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NEET PLANT GROWTH AND DEVELOPMENT — PYQS

Max. Marks: 328 **Questions:** 82

Section A (MCQ) — 82 questions

Q.1 Match **List I** with **List II** : [NEET (UG) 2026]

List-I (Growth Regulator)		List-II (Function/Effect)	
A.	2,4-D	I.	Brewing industry
B.	GA_3	II.	Stimulation of stomatal closure
C.	Kinetin	III.	Herbicide
D.	ABA	IV.	Nutrient mobilisation

(1) A-I, B-II, C-IV, D-III
(2) A-I, B-IV, C-III, D-II
(3) A-IV, B-III, C-II, D-I
(4) A-III, B-I, C-IV, D-II

Solution

Q.2 Which one of the following is not a characteristic of plant cells in the phase of elongation ? [NEET (UG) 2026]

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

Solution

Q.3 Heterophyllous development in response to environment is an example of which of the following phenomena? [NEET (UG) 2026]

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

Scan or tap for the full solution

Q.4 Which of the following plant growth regulators promotes internode elongation prior to flowering in cabbage? [RE-NEET (UG) 2026]

(1) Ethephon (2) Abscisic acid
(3) Gibberellin (4) Indole butyric acid

Scan or tap for the full solution

Q.5 Which of the following plant growth regulators is used as herbicide? [RE-NEET (UG) 2026]

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

Scan or tap for the full solution

Q.6 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? [RE-NEET (UG) 2026]

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

Scan or tap for the full solution

Q.7 Read the following statements on plant growth and development.

A. Parthenocarpy can be induced by auxins.
B. Plant growth regulators can be involved in promotion as well as inhibition of growth.
C. Dedifferentiation is a pre-requisite for re-differentiation.
D. Abscisic acid is a plant growth promoter.
E. Apical dominance promotes the growth of lateral buds.

Choose the option with all correct statements. [NEET (UG) 2025]

(1) A, D, E only (2) B, D, E only
(3) A, B, C only (4) A, C, E only

Scan or tap for the full solution

Q.8 Which one of the following phytohormones promotes nutrient mobilization which helps in the delay of leaf senescence in plants? [NEET (UG) 2025]

(1) Gibberellin (2) Cytokinin
(3) Ethylene (4) Abscisic acid

Scan or tap for the full solution

Q.9 Auxin is used by gardeners to prepare weed-free lawns. But no damage is caused to grass as auxin [NEET (UG) 2024]

(1) promotes apical dominance.
(2) promotes abscission of mature leaves only.
(3) does not affect mature monocotyledonous plants.
(4) can help in cell division in grasses, to produce growth.

Scan or tap for the full solution

Q.10 Formation of interfascicular cambium from fully developed parenchyma cells is an example for [NEET (UG) 2024]

(1) Differentiation (2) Redifferentiation
(3) Dedifferentiation (4) Maturation

Scan or tap for the full solution

Q.11 Spraying sugarcane crop with which of the following plant growth regulators, increases the length of stem, thus, increasing the yield? [NEET (UG) 2024]

(1) Auxin (2) Gibberellin
(3) Cytokinin (4) Abscisic acid

Scan or tap for the full solution

Q.12 Match **List-I** with **List-II** : [RE-NEET (UG) 2024]

List-I		List-II	
A.	Abscisic acid	I.	Promotes female flowers in cucumber
B.	Ethylene	II.	Helps seeds to withstand desiccation
C.	Gibberellin	III.	Helps in nutrient mobilisation
D.	Cytokinin	IV.	Promotes bolting in beet, cabbage etc.

(1) A-II, B-III, C-IV, D-I
(2) A-III, B-II, C-I, D-IV
(3) A-II, B-I, C-IV, D-III
(4) A-II, B-I, C-III, D-IV

Solution

Q.13 F. Skoog observed that callus proliferated from the internodal segments of tobacco stem when auxin was supplied with one of the following except : [RE-NEET (UG) 2024]

(1) Extract of Vascular tissues
(2) Coconut milk
(3) Abscisic acid
(4) Yeast Extract

Solution

Q.14 Given below are some statements about plant growth regulators.

A. All GAs are acidic in nature.
B. Auxins are antagonists to GAs.
C. Zeatin was isolated from coconut milk.
D. Ethylene induces flowering in Mango.
E. Abscisic acid induces parthenocarpy.

