



9. **Accessory photosynthetic pigments in angiosperms are** ( )
1. Xanthophylls & Carotenoids
  2. Chlorophyll 'b' and Xanthophylls
  3. Chlorophyll 'b', Xanthophylls & Carotenoids
  4. Chlorophyll 'b' and Carotenoids.
10. **False statement regarding photosynthesis** ( )
- I. It shows two different reactions- light and dark
  - II. Thylakoid membranes and stroma are required for photosynthesis
  - III. Only chlorophyll 'a' traps light energy
  - IV. Dark reactions depend on O<sub>2</sub>, ATP and NADPH<sub>2</sub>.
1. Night
  2. II & III
  3. III & IV
  4. IV & I
11. **Light reactions include** ( )
- A. Light absorption
  - B. Water splitting
  - C. Oxygen release
  - D. Phosphorylation
  - E. NADPH<sub>2</sub> formation
  - F. CO<sub>2</sub> reduction
1. A, B, C
  2. B, C, D, E
  3. A, C, D, E, F
  4. A, B, C, D, E
12. **Antennae of photo systems consisting of** ( )
1. Chlorophyll 'a', 'b', Xanthophylls & Carotenoids
  2. Chlorophyll 'b', Xanthophylls & Carotenoids
  3. Chlorophyll 'a', Xanthophylls & Carotenoids
  4. Xanthophylls & Carotenoids
13. **Photo system II absorbs light energy at** ( )
1. 680 nm
  2. 440 nm
  3. 550 nm
  4. 700 nm
14. **PS I and PS II are excited by light energy at** ( )
1. Red and red
  2. Blue and red
  3. Red and blue
  4. Blue and blue
15. **'Z' scheme is** ( )
1. Movement of electrons from PS I to PS II
  2. Movement of electrons from PS II to PS I
  3. Movement of electrons from PS II to pheophytin to PS I to NADP
  4. Movement of electrons from PS I to NADP to cytochrome b-f to PS II
16. **Location of PS II in the membranes** ( )
1. Towards stroma side
  2. Throughout the membrane
  3. In the stroma lamella
  4. In the grana towards lumen side

17. If thylakoid membranes are exposed to light wave lengths beyond 680 nm, the product formed is ( )  
 1. O<sub>2</sub>, ATP & NADPH<sub>2</sub>    2. ATP & NADPH<sub>2</sub>    3. Only O<sub>2</sub>    4. Only ATP
18. During light reactions the first substance that get excited by PS II is ( )  
 1. Quinone    2. Cytochrome  
 3. Pheophytin    4. Plastocyanin
19. True statement regarding light reactions is/ are ( )  
 I. Ultimate acceptor protons is ATP  
 II. Electron transports in the membrane  
 III. Protons translocate across the membrane  
 IV. Electron movement towards PS I is uphill  
 1. I & II    2. II & III    3. III & IV    4. IV & I
20. Assertion (A): Cyclic electron transport takes place in stroma lamellae ( )  
 Reason(R): PS II and NADP reductase is absent in stroma lamellae  
 1) Both A and R are correct and R is the correct explanation of A.  
 2) Both A and R are correct but R is not the correct explanation of A.  
 3) A is true, R is false  
 4) A is false, R is true.
21. During sun light ( )  
 1. Acidity increases in the lumen  
 2. Stroma gains protons  
 3. NADPH<sub>2</sub> forms towards lumen side  
 4. PQ accepts electrons from Quinone and protons from lumen
22. Primary criteria for chemiosmotic hypothesis of ATP formation is ( )  
 1. ADP    2. NADP    3. Proton gradient    4. O<sub>2</sub> release
23. False statement regarding cyclic electron transport is ( )  
 1. NADPH<sub>2</sub> is produced    2. Source of electrons is water  
 3. Proton gradient would not develop    4. All the above
24. First stable substance formed in C<sub>3</sub> plants is ( )  
 1. Glyceraldehyde 3 phosphate    2) 3-phosphoglyceric acid  
 3. Dihydroxyacetone phosphate    4. Ribulose bisphosphate

25. Calvin's pathway of  $\text{CO}_2$  fixation takes place in ( )  
 1.  $\text{C}_3$  plants            2.  $\text{C}_4$  plants            3.  $\text{C}_3$  &  $\text{C}_4$  plants    4.  $\text{C}_3$ ,  $\text{C}_4$  and CAM plants
26. Net gain of triose phosphates in the cytosol when 3 turns of cycles of Calvin takes is ( )  
 1. Two                      2. One                      3. Six                      4. Twelve
27. 4carbon compound formed during  $\text{CO}_2$  fixation in stroma is ( )  
 1. Erythrose            2. Sedoheptulose            3. Ribose            4. Fructose
28. For the reduction of single  $\text{CO}_2$  molecule, the assimilatory power required is ( )  
 1. 2ATP & 2NADPH<sub>2</sub>    2. 3ATP & 1 NADPH<sub>2</sub>  
 3. 3ATP & 2NADPH<sub>2</sub>    4. . 3ATP & 3NADPH<sub>2</sub>
29. For the formation of one molecule of Fructose-1-6 biphosphate in stroma requires ( )  
 1) 2 $\text{CO}_2$ , 4ATP, 4NADPH<sub>2</sub>.                      2) 6 $\text{CO}_2$ , 18ATP, 12NADPH<sub>2</sub>.  
 3) 2 $\text{CO}_2$ , 6ATP, 4NADPH<sub>2</sub>.                      4) 3 $\text{CO}_2$ , 9ATP, 6NADPH<sub>2</sub>.
30. Anatomical differentiation of  $\text{C}_4$  plants from  $\text{C}_3$  plants is ( )  
 1. Mesophyll            2. Plastids  
 3. Bundle sheath            4. Vascular bundles
31. The primary  $\text{CO}_2$  acceptor in  $\text{C}_4$  plants is ( )  
 1. Ribulose biphosphate            2. PEP carboxylase  
 3. Malic acid            4. Phospho enol pyruvic acid
32. The first stable substance formed during Hatch-Slack pathway is ( )  
 1. Oxalo acetic acid    2. Aspartic acid            3. Malic acid            4. Pyruvic acid
33. Starch formation takes place in the plants in ( )  
 1. Green mesophyll cells of  $\text{C}_3$  plants    2. Green bundle sheath cells of  $\text{C}_4$  plants  
 3. Every green cell of CAM plants    4. All the above
34.  $\text{CO}_2$  is supplied to the starch synthesizing equipment of CAM plants by ( )  
 1. Atmosphere            2. Malic acid            3. Pyruvic acid            4. OAA
35. True statement regarding  $\text{C}_4$  plants is ( )  
 I.  $\text{CO}_2$  fixation takes place in both mesophyll and bundle sheath cells.  
 II. Light assimilatory power is produced in both mesophyll and bundle sheath cells.  
 III. Starch formation takes place in both mesophyll and bundle sheath cells.  
 IV. 3 Carbon compounds are seen both mesophyll and bundle sheath cells.  
 1. I & II                      2. II & III                      3. I, II & IV                      4. I, II, III & IV

