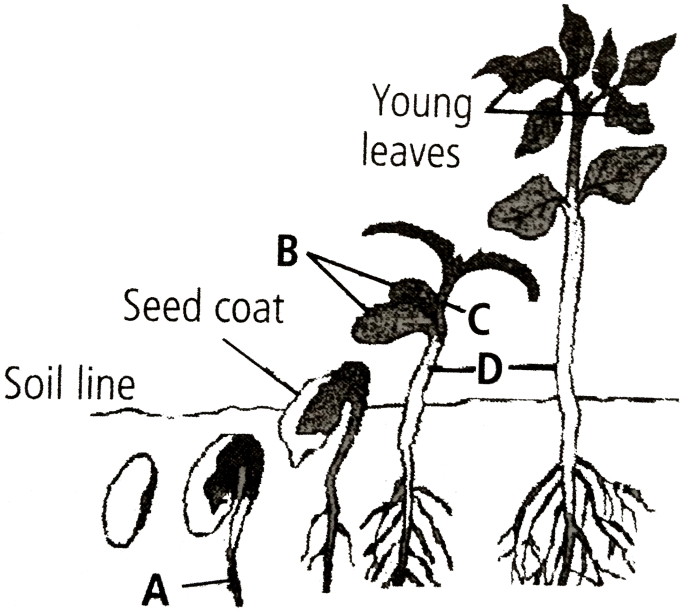
BIOLOGY

BOOKS - MTG BIOLOGY (ENGLISH)

PLANT GROWTH AND DEVELOPMENT

Growth And Development

1. The given diagram shows different stages of seed germination. Identify A,B,C and D and select the correct option.



A. A Plumule B cotyledons C Epicotyl D Hypocotyl

B. A Radicle B cotyledons C Epicotyl D Hypocotyl

C. A Mesocotyl B cotyledons C Epicotyl D Hypocotyl

D. A Root hair B cotyledons C Hypocotyl D Epicotyl

Answer: B

Watch Video Solution

2. An irreversible or permanent increase in size, mass or volume of a cell, organ or organism is called as _____.

A. growth

B. differentiation

C. dedifferentitation

D. development

Answer: A

Watch Video Solution

3. Growth in plants is

A. only determinate

B. only indeterminate

C. mostly determinate

D. both determinate and indeterminate.

Answer: D

Watch Video Solution

4. Meristematic cells are characterised by

A. thin cellulosic cell walls

B. dense protoplasm

C. prominent nuclei

D. all of these

Answer: D

Watch Video Solution

5. Increased vacuolation, cell enlargement and new cell wall deposition are the characteristics of cells in____phase of growth.

A. meristematic

B. elongation

C. maturation

D. differentitation

Answer: B

Watch Video Solution

6. Vascular cambium and cork cambium are

A. lateral meristems

B. intercalary meristems

C. primary meristems

D. apical meristems.

Answer: A

Watch Video Solution

7. Increase in girth (diameter) of plant as a result of the activities of lateral meristems is called

A. primary growth

B. secondary growth

C. open form of growth

D. diffuse growth

Answer: B

Watch Video Solution

8. Secondary growth generally occurs in

A. monocots

B. dicots

C. gymnosperms

D. both (b) and (c)

Answer: D

Watch Video Solution

9. Growth at cellular level, is principally a consequence of increase in the amount of

A. protoplasm

B. DNA

C. cell wall

D. cell organelles

Answer: A

Watch Video Solution

10. Growth is maximum in zone of

A. cell elongation

B. cell division

C. cell maturation

D. all of these

Answer: A

Watch Video Solution

11. Fastest phase of S-shaped growth curve is

A. lag phase

B. log phase

C. stationary phase

D. both (a) and (b)

Answer: B

Watch Video Solution

12. Read the following statements regarding arithmetic growth and select the correct answer.

(i) Rate of growth is constant.

(ii) One daughter cell remains meristematic while the other one differentiates and matures.

(iii) Mathematical expression is $L_t = L_0 + rt$.

A. statements (i) and (ii) are correct.

B. statements (ii) and (iii) are correct

C. statements (i) and (iii) are correct

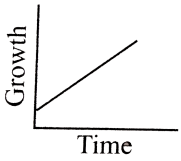
D. All statements are correct

Answer: D

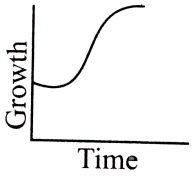
Watch Video Solution

13. Which one is the correct graph for arithmetic growth?

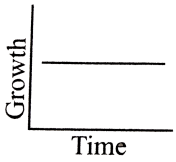
A. (a)



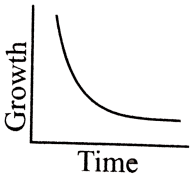
B. (b)