Choose the correct set of statements from the options given below : [RE-NEET (UG) 2024]

(1) A, C, D (2) B, E
(3) A, B, C (4) B, D, E

Solution

Q.15 Spraying of which of the following phytohormone on juvenile conifers helps hastening the maturity period, that leads early seed production? [NEET (UG) 2023]

(1) Gibberellic Acid (2) Zeatin
(3) Abscisic Acid (4) Indole-3-butyric Acid

Scan or tap for the full solution

Q.16 Which hormone promotes internode/petiole elongation in deep water rice? [NEET (UG) 2023]

(1) Kinetin (2) Ethylene
(3) 2,4-D (4) GA_3

Scan or tap for the full solution

Q.17 In tissue culture experiments, leaf mesophyll cells are put in a culture medium to form callus. This phenomenon may be called as [NEET (UG) 2023]

(1) Dedifferentiation (2) Development
(3) Senescence (4) Differentiation

Scan or tap for the full solution

Q.18 Which one of the following plants does not show plasticity? [NEET (UG) 2022]

(1) Cotton (2) Coriander
(3) Buttercup (4) Maize

Scan or tap for the full solution

Q.19 The gaseous plant growth regulator is used in plants to: [NEET (UG) 2022]

(1) speed up the malting process
(2) promote root growth and root hair formation to increase the absorption surface
(3) help overcome apical dominance
(4) kill dicotyledonous weeds in the fields

Scan or tap for the full solution

Q.20 Production of Cucumber has increased manifold in recent years. Application of which of the following phytohormones has resulted in this increased yield as the hormone is known to produce female flowers in the plants: [NEET (UG) 2022]

(1) ABA (2) Gibberellin
(3) Ethylene (4) Cytokinin

Scan or tap for the full solution

Q.21 The ability of plants to follow different pathways in response to environment leading to formation of different kinds of structures is called [NEET (UG) 2022 (Phase 2)]

(1) Differentiation (2) Redifferentiation
(3) Development (4) Plasticity

Scan or tap for the full solution

Q.22 Which of the following growth regulators is an adenine derivative? [NEET (UG) 2022 (Phase 2)]
(1) Abscisic acid (2) Auxin
(3) Cytokinin (4) Ethylene

Scan or tap for the full solution

Q.23 The phenomenon by which the undividing parenchyma cells start to divide mitotically during plant tissue culture is called as [NEET (UG) 2022 (Phase 2)]
(1) Secondary growth (2) Differentiation
(3) Dedifferentiation (4) Redifferentiation

Scan or tap for the full solution

Q.24 Plants follow different pathways in response to environment or phases of life to form different kinds of structures. This ability is called [NEET (UG) 2021]
(1) Maturity (2) Elasticity
(3) Flexibility (4) Plasticity

Scan or tap for the full solution

Q.25 The site of perception of light in plants during photoperiodism is [NEET (UG) 2021]
(1) Leaf (2) Shoot apex
(3) Stem (4) Axillary bud

Scan or tap for the full solution

Q.26 The plant hormone used to destroy weeds in a field [NEET (UG) 2021]
(1) IBA (2) IAA (3) NAA (4) 2, 4-D

Scan or tap for the full solution

Q.27 Which of the following is not an inhibitory substance governing seed dormancy? [NEET (UG) 2020]
(1) Para-ascorbic acid (2) Abscisic acid
(3) Gibberellic acid (4) Phenolic acid

Scan or tap for the full solution

Q.28 Name the plant growth regulator which upon spraying on sugarcane crop, increases the length of stem, thus increasing the yield of sugarcane crop [NEET (UG) 2020]
(1) Abscisic acid (2) Cytokinin
(3) Gibberellin (4) Ethylene

Scan or tap for the full solution

Q.29 The process of growth is maximum during [NEET (UG) 2020]
(1) Log phase (2) Lag phase
(3) Dormancy (4) Senescence

Scan or tap for the full solution

Q.30 What is the site of perception of photoperiod necessary for induction of flowering in plants? [NEET (UG) 2019]
(1) Shoot apex (2) Leaves
(3) Lateral buds (4) Pulvinus

Scan or tap for the full solution

Q.31 It takes very long time for pineapple plants to produce flowers. Which combination of hormones can be applied to artificially induce flowering in pineapple plants throughout the year to increase yield? [NEET (UG) 2019]
(1) Gibberellin and Abscisic acid
(2) Cytokinin and Abscisic acid
(3) Auxin and Ethylene
(4) Gibberellin and Cytokinin

Solution

Q.32 Fruit and leaf drop at early stages can be prevented by the application of [NEET 2017]
(1) ethylene (2) auxins
(3) gibberellic acid (4) cytokinins.

