

NEET PHOTOSYNTHESIS IN HIGHER PLANTS — PHOTORESPIRATION — PYQS

Max. Marks: 40

Questions: 10

Section A (MCQ) — 10 questions

Q.1 Photorespiration reaction catalyzed by RuBisCo is shown below:



Identify “X” from the given options:

[RE-NEET (UG) 2026]

- (1) Malate (2) Phosphoenolpyruvate
(3) 2-Phosphoglycolate (4) Oxaloacetate

Scan or tap for the full solution



Q.2 Which of the following statements regarding photorespiration are correct?

- A. Does not occur in C_3 plants
B. CO_2 is consumed and O_2 is generated
C. Phosphoglycolate is formed
D. No synthesis of ATP and NADPH

[RE-NEET (UG) 2026]

- (1) (A) and (B) only (2) (A) and (D) only
(3) (C) and (D) only (4) (B) and (D) only

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Q.3 Given below are two statements:

Statement-I: In C_3 plants, some O_2 binds to RuBisCO, hence CO_2 fixation is decreased.

Statement-II: In C_4 plants, mesophyll cells show very little photorespiration while bundle sheath cells do not show photorespiration.

In the light of the above statements, choose the correct answer from the options given below:

[NEET (UG) 2024]

- (1) Both Statement-I and Statement-II are true
(2) Both Statement-I and Statement-II are false
(3) Statement-I is true but Statement-II is false
(4) Statement-I is false but Statement-II is true

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Q.4 The oxygenation activity of RuBisCO enzyme in photorespiration leads to the formation of

[NEET (UG) 2020]

- (1) 1 molecule of 3-C compound and 1 molecule of 2-C compound
(2) 1 molecule of 3-C compound
(3) 1 molecule of 6-C compound
(4) 2 molecules of 3-C compound

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Q.5 The process which makes major difference between C_3 and C_4 plants is

[NEET 2016 (Phase 2)]

- (1) glycolysis (2) Calvin cycle
(3) photorespiration (4) respiration.

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Q.6 A process that makes important difference between C_3 and C_4 plants is

[AIPMT 2012 (Prelims)]

- (1) transpiration (2) glycolysis
(3) photosynthesis (4) photorespiration.

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Q.7 The correct sequence of cell organelles during photorespiration is

[AIPMT 2012 (Prelims)]

- (1) chloroplast, Golgi-bodies, mitochondria
(2) chloroplast, rough endoplasmic reticulum, dictyosomes
(3) chloroplast, peroxisome, mitochondria
(4) chloroplast, vacuole, peroxisome.

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Q.8 C_4 plants are more efficient in photosynthesis than C_3 plants due to

[AIPMT 2010 (Prelims)]

- (1) higher leaf area
(2) presence of larger number of chloroplasts in the leaf cells
(3) presence of thin cuticle
(4) lower rate of photorespiration

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Q.9 During photorespiration, the oxygen consuming reaction(s) occur in

[AIPMT 2006]

- (1) stroma of chloroplasts
- (2) stroma of chloroplasts and mitochondria
- (3) stroma of chloroplasts and peroxisomes
- (4) grana of chloroplasts and peroxisomes

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full solution



Q.10 Which one of the following is wrong in relation to photorespiration? [AIPMT 2003]

- (1) It occurs in chloroplast
- (2) It occurs in day time only
- (3) It is a characteristic of C_4 plants
- (4) It is a characteristic of C_3 plants.

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ANSWER KEY

Ques.	1	2	3	4	5	6	7	8	9	10	
Ans.	3	3	3	1	3	4	3	4	3	3	