C. (c)



D. (d)



Answer: A

Watch Video Solution

14. Select the incorrect statement among the following.

A. Increase in growth per unit time is growth rate.

B. A sigmoid growth curve is a characteristic of most living organsims in their natural environment.

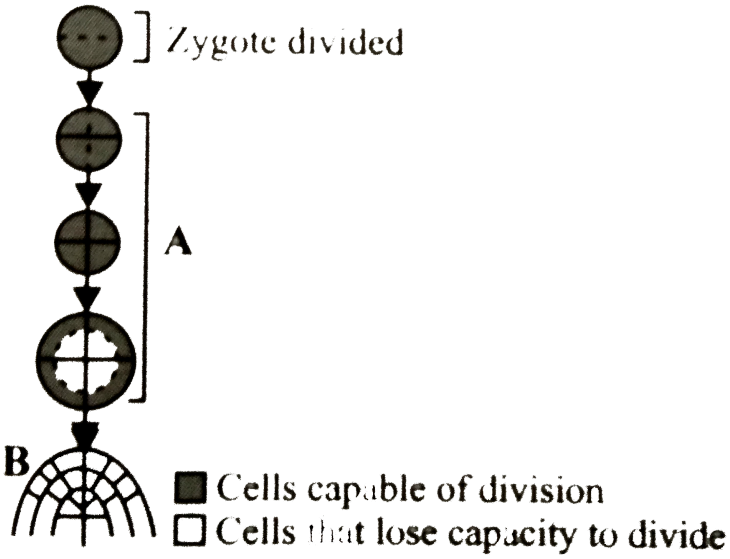
C. Rate of growth is constant during geometrical growth.

D. Exponential phase is also called as log phase.

Answer: C

Watch Video Solution

15. The given figure shows development of an embryo that undergoes two phases A and B. select the correct option regarding it.



A. A Geometric phase B Arithmetic phase

B. A Arithmetic phase B Geometric phase

C. A Arithmetic phase B Exponential phase

D. A Exponential phase B Stationary phase

Answer: A

Watch Video Solution

16. The exponential growth can be mathematically expressed as

A. $L_t = L_0 + rt$

B. $W_1 = W_0 + e^{rt}$

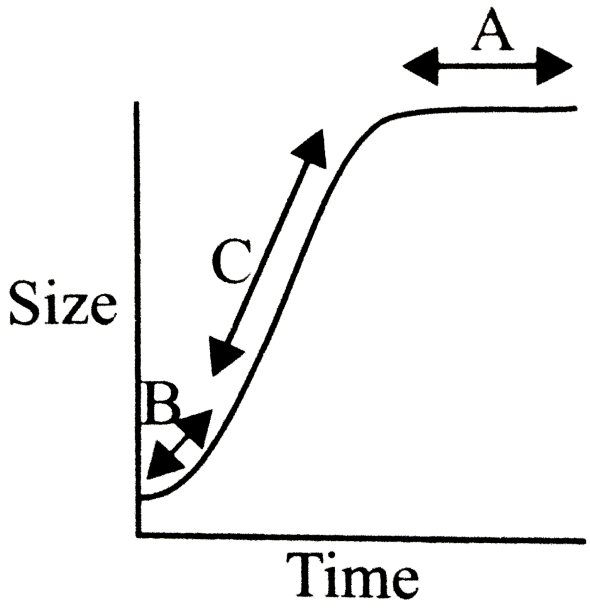
C. $W_1 = W_0 e^{rt}$

D. $L_t = L_0 - rt$

Answer: C

Watch Video Solution

17. Given graph is drawn on the parameters of growth versus time. Here A,B and C respetively represent



A. a) exponential phase, log phase and steady state phase

B. b) steady state phase, lag phase and log phase

C. c) log phase, steady state phase and logarithmic phase

D. d) log phase, log phase and steady state phase.

Answer: B

Watch Video Solution

18. Read the given statements and select the correct option.

(i) One marize root cell can give rise to more than 17,500 cells.

(ii) A cell in watermelon can increase in size upto 3,50,000 times.

(iii) The growth of pollen tube is measured in terms of length.

(iv) The growth of the leaf is measured in term of surface area.

A. statements (i) and (ii) are correct.

B. statements (ii) and (iii) are correct

C. statements (i) and (iii) are correct

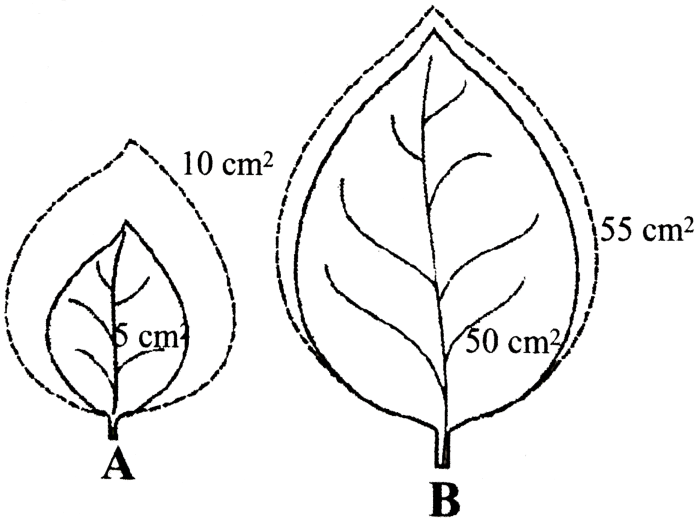
D. statements (i), (ii),(iii) and (iv) are correct.

