

## Chapter:14 Respiration in Plants

### True and False

Q.No	Question	Answer True/ False	Typology
Q.1	There are sufficient evidences that the first cells on this planet lived in an atmosphere that lacked oxygen.	True	Knowledge
Q.2	Proton gradient is not required for energy production during respiration.	False	Evaluation
Q.3	F <sub>0</sub> of ATP synthetase, forms pump through which protons cross inter membrane space.	False	Evaluation
Q.4	During oxidation of respiratory substrates, all the energy is not released in a single step.	True	Understanding
Q.5	Energy released during respiration is not used for the synthesis of ATP.	False	Understanding
Q.6	Lenticels are present in roots of old trees for respiration	True	Knowledge
Q.7	Breakdown of Glucose or Fructose is known as Glycolysis	True	Knowledge
Q.8	The enzyme Hexokinase is used to phosphorylate glucose to fructose during respiration	False	Understanding
Q.9	Yeast cell poisons itself to death when concentration of alcohol reaches above 13 per cent.	True	Knowledge
Q.10	Pure proteins or fats are never used as substrates for respiration.	True	Understanding
Q.11	Respiration rate in root, stem and leaves are far lower than animals.	True	Application
Q.12	During aerobic respiration, the role of oxygen is limited to terminal stages of respiration.--	True	Knowledge
Q.13	During fermentation, oxidation of NADH to NAD <sup>+</sup> occurs slowly.	True	Evaluation

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### Multiple Choice Questions

Q.No	Question	Answer	Typology
Q.1	Respiratory quotient is equal to one for: a. Proteins b. Fats c. Carbohydrates d. Vitamins	c. Carbohydrates	Understanding
Q.2	The net gain of ATPs during respiration of one molecule of glucose is: a. 38 b. 40 c. 36 d. 2	c. 36	Knowledge
Q.3	Electron Transport System is present in: a. Inner membrane space b. Inner mitochondrial membrane c. Mitochondrial matrix d. Outer mitochondrial membrane	B. Inner mitochondrial membrane	Understanding
Q.4	The final Hydrogen acceptor in Electron Transport System in mitochondria is: a. NADH b. FADH c. Carbon d. Oxygen	D. Oxygen	Knowledge
Q.5	The metabolic fate of pyruvate depends on: a. Cellular needs b. Type of respiratory pathway c. Unicellular or multicellularity of cells d. None of these	A. Cellular needs	Understanding
Q.6	The number of ATPs produced during glycolysis is: a. 2 b. 4 c. 8 d. 6	A. 2	Knowledge
Q.7	The major way for complete oxidation of pyruvic acid is: a. Lactic acid fermentation b. Alcohol fermentation c. Aerobic respiration d. None of these	C. Aerobic respiration	Knowledge

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Q.8	The number of ATPs generated during Oxidation of one molecule of NADH is/are: a. 1 b. 2 c. 3 d. 4	C. 3	Knowledge
Q.9	Tricarboxylic Acid cycle in plant respiration was discovered by: a. Francos Balfour b. Blackman c. Hans' Krebs d. Camiello Golgi	C. Hans' Krebs	Knowledge
Q.10	Respiratory quotient for fats is: a. Equal to one. b. Less than one c. More than one d. Zero	B. Less than one	Knowledge
Q.11	Respiratory pathway are: a. Anabolic b. Catabolic c. Amphibolic d. None of these	C. Amphibolic	Understanding
Q.12	The F <sub>1</sub> headpiece is a peripheral protein complex having sites for: a. Synthesis of NADH. b. Synthesis of ATP. c. Synthesis of CO <sub>2</sub> . d. Synthesis of water.	B. Synthesis of ATP.	Application
Q.13	The crucial events during aerobic respiration is/are: I. Complete oxidation of pyruvate. II. The passing of electrons to oxygen. a. I only b. II only c. I and II both d. None of these	C. I and II Both	Understanding

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### Fill in the Blanks

Q.No	Question	Answer	Typology
Q.1	The process of glycolysis is also known as _____ pathway.	EMP	Knowledge
Q.2	Plants have stomata and _____ present in old stem for exchange of gases.	Lenticels	Understanding
Q.3	When carbohydrates are used as respiratory substrate, RQ is _____.	One	Understanding
Q.4	The compounds which are oxidized to release energy are called as _____.	Respiratory substrates	Knowledge
Q.5	The pathway common to both aerobic and anaerobic respiration is _____.	Glycolysis	Understanding
Q.6	Glycolysis occurs in the _____.	cytoplasm	Knowledge
Q.7	Glycolysis is partial oxidation of glucose or fructose, into _____.	Pyruvic acid	Understanding
Q.8	Fatty acids are first converted into _____ to enter the respiratory pathway.	Acetyl CoA	Knowledge
Q.9	In both lactic acid and alcoholic fermentation, the net gain of ATPs is _____.	two	Knowledge
Q.10	During anaerobic respiration lactic acid is formed from pyruvic acid by the enzyme _____.	Lactate dehydrogenase	Knowledge

### Match the Following

Q.No	Question		Answer		Typology
Q.1	Column A a. net gain in aerobic respiration b. net gain in glycolysis	Column B i) 36 ATPs ii) 8 ATPs iii) 2 ATPs iv) 38 ATPs	Column A a. b.	Column B i. iii.	Understanding

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Q.1	Column A a. Entry of fats in respiratory pathway b. Entry of proteins in respiratory pathway	Column B i) through Acetyl CoA ii) through pyruvate iii) through fructose iv) through phosphoglyceric acid	Column A a. b.	Column B i) ii)	Understanding
Q.3	Column A a. Electron transport system b. Synthesis of ATP in ETS	Column B i) inner mitochondrial membrane ii) inner mitochondrial space iii)Complex V iv)Complex II	Column A a. b.	Column B i. iii.	Knowledge
Q.4	Column A a. Oxidation of NADH b. Oxidation of FADH <sub>2</sub>	Column B i) 3 ATP ii) 4 ATP iii) 2 ATP iv) 1 ATP	Column A a. b.	Column B i. iii.	Knowledge
Q.5	Column A a. anaerobic oxidation of glucose b. Energy currency	Column B i) partial ii) complete iii) NADH iv) ATP	Column A a. b.	Column B i) iv)	Understanding
Q.6	Column A a. site of fermentation b. site of aerobic respiration	Column B i) chloroplast ii) cytoplasm iii) Protoplasm iv) mitochondria	Column A a. b.	Column B ii) iv)	knowledge
Q.7	Column A a. RQ for carbohydrates b. RQ for Fats	Column B i) Equal to one ii) Less than one iii) less than one iv) more than one	Column A a. b.	Column B i. iii.	Knowledge
Q.8	Column A a. Kinase enzyme b. dehydrogenase	Column B i) carboxylation ii) oxidation reduction iii) condensation iv) Phosphorylation	Column A a. b.	Column B iv. ii.	understanding
Q.9	Column A a. 1 FADH <sub>2</sub> b. 1 GTP	Column B i) 1 ATP ii) 2 ATPs iii) 3 ATPs iv) 4 ATPs	Column A a. b.	Column B ii. i.	understanding