

Class : XIth
Date :

Subject : BIOLOGY
DPP No. : 5

Topic :- Photosynthesis in Higher Plants

1. Light reaction or photochemical phase includes
- light absorption
 - water splitting
 - oxygen release
 - ATP and NADP formation
- Select the correct option
- a) I, II and IV b) I, II and III c) I, III and IV d) I, II, III and IV

2. Identify A, B and C shown in a table representing the Calvin cycle

In	Out
A CO ₂	One glucose
B ATP	ADP
C NADPH	NADP

Choose the correct option

- a) A-5 CO₂, B-18, C-12 b) A-6 CO₂, B-12, C-18 c) A-4 CO₂, B-12, C-18 d) A-6 CO₂, B-18, C-12
3. Rate of photosynthesis is low in herbs, shrubs as compared to sun plants because
- Herb, shrubs receive mere red light
 - Herb, shrubs receive mere blue light
 - Herb, shrubs receive mere more green light
 - Herb, shrubs receive more white light
4. PEPcase has an advantage over RuBisCo. The advantage is
- RuBisCo combines with O₂ but PEPcase do not
 - RuBisCo combines with NO₂ but PEPcase do not
 - RuBisCo conserve energy but PEPcase do not
 - PEPcase is present in both mesophyll cells and bundle sheath cells but RuBisCo is not
5. Activator of ribulose biphosphate carboxylase oxygenase is
- a) Mg²⁺ b) Zn²⁺ c) Ca²⁺ d) SO₄²⁻
6. Photolysis of water during photosynthesis occurs with the help of
- a) PS-II b) PS-I c) Ferredoxin d) Cytochrome

7. $\text{RuBP} + \text{O}_2 \xrightarrow{x} \text{PGA} + \text{Phosphoglycolate}$.
Identify x in the given equation and choose the correct option
a) RuBP carboxylase b) RuBP oxygenase c) RuBisCo d) PEP-carboxylase
8. Which one of the following is wrong in relation to photorespiration?
a) It is a characteristic of C_4 -plants
b) It is a characteristics of C_3 -plants
c) It is occurs in chloroplasts
d) It occurs in day-time only
9. Flow of electrons in non-cyclic photo phosphorylation is
a) Unidirectional (from PS-I to PS-II) b) Amphidirectional
c) Bidirectional d) Unidirectional (from PS-II to PS-I)
10. Priestley discovered oxygen in
a) 1770 b) 1774 c) 1778 d) 1782
11. Which of the following is wrongly matched?
a) Sorghum – Kranz anatomy b) PEP carboxylase – Mesophyll cells
c) Blackman – Law of limiting factors d) Photosystem-II – P_{700}
12. Transport of C_4 acid from mesophyll cells to the bundle sheath cell takes place through
a) Cell membrane b) Cell wall c) Plasmodesmata d) Osmosis
13. Maximum amount of photosynthesis occurs in
a) Light compensation point b) O_2 compensation point
c) Saturation point d) Desaturation point
14. Sunken stomata are usually found in
a) C_3 plants b) CAM plants c) Insectivorous plants d) Phanerogams
15. I. In C_3 -plant, Calvin pathway takes place in mesophyll cell
II. In C_4 -plant, Calvin pathway takes place in the mesophyll cell
Which of the following statements true?
Choose the correct option
a) Statement I is incorrect, II is correct b) Statement II is incorrect, I is correct
c) Both incorrect d) Both correct
16. C_3 -plant show optimum photosynthesis at
a) High O_2 b) High CO_2
c) Low O_2 d) High temperature = 45°C

17. During C₄-cycle, the acid formed are
I. Picric acid II. OAA
III. Malic acid IV. Aspartic acid
Select the correct option
a) I, II, III and IV b) II, III and IV c) I, IV and II d) I, III and IV
18. Consider the following statements regarding photosynthesis.
I. ATP formation during photosynthesis is termed as photophosphorylation.
II. Kranz anatomy pertains to leaf.
III. Reduction of NADP⁺ to NADPH occurs during Calvin cycle.
IV. In a chlorophyll molecule, magnesium is present in phytol tail.
a) I and II correct b) III and IV are correct
c) I and III are correct d) I and IV correct
19. Presence of bundle sheath is a characteristic of
a) Xerophytic plants b) Members of grass family
c) C₄-plants d) C₃-plants
20. Oxygenic photosynthesis occurs in
a) *Chromatium* b) *Oscillatoria* c) *Rhodospirillum* d) *Chlorobium*

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