Answer: D

Watch Video Solution

19. The given figure shows growth of two leaves over the period of one day. If $AG =$ absolute growth and RGR= relative growth rate, then select

the correct option.



A.	$AG$for leaf$A$ 1 %	$RGR$for leaf$A$ 1	$AG$for leaf$B$ 2 %	$RGr$for leaf$B$ 2
B.	$AG$for leaf$A$ 100 %	$RGR$for leaf$A$ 5	$AG$for leaf$B$ 10 %	$RGr$for leaf$B$ 5
C.	$AG$for leaf$A$ 5	$RGR$for leaf$A$ 100 %	$AG$for leaf$B$ 5	$RGr$for leaf$B$ 10 %
D.	$AG$for leaf$A$ 5	$RGR$for leaf$A$ 100 %	$AG$for leaf$B$ 5	$RGr$for leaf$B$ 100 %

Answer: C

View Text Solution

20. A primary root grows from 5 cm to 19 cm in a week. Calculate the absolute growth rate (AGR) and relative growth rate (RGR) over the period.

A. $\begin{matrix} AGR & RGR \\ 14cm & 2.8 \end{matrix}$

B. $\begin{matrix} AGR & RGR \\ 14cm & 3.8 \end{matrix}$

C. $\begin{matrix} AGR & RGR \\ 3.8cm & 14 \end{matrix}$

D. $\begin{matrix} AGR & RGR \\ 24cm & 2.8 \end{matrix}$

Answer: A

Watch Video Solution

21. The factors which influence growth are

A. nutrients

B. water, oxygen

C. light, temperature

D. all of these

Answer: D

Watch Video Solution

22. Cells of tracheary elements (trcheids and vessels) become dead at maturity and lose their protoplasm due to the deposition of lignocellulosic cell wall thickenings. This is an example of

A. growth

B. differentiation

C. dedifferentitation

D. redifferentiation

Answer: B

Watch Video Solution

23. Which of the following is an example of differentiation ?

A. Lignocellulosic wall thickenings of tracheids

B. Loss of nucleus, vacuolisation and end wall perofrations in sieve tube elements

C. Elongation, thickening and emptying of sclerenchyma fibers

D. All of these

Answer: D

Watch Video Solution

24. Living differentiated cells which have otherwise lost the capacity to divide, can region the power of division under certain conditions. This phenomenon is termed as

A. differentiation

B. dedifferentiation

C. redifferentitation

D. development

Answer: B

Watch Video Solution

25. The dedifferentiated cells mature to form some specific cells to perform specific functions, this is referred to as

A. differentiation

B. dedifferentiation

C. redifferentitation

D. development

Answer: C

Watch Video Solution

26. _____are the examples of tissues, formed by dedifferentiation.

A. Interfassicular cambium

B. Cork cambium

C. Both (a) and (b)

D. Tracheary elements

Answer: C

Watch Video Solution

27. Examples of tissues that are formed by redifferentiation are

A. secondary xylem

B. secondary phloem

C. cork cell

D. all of these

Answer: D

Watch Video Solution

28. If a part of pith from the stem of a plant is used as an explant and cultured on nutrient medium, which of the following processes is responsible for the formation of an undifferentiated mass of cells called callus?

A. Growth

B. Differentiation

C. Dedifferentitation

D. Redifferentiation

Answer: C

View Text Solution

29. _____includes all the changes that an organism undergoes during its life cycle, from seed germination to senescence.

A. Growth

B. Differntitation

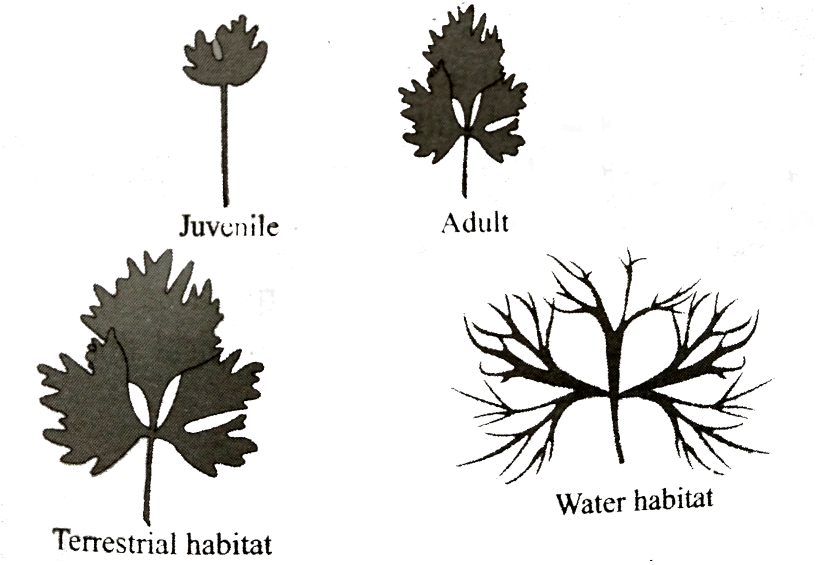
C. Dedifferentitation

D. Development

Answer: D

Watch Video Solution

30. Different kinds of structures develop in plants in different phase of growth or in response to enviornment. This ability is called____.