Scan or tap for the full solution

Q.33 The *Avena* curvature is used for bioassay of [NEET 2016 (Phase 1)]
(1) IAA (2) ethylene
(3) ABA (4) GA_3.

Scan or tap for the full solution

Q.34 You are given a tissue with its potential for differentiation in an artificial culture. Which of the following pairs of hormones would you add to the medium to secure shoots as well as roots? [NEET 2016 (Phase 2)]
(1) IAA and gibberellin
(2) Auxin and cytokinin
(3) Auxin and abscisic acid
(4) Gibberellin and abscisic acid

Solution

Q.35 Phytochrome is a [NEET 2016 (Phase 2)]

(1) flavoprotein (2) glycoprotein
(3) lipoprotein (4) chromoprotein

Scan or tap for the full solution

Q.36 Auxin can be bioassayed by [AIPMT 2015]
(1) potometer
(2) lettuce hypocotyl elongation
(3) *Avena* coleoptile curvature
(4) hydroponics.

Solution

Q.37 What causes a green plant exposed to the light, on only one side, to bend towards the source of light as it grows? [AIPMT 2015 (Cancelled)]
(1) Light stimulates plant cells on the lighted side to grow faster.
(2) Auxin accumulates on the shaded side, stimulating greater cell elongation there.
(3) Green plants need light to perform photosynthesis.
(4) Green plants seek light because they are phototropic.

Scan or tap for the full solution

Q.38 Typical growth curve in plants is [AIPMT 2015 (Cancelled)]
(1) stair-steps shaped (2) parabolic
(3) sigmoid (4) linear.

Scan or tap for the full solution

Q.39 Dr. F. Went noted that if coleoptile tips were removed and placed on agar for one hour, the agar would produce a bending when placed on one side of freshly-cut coleoptile stumps. Of what significance is this experiment? [AIPMT 2014]
(1) It made possible the isolation and exact identification of auxin.
(2) It is the basis for quantitative determination of small amounts of growth-promoting substances.
(3) It supports the hypothesis that IAA is auxin.
(4) It demonstrated polar movement of auxins.

Scan or tap for the full solution

Q.40 A few normal seedlings of tomato were kept in a dark room. After a few days they were found to have become white-coloured like albinos. Which of the following terms will you use to describe them? [AIPMT 2014]
(1) Mutated (2) Embolised
(3) Etiolated (4) Defoliated

Scan or tap for the full solution

Q.41 Which one of the following growth regulators is known as 'stress hormone'? [AIPMT 2014]
(1) Abscisic acid (2) Ethylene
(3) GA_3 (4) Indole acetic acid

Scan or tap for the full solution

Q.42 During seed germination its stored food is mobilized by [NEET 2013]
(1) ABA (2) gibberellin
(3) ethylene (4) cytokinin.

Scan or tap for the full solution

Q.43 The pineapple which under natural condition is difficult to blossom has been made to produce fruits throughout the year by application of [NEET 2013 (Karnataka)]
(1) NAA, 2,4-D (2) Phenyl acetic acid
(3) Cytokinin (4) IAA, IBA.

Scan or tap for the full solution

Q.44 Which of the following best illustrates "FEEDBACK" in development ? [NEET 2013 (Karnataka)]
(1) As tissue (X) develops, it secretes something that induces tissue (Y) to develop
(2) As tissue (X) develops, it secretes something that slows down the growth of tissue (Y)
(3) Tissue (X) secretes RNA which changes the development of tissue (Y)
(4) As tissue (X) develops, it secretes enzymes that inhibit the development of tissue (Y)

Scan or tap for the full solution

Q.45 Through their effects on plant growth regulators, what do the temperature and light control in the plants? [AIPMT 2012 (Mains)]
(1) Apical dominance (2) Flowering
(3) Closure of stomata (4) Fruit elongation

Scan or tap for the full solution

Q.46 Which one of the following generally acts as an antagonist to gibberellins? [AIPMT 2012 (Mains)]
(1) Zeatin (2) Ethylene
(3) ABA (4) IAA

Scan or tap for the full solution

Q.47 Photoperiodism was first characterised in [AIPMT 2010 (Prelims)]
(1) tobacco (2) potato
(3) tomato (4) cotton

Solution

Q.48 Vernalization stimulates flowering in [AIPMT 2012 (Mains)]

(1) zamikand (2) turmeric
(3) carrot (4) ginger.

