

Time : 1 hour 15 Minute

STD 11 Science Biology
Chapter Based Test

Total Marks : 40

SECTION A

* Choose The Right Answer From The Given Options.[1 Marks Each] [5]

- The process where by water moves through the plants is known as:
(A) Transpiration. (B) Translocation.
(C) Guttation. (D) Osmosis.
- Which of the following happens during light reaction?
(A) Formation of ATP and NADPH.
(B) Trapping of light energy.
(C) Carbon fixation.
(D) Formation of PGA.
- Photorespiration is favoured by.
(A) Low light and high O₂
(B) Low temperature and high O₂
(C) None of these.
(D) High O₂ and low CO₂
- The transport of substances from a region of its lower concentration to its higher concentration is called:
(A) Osmosis. (B) Imbibition.
(C) Active transport. (D) Passive transport.
- The osmotic pressure of pure water is:
(A) 0 (B) 1 (C) 10 (D) 100

* Answer The Following Questions In One Sentence.[1 Marks Each] [6]

- Which of the following procedures does not take place in a C₃ plant?
 - Calvin cycle.
 - Carbon fixation.
 - Electron transport.
 - Photorespiration.
- The Clavin cycle takes place in which cells of C₄ plants?
- Name the pigment which is primarily involved in photosynthesis.
- Oxygen evolved during photosynthesis comes from H₂O or CO₂?
- ATPase enzyme consists of two parts. What are those parts? How are they arranged in the thylakoid membrane? Conformational change occurs in which part of the enzyme?
- What is the basis for designating C₃ and C₄ pathways of photosynthesis?

SECTION B

* Given Section consists of questions of 2 marks each.

[10]

1. Two groups (A and B) of bean plants of similar size and same leaf area were placed in identical conditions. Group A was exposed to light of wavelength 400-450 nm and Group B to light of wavelength of 500-550 nm. Compare the photosynthetic rate of the two groups giving reason.
2. Mention two conditions under which photorespiration may occur in green plants.
3. Cyanobacteria and some other photosynthetic bacteria do not have chloroplasts. How do they conduct photosynthesis?
4. Why are the reaction centres of photosystems named as P₇₀₀ and P₆₈₀ respectively?
5. Mention the four basic requirements for chemiosmosis to occur.

SECTION C

* Given Section consists of questions of 3 marks each.

[9]

1. Why does the rate of photosynthesis decrease at higher temperatures?
2. In what kind of plants do you come across Kranz anatomy? To which conditions are those plants better adapted? How are these plants better adapted than the plants, which lack this anatomy?
3. Photosynthetic organisms occur at different depths in the ocean. Do they receive qualitatively and quantitatively the same light? How do they adapt to carry out photosynthesis under these conditions?

SECTION E

* Given Section consists of questions of 5 marks each.

[10]

1. Why is the colour of a leaf kept in the dark frequently yellow, or pale green? Which pigment do you think is more stable?
2. Figure shows the effect of light on the rate of photosynthesis. Based on the graph, answer the following questions:
 - a. At which point/s (A, B or C) in the curve is light a limiting factor?
 - b. What could be the limiting factor/s in region A?
 - c. What do C and D represent on the curve?