A. plasticity

B. elasticity

C. heterophylly

D. differentiation

Answer: A

Watch Video Solution

31. In aquatic plant Ranunculus flabellair (buttercup), submerged leaves are highly dissected whereas the emerged leaves are broad and lobed. This is an example of

A. heterophylly

B. enviornmental plasticity

C. phenology

D. both (a) and (b)

Answer: D

Watch Video Solution

32. Intrinsic heterophylly is found in all except

A. cotton

B. buttercup

C. cariander

D. larkspur

Answer: B

Watch Video Solution

33. Development in plants is influenced by both intrinsic and extrinsic factors. Which of the following is included under interinsic factors?

A. Growth regulators

B. Oxygen

C. Water

D. All of these

Answer: A

Watch Video Solution

Plant Growth Regulators

1. Cytokinis are mostly

A. glucosides

B. phenolics

C. amino purines

D. organic acids

Answer: C

Watch Video Solution

2. Select the pair that consists of plant growth promoters only.

A. Auxins and cytokinins

B. Gibberellins and ABA

C. Ethylene and ABA

D. All of these

Answer: A

Watch Video Solution

3. Which of the following is both a growth promoter as well as a growth inhibitor?

A. Auxin

B. Gibberellic acid

C. ABA

D. Ethylene

Answer: D

Watch Video Solution

4. Functions of plant growth promoters and plant growth inhibitros are given here in a jumbled up manner. Select the option that correctly

segregates these functions.

