

PLANT GROWTH AND DEVELOPMENT

1. Which of the following instrument can be used to record plant growth by seconds (i.e. in fraction of a minute)
 - (a) Arc auxanometer
 - (b) Arc indicator
 - (c) Space marker disc
 - (d) Gresograph
2. The correct sequence of cellular growth stages is
 - (a) Division → differentiation → elongation
 - (b) Division → elongation → differentiation
 - (c) Differentiation → division → elongation
 - (d) Elongation → differentiation → division
3. Where would you look for active cell division in plant
 - (a) In the pith cells
 - (b) In the cells of cortex
 - (c) In the internodal region
 - (d) At the tip of root and shoot
4. The type of growth of bands in conifers is

(a) Lateral	(b) Delinquent
(c) Caudex	(d) Excurrent
5. Growth is maximum in the zone of

(a) Cell division	(b) Cell elongation
(c) Cell maturation	(d) All of the above
6. Two climatic factors which affect growth are
 - (a) Light and wind
 - (b) Light and temperature
 - (c) Rain and temperature
 - (d) Atmospheric humidity and temperature
7. Each meristem influences other meristems. The phenomenon is

(a) Allometry	(b) Growth correction
(c) Lag phase	(d) Auxetic growth
8. The segment C-D indicates a point where
 - (a) No new individuals are formed
 - (b) Death rate is zero
 - (c) The rate of formation and rate of death of individuals is the same
 - (d) The experiment stopped
9. The segment D-E indicates a period of
 - (a) Decline
 - (b) Maturation
 - (c) Recommencement of growth
 - (d) Active growth
10. Which one of the following is the motive force for growth
 - (a) Turgor pressure
 - (b) Root pressure
 - (c) Atmospheric pressure
 - (d) Osmotic pressure
11. Distribution of growth in a root by marking it at equal intervals with Indian ink was originally studied by

(a) Bose	(b) Strasburger
(c) Went	(d) Nitsch
12. The maximum growth rate occurs in

(a) Lag phase	(b) Exponential phase
(c) Stationary phase	(d) Senescent phase
13. In which of the following respect, the plant hormones differ from enzymes
 - (a) Required in less quantity
 - (b) They are expanded in the process
 - (c) They release some energy
 - (d) None of the above

14. Enzymes, vitamins and hormones can be classified into a single category of biological chemicals because all of them
 - (a) Aid in regulating metabolism
 - (b) Are proteins
 - (c) Are synthesized within the body
 - (d) Enhance the oxidative metabolism
15. The term bioassay implies
 - (a) Writing an essay on living organisms
 - (b) Using living organisms in testing the biological active chemicals
 - (c) Description of microorganisms
 - (d) Description of useful plants parts
16. Whose technique is employed for the extraction and elimination of hormones
 - (a) Beck
 - (b) Beer
 - (c) Garner
 - (d) Allard
17. Which one of the following hormones is not found in plants
 - (a) 2, 4-D
 - (b) GA₂
 - (c) Gibberellin
 - (d) IAA
18. Weed killers generally have properties much like that of
 - (a) Hormone
 - (b) Carbohydrate
 - (c) Enzymes
 - (d) All of these
19. What is the cause of excurrent habit Pinus
 - (a) Presence of gibberellin
 - (b) Presence of apical dominance
 - (c) High concentration of cytokinin
 - (d) High concentration of ABA
20. Pruning makes the hedge plant dense because
 - (a) Injury induces dense growth
 - (b) Apical dominance is removed
 - (c) Root sprouts additional branches
 - (d) Pruning removes shade and allows germination of new seedlings to impart a dense growth
21. Which one of the following plant function it not generally governed or controlled by auxin
 - (a) Apical dominance
 - (b) Phototropism
 - (c) Photosynthesis
 - (d) Growth
22. Seedless fruits can be obtained by treating a plant with
 - (a) Enzymes
 - (b) Auxin
 - (c) Vitamin
 - (d) 70°C and light
23. A substance which acceleration the growth in stem is
 - (a) Etiolin
 - (b) Auxin
 - (c) Vitamin
 - (d) Enzyme
24. Substance which originate at the tip of the stem and control growth elsewhere are
 - (a) Food material
 - (b) Auxins or hormones
 - (c) Vitamins
 - (d) Enzymes
25. Who among the following discovered and Avena curvature test to find out the concentration of auxins
 - (a) F.W. Went
 - (b) L.J. Audus
 - (c) K.v. Thimann
 - (d) F. Skoog
26. Apical dominance means
 - (a) Suppression of growth of apical bud by axillary buds
 - (b) Suppression of growth of axillary buds by presence of apical bud
 - (c) Stimulation of growth of apical bud by removal of axillary buds
 - (d) Inhibition of growth of axillary buds by removal of apical bud

