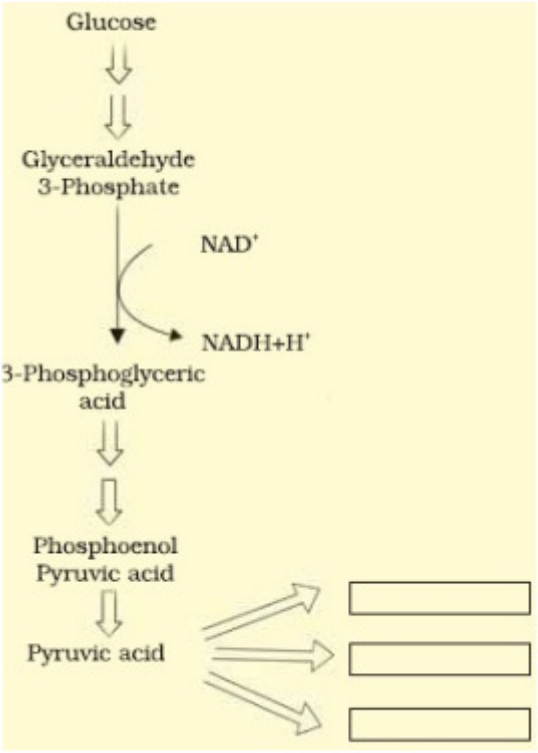
1. Alpha-ketoglutarate dehydrogenase results in
    a. Oxidation and Decarboxylation
    b. Reduction
    c. Oxidation
    d. None of the above
2. _____ is a product of aerobic respiration
    a. Malic acid
    b. Pyruvate
    c. Ethylene
    d. Lactose
3. Energy gained during aerobic respiration is _____ times more than anaerobic respiration.
    a. 8
    b. 12
    c. 19
    d. 32
4. Glycolysis is also known as _____
    a. EMP pathway
    b. TCA pathway
    c. carbon sequestration
    d. None of the above
5. On oxidation of 1 molecule of glucose, _____ ATP is produced through aerobic respiration
    a. 10
    b. 25
    c. 30
    d. 38
6. Protons accumulate on the _____ in mitochondria.
    a. Inner membrane
    b. Intermembrane space
    c. Outer membrane
    d. None of the above
7. Oxidative phosphorylation usually refers to_____
    a. Anaerobic production of ATP

b. Citric acid cycle production of ATP
c. Alcoholic fermentation
d. None of the above

8. The process of cell respiration is carried out by _____
   a. Mitochondria
   b. Chloroplast
   c. Nucleus
   d. None of the above
9. An important product of the Krebs cycle is
   a. Water
   b. Methane
   c. ATP
   d. None of the above
10. Acetyl CoA forms a 6-C compound after combining with
   a. Oxygen
   b. Pyruvic acid
   c. Citric acid
   d. Oxaloacetic acid
11. Aerobic respiration has more efficiency. Justify.
12. The final product of glycolysis is pyruvic acid. Write the three metabolic fates of the pyruvic acid in anaerobic and aerobic conditions as seen in the diagram.



13. State why the respiratory pathway is referred to as an amphibolic pathway.
14. Explain the term “Energy Currency” of the cell?
15. Explain the significance of Oxygen in aerobic respiration in the context of ETS.

16. What are some of the assumptions we make in the respiratory balance sheet? Are these valid enough to be applied to living systems? State comparisons between aerobic respiration and fermentation corresponding to respiration.
17. Explain Glycolysis. State where it occurs and its end products. In both aerobic and anaerobic respiration, determine the fate of these products.
18. Describe TCA cycle with suitable diagram.
19. What do you mean by ETS? Explain with suitable diagram.
20. What is phosphorylation? Describe substrate level and oxidative phosphorylation.