(i) Cell division (ii) Cell enlargement

(iii) Pattern formation (iv) Tropic growth

(v) Flowering (vi) Fruiting

(viii) Seed germination (viii) Response to wounding

(ix) Response to stresses of biotic and abiotic origin

(x) Dormancy

A. Functions of growth promoters $(i).(ii).(vii).(ix)$ functions of growth inhibitors $(ii).(iv).(v).(vi).(viii).(x)$

B. Functions of growth promoters $(viii).(ix).(x)$ functions of growth inhibitors $(i).(ii).(iii).(iv).(v).(vi).(vii)$

C. Functions of growth promoters $(i).(ii)(iii).(iv)(v).(vi).(vii)$ functions of growth inhibitors $(viii).(ix).(x)$

D. Functions of growth promoters $(i).(ii)(iii).(iv)(v).(vi).(vii).(ix).(x)$ functions of growth inhib $(viii)$

Answer: C

Watch Video Solution

5. Hormone involved in phototropism is

A. IA A

B. gibberellin

C. kinetin

D. 2,4-D

Answer: A

Watch Video Solution

6. Which plant hormone induces the phenomenon of photoropism in plants?

A. Auxins

B. Ethylene

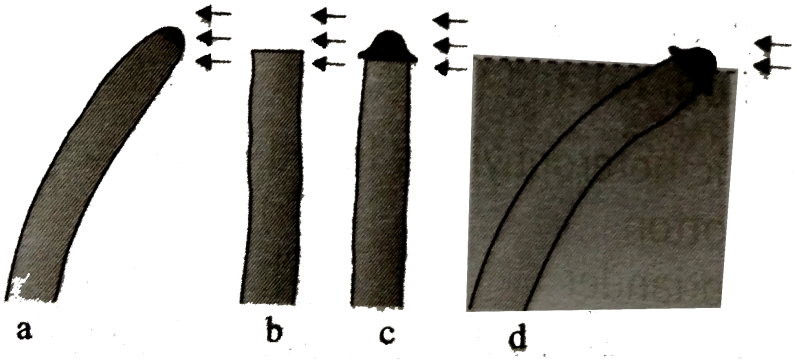
C. Cytokinin

D. Gibberellin

Answer: A

Watch Video Solution

7. Avena curvature test is a bioassay for examining the activity of



A. auxins

B. gibberellins

C. cytockinins

D. ethylene

Answer: A

Watch Video Solution

8. Gibberellin was first extracted from

A. Gibberella fujikori

B. Gelidium

C. Gracilaria

D. Aspergillus

Answer: A

Watch Video Solution

9. Which one is paired incorrectly?

A. Auxin - Isolated from human urine

B. Zeatin - Isolated from corn kernels and coconut milk

C. Gibberellins - Isolated from fungus G. fujikori

D. Abscisic acid - Isolated from ripened oranges

Answer: D

Watch Video Solution

10. Who isolated auxins from tips of coleoptiles of oat seedings?

A. Darwin and Darwin

B. Went

C. Skoog et al.

D. Kurosawa

Answer: B

Watch Video Solution

11. High concentration of auxin is present in

A. root apex

B. stem apex

C. node

D. petiole

Answer: B

Watch Video Solution

12. Which of the following effects of auxins on plants is the basis for their commercial application?

A. Callus formation

B. Curvature of stem

C. Induction of root formation in stem cuttings

D. Induction of shoot formation

Answer: C

Watch Video Solution

13. Which of the following hormones is used in root formation on stem cutting?

A. Kinetin

B. GA

C. ABA

D. IBA

Answer: D

Watch Video Solution

14. Select the correct statements (s) regarding auxins.

A. Auxins promote root growth only at extermely low concentrations and they inhibit root growth at higher concentrations.

B. Concentration of auxins which is inhibitroy to root growth causes initiation of adventitions roots from the nodes or basal regions of stem.

C. Auxins such as NA A and IBA are used to induce rooting in stem cuttings.

D. All of these

Answer: D

Watch Video Solution

15. Apical dominance is dicot plants is due to the presence of more____in the apical bud then in the lateral ones.

A. auxins

B. cytockinins

C. gibberellins

D. ethylene

Answer: A

Watch Video Solution

16. The term 'auxin precursor' refers to

A. raw material used in the synthesis of auxin

B. compound which inhibits the action of auxin

C. artificially synthesised auxin

D. active form of auxin

Answer: A

Watch Video Solution

17. Read the given statements and select the correct option.

(i) Darwin and Darwin (1880) found that sensation of unilateral illumination was perceived by the coleoptile tip of canary grass.

(ii) IA A is universal natural auxin, discovered by Kogi et al.

(iii) IBA is both natural and synthetic auxin.

(iv) Auxins promote the growth of lateral shoots.

A. statements (i) and (ii) are correct.

B. statements (ii) and (iii) are correct

C. Statements (i), (ii) and (iii) are correct

D. Statements (i),(ii),(iii) and (iv) are correct.

Answer: C

 Watch Video Solution

18. In the process of apical dominance, lateral buds are unable to grow in the presence of apical bud. This is due to

A. less amount of auxin in apical bud

B. more amount of auxin in apical bud

C. less amount of cytokinins in lateral buds.

D. more amount of cytokinins in lateral buds.

Answer: B

Watch Video Solution

19. Decapitation i.e. removal of shoot tips in a plant usually results in

A. inactivation of lateral buds

B. growth of lateral buds

C. cessation of plant growth

D. yellowing of leaves.

Answer: B

Watch Video Solution

20. In tea plantations and hedge making, gardeners trim the plants regularly so that they remain bushy. Scientific explanation behind this is

A. removal of apical dominance

B. growth of lateral buds

C. suppression of lateral buds

D. both (a) and (b)

Answer: D

Watch Video Solution

21. Removal of auxin source demonstrates that leaf abscission is _____by auxin, and apical dominance is_____by auxin.

A. promoted, promoted

B. inhibited, inhibited

C. promoted, inhibited

D. inhibited, promoted

Answer: D

Watch Video Solution

22. The hormone responsible for apical dominance is

A. I A A

B. GA

C. ABA

D. florigen

Answer: A

Watch Video Solution

23. Functions of auxins include

A. promoting flowering in pineapple

B. induing parthenocarpy in tomato

C. use as herbicides to kill dicot weeds

D. all of these

Answer: D

Watch Video Solution

24. To get a carpet like grass, lawns are moved regularly, this is done to

A. remove the shoot apical meristem

B. remove the axillary buds

C. accelerate the growth of terminal bud

D. both (b) and (c)

Answer: D

Watch Video Solution

25. Arificial application of auxins like IA A, IBA and NA A to unpollinated pistils can form

A. furits with much flesh

B. larger fruits

C. sweet fruits

D. seedless fruits

Answer: D

Watch Video Solution

26. The term 'antiauxin' refers to

A. raw material used in the synthesis of auxin

B. compound which inhibits the action of auxin

C. arificially synthesised auxin

D. active form of auxin.

Answer: B

Watch Video Solution

27. Which of the following statements regarding gibberellins is incorrect?

A. GA_3 was one of the first gibberellins to be discovered

B. All GA are acidic

C. They increase the length of plant axis as in graphs sugarcanes etc.

D. They promote senescence.

Answer: D

Watch Video Solution

28. The fruits can be left on the three longer using GA so as to extend the market period. This is due to which function of GA?

A. Bolting

B. Delaying senescence

C. Internodal elongation

D. Inducing parthenocarpy

Answer: B

Watch Video Solution

29. To speed up the malting process in brewing industry the growth hormone used is

A. auxin

B. gibberellin

C. kinetin

D. ethylene

Answer: B

Watch Video Solution

30. Read the given statements and select the correct option.

statement 1 : Elongation of reduced stem is possible due to application of gibberellin hormone.