27. Which of the following movements is not related to change in auxin levels
- Nyctinastic leaf movement
 - Movement of roots towards cells
 - Movement of sunflower tracking the direction of the sun
 - Movement of shoot towards light
28. Which of the following effects of auxins on plants is the basis for commercial application
- Callus formation
 - Curvature of stem
 - Induction of root formation in stem cutting
 - All of the above
29. Plant hormone which is translocated to other parts for growth of the plant is known as
- Indole acetic acid
 - Gibberellins
 - Cytokinins
 - None of these
30. During germination, stem grows upward and root goes downward because
- It depends upon light
 - Of auxin
 - It does not depend only light
 - Of epinasty and hyponasty
31. Which of the following ion is pulled out in apoplast by the auxin during growth
- Na⁺
 - N⁺
 - Mg²⁺
 - H⁺
32. The chief role of auxin is
- Internodal elongation
 - Parthenocarpy
 - Cell elongation
 - None of these
33. One of the preventive methods of fruit drop is by spraying
- Auxin
 - Ethylene gas
 - Gibberellins
 - Cytokinin
34. Who demonstrated that decapitated Canary grass, seedlings resume phototropic sensitiveness when cut tip is pasted back in its position
- Darwin
 - Paal
 - Boysen-Jensen
 - Went
35. Movement of auxin is
- Centripetal
 - Basipetal
 - Acropetal
 - Both (b) and (c)
36. Which of the following induces femaleness in plants
- Auxin
 - Gibberellin
 - Cytokinin
 - Abscisin
37. Indole-3-acetic acid called as auxin was first isolated from
- Human urine
 - Corn germ oil
 - Fusarium
 - Rhizopus
38. The primary precursor of IAA is
- Phenyl alanine
 - Tyrosine
 - Tryptophan
 - Leucine
39. Antiauxin used in picking cotton bolls is
- 2, 4-D
 - TIBA
 - NAA
 - Both (a) and (b)
40. Apical dominance in higher plants is due to
- Balnce between auxin and cytokinin
 - Enzyme activity and metabolism
 - Carbohydrates
 - Photoperiodism

41. Which of the following effects of auxins on plants is the basis for commercial application
- (a) Callus formation
 - (b) Curvature of stem
 - (c) Induction of root formation in stem cuttings
 - (d) Stem growth
42. Which is false about auxin? It
- (a) Promotes hyper elongation
 - (b) Promotes cell division
 - (c) Promotes stem elongation
 - (d) Inhibits lateral bud growth
43. I.A.A. was isolated by
- (a) Kogl and Erxleben
 - (b) Kogl and Haagen-Smit
 - (c) Erxleben and Haagen-Smit
 - (d) Kogl, Erxleben and Haagen-Smit
44. Auxin herbicide is
- (a) NAA
 - (b) IAA
 - (c) 2, 4-D
 - (d) IBA
45. Gibberellins differ from auxins since they produce
- (a) Cell division
 - (b) Stem elongation
 - (c) Root initiation
 - (d) Shortening of intermodes
46. Gibberellic acid has been successfully used to induce flowering
- (a) In short day plants under long day conditions
 - (b) In long day plants under short day conditions
 - (c) For some plants
 - (d) None of the above
47. Gibberellin is helpful in
- (a) Elongation of plants
 - (b) Inducing dwarfism
 - (c) Fat hydrolysis
 - (d) Protein synthesis
48. The hormone which was discovered through 'foolish seedlings' diseases of rice is
- (a) Indole-3-acetic acid
 - (b) Ethylene
 - (c) Gibberellic acid
 - (d) Kinetin
49. Gibberellins were first discovered in fungal genus
- (a) Mucor
 - (b) Rhizopus
 - (c) Agaricus
 - (d) Fusarium
50. Which one does not affect apical dominance
- (a) IAA
 - (b) IBA
 - (c) Gibberellin
 - (d) Indole Acetaldehyde

ANSWERS KEY

1	D	11	B	21	C	31	B	41	C
2	B	12	B	22	B	32	C	42	A
3	D	13	A	23	B	33	A	43	B
4	A	14	A	24	B	34	A	44	C
5	B	15	B	25	A	35	D	45	B
6	B	16	C	26	B	36	A	46	B
7	B	17	A	27	A	37	A	47	A
8	C	18	A	28	D	38	C	48	C
9	A	19	B	29	A	39	B	49	D
10	A	20	B	30	B	40	A	50	C