

Chapter – 11 | Photosynthesis in Higher Plants

QUIZ
PART-01

1. Green plants are called autotrophs because they —

- A. Depend on animals for food
- B. Prepare their own food by photosynthesis
- C. Absorb ready-made food from soil
- D. Do not need energy (B)

Explanation : Green plants convert sunlight into chemical energy and prepare carbohydrates.

2. Photosynthesis mainly converts —

- A. Heat energy into sound energy
- B. Chemical energy into light energy
- C. Light energy into chemical energy
- D. Mechanical energy into heat energy (C)

Explanation : Photosynthesis stores solar energy in the form of carbohydrates.

3. The by-product released during photosynthesis is —

- A. Nitrogen
- B. Oxygen
- C. Hydrogen
- D. Carbon monoxide (B)

Explanation : In photosynthesis, glucose is the main product and oxygen is released as a by-product.

4. In Moll's half-leaf experiment, KOH is used to absorb —

- A. Oxygen
- B. Water vapour
- C. Carbon dioxide
- D. Chlorophyll (C)

Explanation : KOH absorbs CO_2 , so the covered leaf part cannot make starch.

5. Moll's half-leaf experiment proves that —

- A. CO_2 is necessary for photosynthesis
- B. Oxygen is necessary for respiration only
- C. Water is not needed by plants
- D. Chlorophyll is absent in leaves (A)

Explanation : The part without CO_2 did not produce starch, showing CO_2 is essential.

6. Joseph Priestley's experiment showed that plants —

- A. Destroy oxygen completely
- B. Purify air spoiled by burning candles and animals
- C. Absorb only nitrogen
- D. Produce starch without light (B)

Explanation : Priestley showed that plants restore the air used by candles and animals.

7. Jan Ingenhousz proved that oxygen is released by plants —

- A. Only in darkness
- B. Only in the presence of light
- C. Only by roots
- D. Only by non-green parts (B)

Explanation : He showed that green plants release oxygen in sunlight.

8. Julius von Sachs concluded that glucose produced in green parts is usually stored as —

- A. Protein
- B. Fat
- C. Starch
- D. Cellulose only (C)

Explanation : Sachs showed that glucose is produced in green parts and stored as starch.

9. T. W. Engelmann's experiment showed maximum photosynthesis in —

- A. Green and yellow light
- B. Red and blue light
- C. Orange and green light
- D. Violet and yellow light only (B)

Explanation : Aerobic bacteria gathered mainly in red and blue regions, indicating maximum oxygen release.

10. Van Niel proved that oxygen released in photosynthesis comes from —

- A. CO_2
- B. Chlorophyll
- C. H_2O
- D. Starch (C)

Explanation : Van Niel showed that oxygen released by green plants comes from water, not carbon dioxide.