Statement 2: Gibberellin stimulates cell divison and cell elongation.

A. Both statements 1 and 2 are corret

B. Statement 1 is correct but statement 2 is incorrect

C. Statement 1 is incorrect but statement 2 is correct

D. Both statements 1 and 2 are incorrect

Answer: A

Watch Video Solution

31. Spraying sugarcane with gibberellins increases the yield by as much as 20 tonnes per acre. GA performs it by

A. inproving the quality of fruit

B. increasinf sugar content

C. Internodal elongation

D. delaying senescence.

Answer: C

Watch Video Solution

32. Dwarfness can be controlled by treating the plant with

A. cytokinin

B. gibberellic acid

C. auxin

D. antigibberellin

Answer: B

Watch Video Solution

33. Bolting, i.e. internode elongation just prior to flowering in beet, cabbage and many rosette plants, is promoted by

A. auxins

B. gibberellins

C. cytokinins

D. ethylene

Answer: B

Watch Video Solution

34. Internodal elongation is stimulated by

A. auxin

B. ABA

C. cytokinin

D. gibberellin

Answer: D

Watch Video Solution

35. Which phytohormone would you use if you are asked to 'bolt' a rosette plant?

A. Auxins

B. Gibberellins

C. Cytokinins

D. Any of these

Answer: B

Watch Video Solution

36. Which of the following physiological effects is caused in plants by gibberellic acid?

A. shortening of genetically tall plants

B. Elongation of genetically dwarf plants

C. Rooting in stem cuttings

D. Yellowing of young leaves

Answer: B

Watch Video Solution

37. The activity of α-amylase in the endosperm of a germinating seed of barley is induced by

A. ethylene

B. cytokinin

C. IA A

D. gibberellin

Answer: D

Watch Video Solution

38. Kinetin, a modified form of adenine was discovered from

A. autoclaved herring sperm DNA

B. coconut milk

C. corn kernel

D. fungus

Answer: A

Watch Video Solution

39. Hormone primarily concern with cell division is

A. IA A

B. NA A

C. cytokinin

D. gibberellic acid

Answer: C

Watch Video Solution

40. Match column I with column II and select the correct option from the codes given below.

$columnI$	$columnII$
A. Natural auxin	$(i)NAA$
B. Synthetic auxin	(ii)Zeatin
C. Bakane disease of rice	$(iii)IAA$
D. Natural cytokinin	$(iv)GA$
	(v)Kinetic

A. A-(iii),B-(i),C-(iv),D-(ii)

B. A-(i),B-(iii),C-(iv),D-(v)

C. A-(iii),B-(i),C-(iv),D-(v)

D. A-(iv),B-(i),C-(v),D-(ii)

Answer: A

Watch Video Solution

41. Natural cytokinins are synthesised in regions where rapid cell division occurs. Such regions are

A. root apices

B. developing shoot buds

C. young fruits

D. all of these

Answer: D

Watch Video Solution

42. What would happen if you forget to add cytokinin to the culture medium ?

A. Callus will not develop shoot buds

B. Callus will not develop root buds

C. Callus will stop differentiating

D. Both (a) and (b)

Answer: A

Watch Video Solution

43. In addition to auxins_____must be supplied to culture medium to obtain a good callus in plant tissue culture,

A. ABA

B. cytokinins

C. gibberellins

D. ethylene

Answer: B

Watch Video Solution

44. In plant tissue culture experiments, high auxin to cytokinin ratio favours_____development and high cytokinin to auxin ratio favours_____development.

A. root, shoot

B. root, root

C. shoot, shoot

D. shoot,root

Answer: A

Watch Video Solution

45. A plant hormone used for inducing morphogensis in plant tissue culture is

A. abscisic acid

B. gibberellin

C. cytokinin

D. ethylene

Answer: C

Watch Video Solution

46. The phenomenon of apical dominance can be overcome by exogenous application of

A. auxins

B. gibberellins

C. cytokinins

D. ethylene

Answer: C

Watch Video Solution

47. Phytohormone A causes apical dominance while phytohormone B overcomes the same. Select the option that correctly identifies A and B.

