

Plant Growth and Development

NEET previous year questions · Biology

9 questions from the official papers: NEET 2026 (3), Re-NEET 2026 (3), NEET 2020 (3). Each is followed by its answer and a worked solution written by BrainIt. Generated on 23 October 2026.



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1. NEET 2026 · Q114

Which one of the following is not a characteristic of plant cells in the phase of elongation?

- (1) New cell wall deposition
- (2) Cell enlargement
- (3) Increased vacuolation
- (4) Large conspicuous nuclei

Answer (4)

Sol. The elongation phase is characterised by increased vacuolation, cell enlargement and deposition of new cell wall material. A large, conspicuous nucleus with dense cytoplasm is a feature of the meristematic (dividing) phase, not the elongation phase, so it is the exception.

2. NEET 2026 · Q115

Match List-I with List-II

List I (Growth Regulator)	List II (Function/Effect)
P) 2,4-D	I) Brewing industry
Q) GA ₃	II) Stimulation of stomatal closure
R) Kinetin	III) Herbicide
S) ABA	IV) Nutrient mobilisation

choose the correct answer from the options given below:

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

Answer (1)

Sol. 2,4-dichlorophenoxyacetic acid (2,4-D) is a synthetic auxin used as a selective herbicide against dicot weeds (P - III).

GA₃ is used in the malting/brewing industry to speed up the process (Q-I).

Kinetin, a cytokinin, promotes nutrient mobilisation

and delays senescence (R-IV).

Absciscic acid (ABA),

the stress hormone, promotes stomatal closure during water stress (S-II).

Hence P-III, Q-I, R-IV, S-II.

3. NEET 2026 · Q125

Heterophyllous development in response to environment is an example of which of the following phenomena?

- (1) Redifferentiation (2) Elasticity
- (3) Dedifferentiation (4) Plasticity

Answer (4)

Sol. Plasticity is the ability of plants to follow different developmental pathways and form different structures in response to environment or life phase; heterophylly in cotton, coriander and larkspur is a classic example. Dedifferentiation and redifferentiation describe changes in the meristematic state of cells, and elasticity is not the relevant developmental term.

4. Re-NEET 2026 · Q110

Which of the following plant growth regulators is used as herbicide?

- (1) 2, 4-D (2) Kinetin
- (3) Absciscic acid (4) Gibberellin

Answer (1)

Sol. 2,4-dichlorophenoxyacetic acid is a synthetic auxin widely used to kill dicotyledonous weeds while leaving mature monocotyledonous crops such as wheat and rice largely unharmed. At herbicidal concentrations it forces uncontrolled, disorganised growth in susceptible plants. NCERT Class 11, Plant Growth and Development.

5. Re-NEET 2026 · Q127

Which of the following plant growth regulators promotes internode elongation prior to flowering in cabbage?

- (1) Absciscic acid (2) Gibberellin
(3) Indole butyric acid (4) Ethephon

Answer (2)

Sol. The dramatic elongation of the internodes just before flowering is called BOLTING, and it is the classic gibberellin response in rosette plants such as cabbage and beet. Applying gibberellin causes the compressed rosette to shoot upward into a tall flowering stalk. NCERT Class 11, Plant Growth and Development.

6. Re-NEET 2026 · Q133

Length of the stem at time 0 is 20 cm. The arithmetic growth rate is 30 cm per day. What is the length of the stem at the end of the 7th day?

- (1) 50 cm (2) 170 cm (3) 230 cm (4) 460 cm

Answer (3)

Sol. Arithmetic growth adds a CONSTANT amount per unit time, described by $L_t = L_0 + rt$. Substituting, $L_7 = 20 + (30 \times 7) = 230$ cm. The contrast worth holding onto is with geometric growth, where the increment itself grows and the curve is exponential rather than a straight line. NCERT Class 11, Plant Growth and Development.

7. NEET 2020 · Q59

Which of the following is not an inhibitory substance governing seed dormancy?

- (1) Absciscic acid (2) Phenolic acid
(3) Para-ascorbic acid (4) Gibberellic acid

Answer (4)

Sol. Gibberellic acid is a plant hormone that promotes seed germination, not dormancy. Absciscic acid, phenolic acid, and para-ascorbic acid are known to inhibit seed germination and maintain dormancy. Chapter: Plant Growth and Development.

8. NEET 2020 · Q76

Name the plant growth regulator which upon spraying on sugarcane crop, increases the length of stem, thus increasing the yield of sugarcane crop.

- (1) Gibberellin (2) Ethylene
(3) Absciscic acid (4) Cytokinin

Answer (1)

Sol. Gibberellins, when sprayed on sugarcane, promote stem elongation and increase the yield. Chapter: Plant Growth and Development.

9. NEET 2020 · Q87

The process of growth is maximum during

- (1) Lag phase (2) Senescence
(3) Dormancy (4) Log phase

Answer (4)

Sol. The process of growth is maximum during the log phase, when cells divide rapidly and the population increases exponentially. Chapter: Plant Growth and Development.

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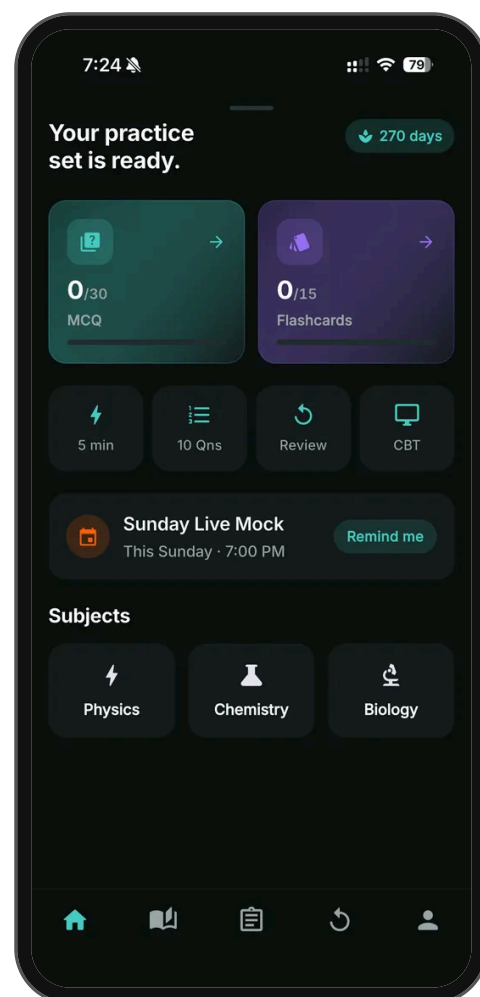
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