

## Chapter – 12 | Respiration in Plants

QUIZ  
PART-05

1. Energy from NADH and  $\text{FADH}_2$  is released through —

- A. Electron transport system
- B. Glycolysis only
- C. Fermentation only
- D. Photosynthesis only (A)

**Explanation :** NADH and  $\text{FADH}_2$  are oxidized in ETS to release energy for ATP synthesis.

2. ETS occurs on the —

- A. Inner mitochondrial membrane
- B. Outer chloroplast membrane
- C. Cell wall
- D. Nucleus (A)

**Explanation :** Electron carriers and ATP synthase are located on inner mitochondrial membrane.

3. Removal of electrons from a compound is called —

- A. Oxidation
- B. Reduction
- C. Fermentation
- D. Hydration (A)

**Explanation :** Oxidation means loss or removal of electrons.

4. Addition of electrons to a compound is called —

- A. Reduction
- B. Oxidation
- C. Decarboxylation
- D. Phosphorylation (A)

**Explanation :** Reduction means gain or addition of electrons.

5. Complex-I of ETS is —

- A. NADH dehydrogenase
- B. Cytochrome c oxidase
- C. ATP synthase
- D. Alcohol dehydrogenase (A)

**Explanation :** NADH is oxidized by NADH dehydrogenase, also called Complex-I.

6.  $\text{FADH}_2$  donates electrons through —

- A. Complex-II
- B. Complex-I
- C. Complex-V
- D. Complex-IV only (A)

**Explanation :** Succinate dehydrogenase, Complex-II, transfers electrons from  $\text{FADH}_2$  to ubiquinone.

7. Cytochrome c transfers electrons from —

- A. Complex-III to Complex-IV
- B. Complex-I to Complex-II
- C. Complex-V to Complex-I
- D. ATP to ADP (A)

**Explanation :** Cytochrome c is a mobile carrier between Complex-III and Complex-IV.

8. Final hydrogen acceptor in ETS is —

- A. Oxygen
- B. Carbon dioxide
- C. Glucose
- D. Pyruvic acid (A)

**Explanation :** Oxygen accepts hydrogen/electrons and forms water.

9. Complex-V is made up of —

- A.  $\text{F}_0$  and  $\text{F}_1$  particles
- B. NAD and FAD only
- C. Cytochrome a and  $\text{a}_3$  only
- D. Ubiquinone and oxygen (A)

**Explanation :** Complex-V or ATP synthase contains  $\text{F}_0$  channel and  $\text{F}_1$  catalytic part.

10. Oxidation of one  $\text{NADH} + \text{H}^+$  produces —

- A. 1 ATP
- B. 2 ATP
- C. 3 ATP
- D. 4 ATP (C)

**Explanation :** According to the PPT, oxidation of each NADH forms 3 ATP molecules.