A. $\begin{matrix} A & B \\ \text{Auxin} & \text{Cytokinin} \end{matrix}$

B. $\begin{matrix} A & B \\ \text{Cytokinin} & \text{Auxin} \end{matrix}$

C. $\begin{matrix} A & B \\ \text{Gibberellin} & \text{Cytokinin} \end{matrix}$

D. $\begin{matrix} A & B \\ \text{Auxin} & \text{Gibberellin} \end{matrix}$

Answer: A

Watch Video Solution

48. Hormone that promotes growth of lateral buds and has negative effect on apical dominance is

A. cytokinin

B. gibberellin

C. auxin

D. both (b) and (c)

Answer: A

Watch Video Solution

49. Auxin and cytokinin are antagonistic in which of the following funtions ?

A. Cell division

B. Phototropism

C. Apical dominance

D. Geotropism

Answer: C

Watch Video Solution

50. Induction of cell division activity and delay in senescence is caused by

A. gibberellin

B. auxin

C. cytokinin

D. ethylene

Answer: C

Watch Video Solution

51. Cytokinins help to produce all except

A. new leaves

B. chloroplast in leaves

C. lateral shoot growth and adventitious shoot formation

D. rooting on cut stem.

Answer: D

Watch Video Solution

52. Which among the following is not a function of cytokinis?

A. Essential for cytokinesis during cell division

B. Delays the senescence of leaves

C. Helps in fruit ripening

D. Helps to overcome apical dominance

Answer: C

Watch Video Solution

53. Match column I with column II and select the correct option from the codes given below.

$Column I$	$Column II$
(Phytohotomne)	(Plant part where it is synthesised)
$A.\ IAA$	(i)Tissues undergoing senescence
$B.$ Cytokinins	(ii)Shoot apices
$C.$ Ethylene	(iii)Root apices

A. A-(ii),B-(iii),C-(i)

B. A-(iii),B-(ii),C-(i)

C. A-(i),B-(ii),C-(iii)

D. A-(ii),B-(i),C-(iii)

Answer: A

Watch Video Solution

54. Read the given statements and select the correct option.

Statement 1: Ethylene is a gaseous hormone.

Statement 2: Ethylene causes climacteric ripening of fruits.

A. Both statements 1 and 2 are corret

B. Statement 1 is incorrect but statement 2 is incorrect

C. Statement 1 is incorrect but statement 2 is correct

D. Both statements 1 and 2 are incorrect

Answer: B

Watch Video Solution

55. Arifical ripening of fruits is caused by the treatment of

A. I A A

B. N A A

C. ethylene

D. Kinetin

Answer: C

Watch Video Solution

56. If a rotten fruit gets mixed with unripe fruits, the unripe fruits will

A. also be rotten

B. ripe quickly

C. remain unchanged

D. none of these

Answer: B

Watch Video Solution

57. The most widely used compound as a source of C_2H_4 is

A. Kinetin

B. zeatin

C. IBA

D. ethephon

Answer: D

Watch Video Solution

58. Read the given statements to identify the phytohormone that performs these functions.

(i) Horizontal growth of seedlings, swelling of the axis and apical hook formation in dicot seedlings.

(ii) Promoting senescence and abscission of leaves and flowers.

(iii) Breaking seed and bud dormancy.

(iv) Initiating germination in peanut seeds.

(v) Sprouting of potato tubers.

A. ABA

B. Ethylene

C. GA

D. Cytokinins

Answer: B

Watch Video Solution

59. Gibberellins promote the formation of $\underline{A}$flowers on genetically $\underline{B}$ plants in Cannabis whereas ethylene promotes formation of $\underline{C}$ flowers on genetically $\underline{D}$ Cannabis plants.

A. a) $\begin{matrix} A & B & C & D \\ \text{male} & \text{female} & \text{female} & \text{male} \end{matrix}$

B. b) $\begin{matrix} A & B & C & D \\ \text{male} & \text{male} & \text{female} & \text{female} \end{matrix}$

C. c) $\begin{matrix} A & B & C & D \\ \text{female} & \text{male} & \text{male} & \text{female} \end{matrix}$

D. d) $\begin{matrix} A & B & C & D \\ \text{female} & \text{female} & \text{male} & \text{male} \end{matrix}$

Answer: A

Watch Video Solution

60. A farmer grows cucumber plants in his field. He wants to increase the number of female flowers in them. Which plant growth regulator can be applied to achieve this?

A. ABA

B. Ethylene

C. GA

D. Cytokinins

Answer: B

Watch Video Solution

61. Seed dormancy is caused by

A. C_2H_4

B. ABA

C. I A A

D. GA_3

Answer: B

Watch Video Solution

62. Select the mismatched pair.

A. Gibberellic acid - Increase yield of sugarcane

B. Cytokinin - Promotes apical dominance

C. Ethylene - Sprouting of potato tuber

D. Abscisic acid - Inhibits seed germination

Answer: B

Watch Video Solution

63. Read the given statements and identify the plant hormones X,Y and Z.

(i) Hormone Y induces flowering in mango and also promotes rapid internode/petiole elongation in deep water rice plants and hence helping leaves or upper part of shoot to remain above water.

(ii) Hormone X promotes root growth and root hair formation.

(iii) Hormone Z inhibits the seed germination, increases the tolerance of plant to various stresses, play important role in seed development, maturation and dormancy.

A. $Y - ABA, X - \text{Auxin}, Z - GA$

B. $Y - C_2H_4 X - \text{Auxin}, Z - GA$

C. $Y - \text{Auxin}, X - C_2H_4, Z - GA$

D. $Y - C_2H_4, X - C_2H_4, Z - ABA$

Answer: D

Watch Video Solution

64. The hormone 'X' does the following functions.

(i) Induces seed dormancy.

