

Chapter – 11 | Photosynthesis in Higher Plants

QUIZ
PART-03

1. Light reaction includes —

- A. Light absorption, water splitting, oxygen release, ATP and NADPH formation
- B. Only glucose breakdown
- C. Only starch storage
- D. Only CO₂ release (A)

Explanation : These are the major events of the photochemical phase.

2. LHC stands for —

- A. Light Harvesting Complex
- B. Leaf Hydrogen Cycle
- C. Light Hormone Centre
- D. Low Heat Carbon (A)

Explanation : LHC contains pigment molecules bound to proteins.

3. The pigment groups that transfer light energy to the reaction centre are called —

- A. Antennae
- B. Grana
- C. Stroma
- D. Kranz cells (A)

Explanation : Antennae pigments capture light and pass energy to chlorophyll-a.

4. The reaction centre of Photosystem-I is —

- A. P680
- B. P700
- C. RuBP
- D. OAA (B)

Explanation : PS-I has chlorophyll-a with absorption peak at 700 nm.

5. The reaction centre of Photosystem-II is —

- A. P680
- B. P700
- C. PGA
- D. PEP (A)

Explanation : PS-II has chlorophyll-a with absorption peak at 680 nm.

6. Cyclic photophosphorylation involves —

- A. Only PS-I
- B. Only PS-II
- C. Both PS-I and PS-II always
- D. No photosystem (A)

Explanation : In cyclic flow, electrons return to PS-I and only ATP is produced.

7. Non-cyclic photophosphorylation produces —

- A. Only ATP
- B. Only oxygen
- C. ATP, NADPH and O₂
- D. Only glucose (C)

Explanation : Non-cyclic flow uses both photosystems and involves photolysis of water.

8. Photolysis of water is associated with —

- A. PS-I
- B. PS-II
- C. Calvin cycle
- D. Photorespiration only (B)

Explanation : Water splitting replaces electrons lost from PS-II.

9. The electron transport pathway in non-cyclic photophosphorylation is called —

- A. C2 cycle
- B. Z scheme
- C. Hatch-Slack cycle
- D. Krebs cycle (B)

Explanation : The electron movement pattern is Z-shaped.

10. Photophosphorylation means synthesis of ATP from ADP and Pi in the presence of —

- A. Light
- B. Darkness only
- C. Oxygen only
- D. Nitrogen only (A)

Explanation : ATP synthesis during light reaction is called photophosphorylation.