Scan or tap for the full solution

Q.49 One of the commonly used plant growth hormones in tea plantations is [AIPMT 2010 (Mains)]

(1) ethylene (2) abscisic acid
(3) zeatin (4) indole-3-acetic acid

Scan or tap for the full solution

Q.50 Root development is promoted by [AIPMT 2010 (Mains)]

(1) abscisic acid (2) auxin
(3) gibberellin (4) ethylene

Scan or tap for the full solution

Q.51 Phototropic curvature is the result of uneven distribution of [AIPMT 2010 (Prelims)]

(1) gibberellin (2) phytochrome
(3) cytokinins (4) auxin

Scan or tap for the full solution

Q.52 Coiling of garden pea tendrils around any support is an example of [AIPMT 2010 (Prelims)]

(1) thigmotaxis (2) thigmonasty
(3) thigmotropism (4) thermotaxis

Scan or tap for the full solution

Q.53 One of the synthetic auxin is [AIPMT 2009]

(1) IAA (2) GA (3) IBA (4) NAA

Scan or tap for the full solution

Q.54 Which one of the following acids is a derivative of carotenoids? [AIPMT 2009]

(1) Indole-3-acetic acid (2) Gibberellic acid
(3) Abscisic acid (4) Indole butyric acid

Scan or tap for the full solution

Q.55 Importance of day length in flowering of plants was first shown in [AIPMT 2008]

(1) cotton (2) *Petunia* (3) *Lemna* (4) tobacco

Scan or tap for the full solution

Q.56 Senescence as an active developmental cellular process in growth and functioning of a flowering plant, is indicated in [AIPMT 2008]

(1) annual plants
(2) floral parts
(3) vessels and tracheid differentiation
(4) leaf abscission

Scan or tap for the full solution

Q.57 The wavelength of light absorbed by P_r form of phytochrome is [AIPMT 2007]

(1) 680 nm (2) 720 nm (3) 620 nm (4) 640 nm

Scan or tap for the full solution

Q.58 Which one of the following pairs, is not correctly matched? [AIPMT 2007]

(1) Gibberellic acid - Leaf fall
(2) Cytokinin - Cell division
(3) IAA - Cell wall elongation
(4) Abscisic acid - Stomatal closure

Solution

Q.59 Opening of floral buds into flowers, is a type of [AIPMT 2007]

(1) autonomic movement of variation
(2) paratonic movement of growth
(3) autonomic movement of growth
(4) autonomic movement of locomotion

Scan or tap for the full solution

Q.60 An enzyme that can stimulate germination of barley seeds is [AIPMT 2006]

(1) invertase (2) α-amylase
(3) lipase (4) protease

Scan or tap for the full solution

Q.61 Farmers in a particular region were concerned that premature yellowing of leaves of a pulse crop might cause decrease in the yield. Which treatment could be most beneficial to obtain maximum seed yield? [AIPMT 2006]

(1) Application of iron and magnesium to promote synthesis of chlorophyll
(2) Frequent irrigation of the crop
(3) Treatment of the plants with cytokinins along with a small dose of nitrogenous fertilizer
(4) Removal of all yellow leaves and spraying the remaining green leaves with 2,4,5-trichlorophenoxyacetic acid

Scan or tap for the full solution

Q.62 How does pruning help in making the hedge dense? [AIPMT 2006]

(1) It releases wound hormones.
(2) It induces the differentiation of new shoots from the rootstock.

(3) It frees axillary buds from apical dominance.
(4) The apical shoot grows faster after pruning.

Scan or tap for the full solution

Q.63 Treatment of seeds at low temperature under moist conditions to break its dormancy is called [AIPMT 2006]

(1) stratification (2) scarification
(3) vernalization (4) chelation.

Scan or tap for the full solution

Q.64 Parthenocarpic tomato fruits can be produced by [AIPMT 2006]

(1) treating the plants with phenylmercuric acetate
(2) removing androecium of flowers before pollen grains are released
(3) treating the plants with low concentrations of gibberellic acid and auxins
(4) raising the plants from vernalized seeds.

Scan or tap for the full solution

Q.65 Why is vivipary an undesirable character for annual crop plants? [AIPMT 2005]

(1) It reduces the vigour of the plant.
(2) It adversely affects the fertility of the plant.
(3) The seeds exhibit long dormancy.
(4) The seeds cannot be stored under normal conditions for the next season.

Scan or tap for the full solution

Q.66 Cell elongation in internodal regions of the green plants takes place due to [AIPMT 2004]

(1) indole acetic acid (2) cytokinins
(3) gibberellins (4) ethylene.

