

Respiration in Plants

NEET previous year questions · Biology

4 questions from the official papers: NEET 2026 (2), Re-NEET 2026 (1), NEET 2020 (1). Each is followed by its answer and a worked solution written by BrainIt. Generated on 23 October 2026.



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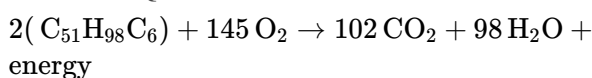
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1. NEET 2026 · Q107



The Respiratory Quotient (RQ) of a biomolecule used for respiration, as per the above equation would be :

- (1) Between 0.5 and 0.95 (2) Less than 0.5
(3) 1.0 (4) Between 1.25 and 2

Answer (1)

Sol. The respiratory quotient is the ratio of the volume of CO_2 evolved to the volume of O_2 consumed. From the equation, $RQ = \frac{102}{145} \approx 0.7$, which lies between 0.5 and 0.95, the range typical when fats are respired. It is not 1.0 (which is for carbohydrates) nor greater than 1.

2. NEET 2026 · Q128

Match List-I with List-II

List I (Process)	List II (Location)
P) Glycolysis	I) Inner mitochondrial membrane
Q) ETS	II) Mitochondrial matrix
R) Accumulation of protons	III) Cytoplasm
S) Krebs' cycle	IV) Intermembrane space

choose the correct answer from the options given below:

- (1) P-IV, Q-II, R-I, S-III (2) P-II, Q-III, R-IV, S-I
(3) P-III, Q-I, R-IV, S-II (4) P-I, Q-IV, R-III, S-II

Answer (3)

Sol. Glycolysis takes place in the cytoplasm (P-III), the electron transport system operates on the inner mitochondrial membrane (Q-I), protons accumulate in the intermembrane space during chemiosmosis (R-

IV), and the Krebs' cycle runs in the mitochondrial matrix (S-II). This gives P-III, Q-I, R-IV, S-II.

3. Re-NEET 2026 · Q109

How many molecules of pyruvic acid are produced at the end of glycolysis from 206 molecules of glucose?

- (1) 206 (2) 309 (3) 103 (4) 412

Answer (4)

Sol. Glycolysis splits each six-carbon glucose into TWO three-carbon pyruvate molecules, so the yield is simply doubled: $206 \times 2 = 412$. The carbon count checks out, since $6 = 3 + 3$. NCERT Class 11, Respiration in Plants.

4. NEET 2020 · Q20

The number of substrate level phosphorylations in one turn of citric acid cycle is

- (1) One (2) Two (3) Three (4) Zero

Answer (1)

Sol. In one turn of the citric acid cycle, there is one substrate-level phosphorylation event, which occurs during the conversion of succinyl-CoA to succinate. Chapter: Respiration in Plants.

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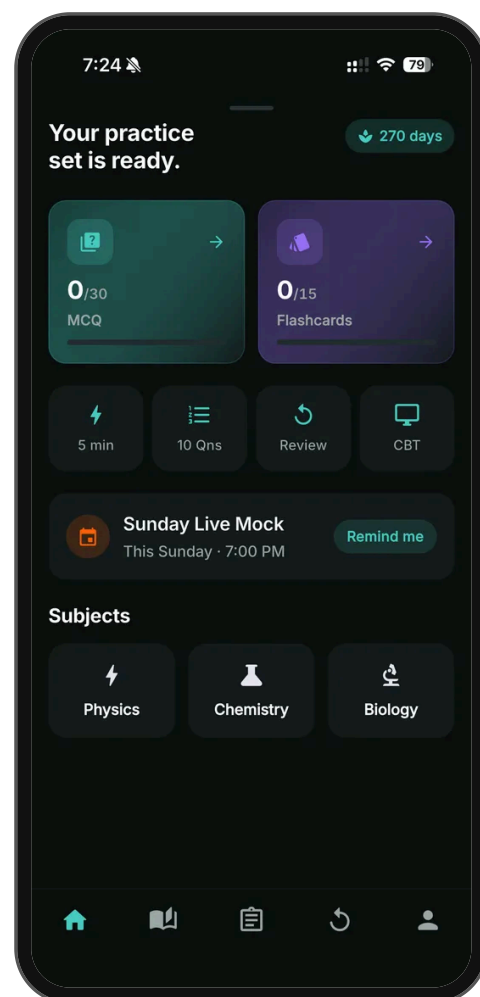
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