

1. Synthesis of complex organic substances from simple inorganic raw materials in the presence of sunlight and chlorophyll is called as _____ which is a _____ process.

- (A) photosynthesis, anabolic
- (B) photosynthesis, catabolic
- (C) respiration, anabolic
- (D) respiration, catabolic

2. Accessory photosynthetic pigments in most green plants are

(A) chlorophyll a

(B) chlorophyll b

(C) carotenoids and xanthophylls

(D) both (B) and (C)

3. If green plant cells are incubated with O^{18} -labelled CO_2 , which of the following molecules will become radioactive when the cells are exposed to light?

- (A) ATP
- (B) Water
- (C) Sugar
- (D) O_2

4. _____ is the process of synthesis of ATP from ADP and P_i in the presence of light.

(A) Phosphorylation

(B) Photophosphorylation

(C) Photosystem

(D) Oxidative phosphorylation

5. Photochemical phase does not include

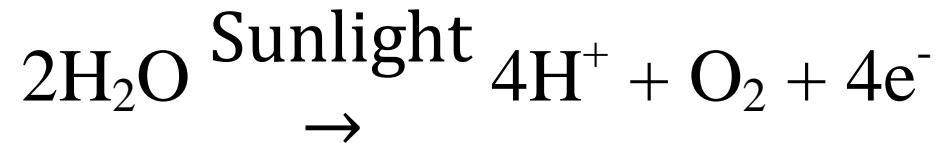
(A) light absorption

(B) water splitting and O₂ release

(C) ATP and NADPH formation

(D) CO₂ fixation

6. Refer the given reaction.



Where does this reaction take place in the chloroplasts of plants?

- (A) Outer surface of thylakoid membrane
- (B) Inner surface of thylakoid membrane
- (C) In the matrix (stroma)
- (D) Inter membrane space

Direction: Refer the given diagrammatic representation of an electron micrograph of a section of chloroplast to answer

7. The option which correctly depicts the functions of parts X, Y and Z.

	X	Y	Z
(1)	Dark reaction	Light reaction	Cytoplasmic inheritance
(2)	Light reaction	Carbohydrate Synthesis	Carbohydrate storage
(3)	Light reaction	Carbohydrate Storage	Carbohydrate synthesis
(4)	Carbohydrate synthesis	Carbohydrate storage	Cytoplasmic inheritance

8. In C_4 plants, Calvin cycle enzymes are present in
- (A) chloroplasts of mesophyll cell
 - (B) chloroplasts of bundle sheath cells
 - (C) cytoplasm of guard cells
 - (D) cytoplasm of epidermal cells

9. Select the incorrect pair

(A) 2-carbon compound – Aspartic acid

(B) 3-carbon compound – PGA

(C) 4-carbon compound – Malic acid

(D) 5-carbon compound - RuBP

10. Identify the correct sequence of stages of Calvin cycle.

(A) Reduction → Carboxylation → Regeneration

(B) Carboxylation → Regeneration → Reduction

(B) Carboxylation → Reduction → Regeneration

(D) Reduction → Regeneration → Carboxylation

(11) Kranz anatomy is not exhibited by which of the following plants?

(A)Maize

(B)Sorghum

(C)Sugarcane

(D)Sunflower

- (12) How many ATP and NADPH molecules are respectively required to make one molecule of glucose through Calvin cycle?
- (A) 3 and 2
 - (B) 9 and 6
 - (C) 18 and 12
 - (D) 12 and 18

(13) How many ATP and NADPH₂ are respectively produced in the process of photorespiration?

(A) 2 and 4

(B) 1 and 2

(C) 4 and 6

(D) 0 and 0

(14) During light reaction in photosynthesis the following are formed

(A) ATP and sugar

(B) hydrogen, O₂ and sugar

(C) ATP, hydrogen donor and O₂

(D) ATP, hydrogen and O₂ donor

15. Which of the three organelles are involved in photorespiration

(A) Chloroplast, Mitochondrion, Lysosome

(B) Chloroplast, peroxisome, mitochondrion

(C) chloroplast, glyoxisome, mitochondrion

(D) chloroplast, mitochondrion, nucleus