Scan or tap for the full solution

Q.67 One set of the plant was grown at 12 hours day and 12 hours night period cycles and it flowered while in the other set night phase was interrupted by flash of light and it did not produce flower. Under which one of the following categories will you place this plant? [AIPMT 2004]

(1) Long day (2) Darkness neutral
(3) Day neutral (4) Short day

Scan or tap for the full solution

Q.68 The maximum growth rate occurs in :- [AIPMT 2004]

(1) Exponential phase (2) Stationary phase
(3) Senescent phase (4) Lag phase

Scan or tap for the full solution

Q.69 Differentiation of shoot is controlled by [AIPMT 2003]

(1) high auxin : cytokinin ratio
(2) high cytokinin : auxin ratio
(3) high gibberellin : auxin ratio
(4) high gibberellin : cytokinin ratio.

Scan or tap for the full solution

Q.70 Coconut milk factor is [AIPMT 2003]

(1) abscisic acid (2) an auxin
(3) a gibberellin (4) cytokinin

Scan or tap for the full solution

Q.71 Which pigment absorbs the red and far-red light? [AIPMT 2002]

(1) Cytochrome (2) Phytochrome
(3) Carotenoids (4) Chlorophyll

Scan or tap for the full solution

Q.72 Seed dormancy is due to the [AIPMT 2002]

(1) ethylene (2) abscisic acid
(3) IAA (4) starch

Scan or tap for the full solution

Q.73 Dwarfness can be controlled by treating the plant with [AIPMT 2002]

(1) cytokinin (2) gibberellic acid
(3) auxin (4) antigibberellin

Scan or tap for the full solution

Q.74 Which plant is LDP? [AIPMT 2001]

(1) Tobacco (2) *Glycine max*
(3) *Mirabilis jalapa* (4) Spinach

Scan or tap for the full solution

Q.75 Which of the following prevents the fall of fruits? [AIPMT 2001]

(1) GA_3 (2) NAA
(3) Ethylene (4) Zeatin

Solution

Q.76 Hormone responsible for senescence is [AIPMT 2001]

(1) ABA (2) auxin (3) GA (4) cytokinin

Scan or tap for the full solution

Q.77 Which hormone breaks dormancy of potato tuber? [AIPMT 2001]

(1) Gibberellin (2) IAA
(3) ABA (4) Zeatin

Solution

Q.78 Proteinaceous pigment which controls the activities concerned with light is [AIPMT 2001]

(1) Carotenoids (2) Phytochrome
(3) Chlorophyll (4) Anthocyanin

Scan or tap for the full solution

Q.79 If the apical bud has been removed then we observe [AIPMT 2000]

(1) more lateral branches
(2) more axillary buds
(3) plant growing stops
(4) flowering stops

Solution

Q.80 By which action a seed coat becomes permeable to water? [AIPMT 2000]

(1) scarification (2) stratification
(3) vernalization (4) all of the above

Scan or tap for the full solution

Q.81 Which hormone is responsible for fruit ripening? [AIPMT 2000]

(1) Ethylene (2) Auxin
(3) Ethyl chloride (4) Cytokinin

Scan or tap for the full solution

Q.82 Coconut milk is used in tissue culture because it contains [AIPMT 2000]

(1) Auxin (2) Gibberellin
(3) Ethylene (4) Cytokinin

Scan or tap for the full solution

ANSWER KEY

Ques.	1	2	3	4	5	6	7	8	9	10	11
Ans.	**4**	**3**	**4**	**3**	**2**	**4**	**3**	**2**	**3**	**3**	**2**
Ques.	12	13	14	15	16	17	18	19	20	21	22
Ans.	**3**	**3**	**1**	**1**	**2**	**1**	**4**	**2**	**3**	**4**	**3**
Ques.	23	24	25	26	27	28	29	30	31	32	33
Ans.	**3**	**4**	**1**	**4**	**3**	**3**	**1**	**2**	**3**	**2**	**1**
Ques.	34	35	36	37	38	39	40	41	42	43	44
Ans.	**2**	**4**	**3**	**2**	**3**	**1**	**3**	**1**	**2**	**1**	**1**
Ques.	45	46	47	48	49	50	51	52	53	54	55
Ans.	**2**	**3**	**1**	**3**	**4**	**4**	**4**	**3**	**4**	**3**	**4**
Ques.	56	57	58	59	60	61	62	63	64	65	66
Ans.	**3**	**1**	**1**	**3**	**2**	**3**	**3**	**1**	**3**	**4**	**3**
Ques.	67	68	69	70	71	72	73	74	75	76	77
Ans.	**4**	**1**	**2**	**4**	**2**	**2**	**2**	**4**	**2**	**1**	**1**
Ques.	78	79	80	81	82						
Ans.	**2**	**1**	**1**	**1**	**4**						

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