



Chapter 12: PHOTOSYNTHESIS

BIOLOGY

ELITE IIT 1

1. With reference to factors affecting the rate of photosynthesis, which of the following statements is incorrect? (NEET 2017)

- A. Light saturation for CO_2 fixation occurs at 10% of full sunlight
- B. Tomato is a greenhouse crop which can be grown in CO_2 – enriched atmosphere for higher yield
- C. C_3 plants respond to higher temperature with enhanced photosynthesis while C_4 plants have much lower temperature optimum
- D. Increasing atmospheric CO_2 concentration up to 0.05% can enhance CO_2 fixation rate

2. Water vapor comes out from plant leaf through the stomatal opening. Through the same stomatal opening, carbon dioxide diffuses into the plant during photosynthesis. Reason out the above statements using one of the following options.

(NEET – I 2016)

- A. Both processes can happen together because the diffusion coefficient of water and CO_2 is different
- B. Both processes cannot happen simultaneously
- C. One process occurs during day time and the other at night
- D. The above processes happen only during night time

3. The process making major difference between C_3 and C_4 plants is (NEET – II 2016)

- A. Respiration
- B. Calvin cycle
- C. Photorespiration
- D. Glycolysis

4. Emerson's enhancement effect and Red drop have been instrumental in the discovery of

(NEET – I 2016)

- A. two photosystems operating simultaneously
- B. oxidative phosphorylation
- C. photophosphorylation and cyclic electron transport
- D. photophosphorylation and non-cyclic electron transport

5. Light-independent reactions in photosynthesis takes place at (2015)

- A. thylakoid lumen
- B. photosystem II
- C. photosystem I
- D. stromal matrix

6. Read the following statements: (Mains 2012)

I. Symbiotic nitrogen fixers occur in free-living state also in soil

II. Stamens in flowers of *Gloriosa* and *Petunia* are polyandrous

III. In dicot stems, a new cambium originates from cells of pericycle at the time of secondary growth

IV. Both photophosphorylation and oxidative phosphorylation involve uphill transport of protons across the membrane

How many of the above statements are true?

- A. One
- B. Two
- C. Three
- D. Four

7. In Kranz anatomy, the bundle sheath cells have (Mains 2011)

- A. Thick walls, many intercellular spaces and few chloroplasts
- B. Thin walls, no intercellular spaces, and several chloroplasts
- C. Thin walls, many intercellular spaces, and no chloroplasts
- D. Thick walls, no intercellular spaces and large number of chloroplasts

8. PGA as the first CO_2 fixation product was discovered in the photosynthesis of (2010)

- A. Alga
- B. Angiosperm
- C. Gymnosperm
- D. Bryophyte

9. Kranz anatomy is one of the characteristics of the leaves of (Mains 2010)

- A. Potato
- B. Sugarcane
- C. Wheat
- D. Mustard

10. Electrons from excited chlorophyll molecule of photosystem II are accepted first by (2008)

- A. Cytochrome-*f*
- B. Quinone
- C. Cytochrome-*b*
- D. Ferredoxin

Answer

01.	02.	03.	04.	05.	06.	07.	08.	09.	10.
C	A	C	A	D	B	D	A	B	B