CHAPTER 14: RESPIRATION IN PLANTS

ONE MARK QUESTIONS:

1. What is cellular respiration? (K)
2. Where do cellular respiration takes place?(K)
3. What are respiratory substrates?(K)
4. Name the most common respiratory substrate.(K)
5. Why ATP is called 'energy currency of the cell'?(K)
6. Define glycolysis.(K)
7. Where does glycolysis occur in the cell?(K)
8. Name the key product of glycolysis.(K)
9. Define fermentation.(K)
10. What is alcoholic fermentation?(K)
11. What is lactic acid fermentation?(K)
12. Define aerobic respiration.(K)
13. Mention the site of aerobic respiration in the cell.(K)
14. Why Kreb's cycle is called Tricarboxylic acid cycle? (U)
15. Name the first compound formed during Kreb's cycle.(K)
16. What is substrate level phosphorylation?(K)
17. Which is the first product of the TCA cycle?(K)
18. What is an Electron transport system?(K)
19. Name the location of ETS. (K)
20. Name the final hydrogen acceptor in ETS.(K)
21. What is oxidative phosphorylation?
22. Why respiratory pathway is called amphibolic pathway?(K)
23. What is respiratory quotient?(K)
24. What is the significance of stepwise release of energy in respiration.(K)
25. "Not all cells of the green plants produce their own food". Justify
26. What is respiration?
27. Name the process which partially oxidise glucose without the help of oxygen.(K)
28. What is EMP pathway?(K)
29. What is the function of invertase?(K)
30. Name the enzyme which helps in phosphorylation of glucose and fructose.(K)
31. Kreb's cycle is also called aerobic respiration. Why?(U)
32. What is the process by which organisms can carry out complete oxidation of glucose and extract the energy and stored to synthesize large number of ATP?(K)

TWO MARKS QUESTIONS:

1. Name the respiratory substrates other than glucose.(K)
2. Name the organs used for gaseous exchange in plants.(K)
3. Write the overall chemical equation of cellular respiration.(K)
4. Mention two steps of glycolysis where ATP is utilized.(K)
5. List the two types of fermentation.(K)
6. Differentiate alcoholic fermentation from lactic acid fermentation. (U)
7. Distinguish between fermentation and aerobic respiration.(U)

8. Differentiate glycolysis from Kreb's cycle.(U)
9. Differentiate respiration from combustion.(U)
10. What are respiratory substrates? Name the most common respiratory substrate. (K)
11. List two steps of glycolysis where ATP is synthesised. (K)
12. Write a note on alcoholic fermentation.(U)
13. Write a note on lactic acid fermentation.(U)
14. Mention the crucial events/steps of aerobic respiration. (K)
15. Mention the different components of ETS. (K)
16. What is respiratory quotient? Write RQ value for fats. (K)
17. What is respiratory quotient? Write RQ value for Carbohydrates. (K)
18. Distinguish between herbivores and carnivores.(U)
19. Name the structures of plants which help in gaseous exchange.(K)
20. Write function of F_1 head piece and F_0 factors in ATP synthesis.(K)

THREE MARKS QUESTIONS:

1. Plants can get along without respiratory organs. Substantiate the statement with three valid reasons. (A)
2. Write a note on oxidation decarboxylation of pyruvate in mitochondria. (K)
3. What are the main steps in aerobic respiration? (K)
4. Write a note on fermentation.(U)
5. Write a note on ATP synthase of ETS(U)
6. Draw a diagram to show ATP synthetase in mitochondria.(S)
7. What are the assumptions during the calculation of net gain of ATP? (K)
8. Distinguish between aerobic respiration and anaerobic respiration.(U)
9. Distinguish glycolysis from fermentation.(U)
10. Distinguish glycolysis from citric acid cycle.(U)
11. Distinguish between fermentation and aerobic respiration. (U)
12. Based on need what are the three pathways that decide metabolic fate of pyruvate? (K)
13. Name the three enzymes which catalyse alcoholic fermentation. (K)

FIVE MARKS QUESTIONS:

1. Give the schematic representation of glycolysis. (S)
2. Explain the steps of glycolysis. (S)
3. Give the schematic representation of overall view of Kreb's cycle. (S)
4. Describe ETS.(U)
5. Discuss 'the respiratory pathway is an amphibolic pathway'.(U)
6. Briefly explain the events of Kreb's cycle.(U)
7. Explain the steps where ATP and $NADH+H^+$ synthesis takes place during glycolysis.(U)
8. Give schematic representation of tricarboxylic acid cycle.(S)
9. Write the schematic representation Electron Transport System.(S)