

Chapter – 12 | Respiration in Plants**QUIZ
PART-06**

1. Net ATP yield from one glucose molecule in aerobic respiration is —

- A. 2 ATP
- B. 8 ATP
- C. 36/38 ATP
- D. 100 ATP (C)

Explanation : Theoretical net gain is 36 ATP in most eukaryotes and 38 ATP in prokaryotes.

2. In the respiratory balance chart, glycolysis produces net —

- A. 2 ATP and 2 NADH
- B. 6 ATP and 2 FADH₂
- C. 24 ATP only
- D. 38 ATP directly (A)

Explanation : Glycolysis uses 2 ATP, produces 4 ATP and 2 NADH, giving net 2 ATP.

3. Pyruvate oxidation produces —

- A. 2 NADH
- B. 2 FADH₂
- C. 6 NADH
- D. 4 ATP directly (A)

Explanation : Two pyruvate molecules form two acetyl Co-A and 2 NADH.

4. Krebs cycle per glucose gives —

- A. 6 NADH, 2 FADH₂ and 2 ATP
- B. 2 NADH only
- C. 4 ATP only
- D. 2 ATP and no reduced coenzymes (A)

Explanation : The chart shows these products from Krebs cycle per glucose.

5. Only how much energy is stored and used in cellular respiration?

- A. 5–10%
- B. 40–45%
- C. 70–90%
- D. 100% (B)

Explanation : Only 40–45% energy is stored; rest is lost as heat.

6. Fermentation differs from aerobic respiration because fermentation gives —

- A. Only 2 ATP
- B. 36/38 ATP
- C. 10 NADH
- D. Complete glucose breakdown (A)

Explanation : Fermentation gives ATP only from glycolysis.

7. If fat is respiratory substrate, it first breaks into —

- A. Glycerol and fatty acids
- B. Glucose and fructose
- C. Amino acids and urea
- D. CO₂ and water (A)

Explanation : Fats are hydrolysed into glycerol and fatty acids before entering respiration.

8. Fatty acids enter respiration after conversion into —

- A. Acetyl Co-A
- B. Glucose-6-phosphate
- C. Lactic acid
- D. Ethanol (A)

Explanation : Fatty acids are converted into acetyl Co-A and then enter Krebs cycle.

9. Protein substrates first break down into —

- A. Amino acids
- B. Fatty acids
- C. Alcohol
- D. Starch (A)

Explanation : Proteases break proteins into amino acids, which enter respiration after deamination.

10. Respiratory pathway is called amphibolic because it is involved in —

- A. Both anabolism and catabolism
- B. Only photosynthesis
- C. Only water transport
- D. Only fermentation (A)

Explanation : Respiratory intermediates are used for breakdown as well as synthesis of other molecules.