

Chapter – 11 | Photosynthesis in Higher Plants

QUIZ
PART-02

1. Photosynthesis mainly occurs in the —

- A. Green parts of plants
- B. Dead bark only
- C. Roots only
- D. Flowers only (A)

Explanation : Green parts contain chlorophyll, which captures light energy.

2. Chlorophyll is present inside —

- A. Mitochondria
- B. Chloroplasts
- C. Nucleus
- D. Ribosomes (B)

Explanation : Chloroplasts contain chlorophyll pigment required for photosynthesis.

3. Chloroplasts are abundant in the leaf's —

- A. Xylem vessels
- B. Mesophyll cells
- C. Epidermal cuticle
- D. Phloem fibres (B)

Explanation : Mesophyll cells contain many chloroplasts for photosynthesis.

4. Light reactions occur mainly in the —

- A. Stroma only
- B. Membrane system of chloroplast
- C. Cell wall
- D. Vacuole (B)

Explanation : Light reactions occur in the chloroplast membrane system and produce ATP and NADPH.

5. Dark reactions occur in the —

- A. Stroma
- B. Grana only
- C. Cell wall
- D. Nucleus (A)

Explanation : Enzymatic carbon-fixation reactions occur in the stroma.

6. Paper chromatography of leaf pigments shows mainly how many pigments?

- A. Two
- B. Three
- C. Four
- D. Six (C)

Explanation : Chlorophyll-a, chlorophyll-b, xanthophyll and carotenoids are separated.

7. The chief pigment of photosynthesis is —

- A. Chlorophyll-a
- B. Chlorophyll-b
- C. Xanthophyll
- D. Carotenoid (A)

Explanation : Chlorophyll-a is the main light-absorbing pigment and reaction centre pigment.

8. Which of the following is an accessory pigment?

- A. Chlorophyll-b
- B. Xanthophyll
- C. Carotene
- D. All of the above (D)

Explanation : These pigments absorb light and transfer energy to chlorophyll-a.

9. Visible light range is approximately —

- A. 100–300 nm
- B. 380/400–700/750 nm
- C. 800–1200 nm
- D. 10–50 nm (B)

Explanation : Visible light lies roughly between violet and red wavelengths.

10. Leaves appear green because they absorb least amount of —

- A. Red light
- B. Blue light
- C. Green light
- D. Violet light (C)

Explanation : Green light is mostly reflected, so leaves appear green.