(ii) Inhibits seed germination.

(iii) Stimulates closureo of stomata. The hormone 'X' should be

A. ABA

B. ethylene

C. GA

D. cytokinins

Answer: A

Watch Video Solution

65. The hormone which reduces transpiration rate by inducing stomatal closure is

A. ABA

B. ethylene

C. cytokinin

D. gibberellin

Answer: A

Watch Video Solution

66. Bud dormancy is induced by

A. I A A

B. GA

C. ABA

D. ethylene

Answer: C

Watch Video Solution

67. Hormone responsible for ageing is

A. GA

B. I A A

C. ABA

D. cytokinin

Answer: C

Watch Video Solution

68. Read the given statements and select the option that correctly identifies the incorrect ones.

(i) Cytokinin is primarily concerned with cell division.

(ii) C_2H_4 breaks seed and bud dormancy

(iii) ABA stimulates the opening of stomata.

(iv) C_2H_4 initiates germination in peanut seeds, sprouting of potato

tubers.

(v) ABA is synergistic to GA.

A. (i),(ii) and (iv)

B. (iii) and (ii)

C. (iii) and (v)

D. (iv) and (v)

Answer: C

Watch Video Solution

69. Match column I with column II and select the correct option from the codes given below,

$Column I$	$Column II$
$A.$ Auxin	(i)Fruit ripening
$B.$ Cytokinins	(ii)Phototropism
$C.$ abscisic acid	(iii)Antagonist to GAs
$D.$ Ethylene	(iv)Growth of lateral buds

A. A-(iv),B-(ii),C-(iii),D-(i)

B. A-(ii),B-(iv),C-(iii),D-(i)

C. A-(ii),B-(iii),C_(iv),D-(i)

D. A-(iii),B-(iv),C-(ii),D-(i)

Answer: B

Watch Video Solution

70. Match column I with column II and select the correct option from the codes given below.

$Column I$	$Column II$
A. Auxins	(i)Breaking seed dormancy
B. Gibberellins	(ii)Inducing fruit ripening
C. Cytokinins	(iii)Formation of abscission layer
D. Ethylene	(iv)Root initiation
	(v)Chloroplast development in leaves

A. A-(iv), B-(i), C-(v), D-(ii)

B. A-(iv),B-(v),C-(iii),D-(ii)

C. A-(i),B-(iii),C-(ii),D-(iv)

D. A-(iii),B-(iv),C-(i),D-(v)

Answer: A

Watch Video Solution

Photoperiosim

1. Plants which require an exposure to light for a period greater than critical day length are

A. long day plants

B. short day plants

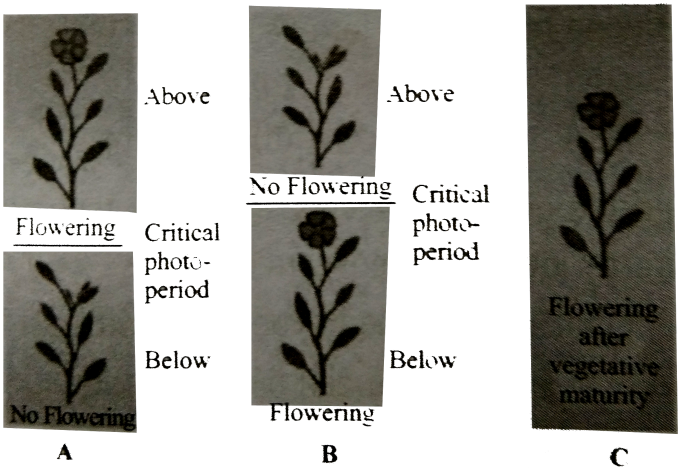
C. long-short day plants

D. short-long day plants

Answer: A

Watch Video Solution

2. The given figure shows flowering responses of three plants A,B and C to the photoperiod. Select the correct option regarding this.



A. A Long day plant B Day neutral plant C Short day plant

B. A Short day plant B Day neutral plant C Long day plant

C. A Long day plant B Short day plant C Day neutral plant

D. A Short day plant B Long day plant C Day neutral plant

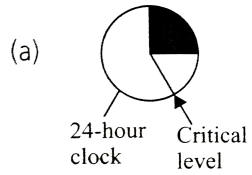
Answer: C

Watch Video Solution

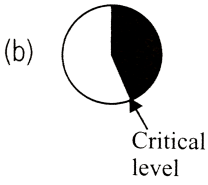
3. Maryland mammoth tabacco is a short day plant. Its critical duration of darkness is 10 hours. Under which of the following conditons will it not flower?

[Key : ▭ Light period ▬ Dark period]

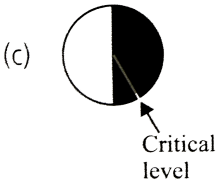
A.



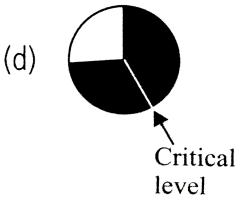
B.



C.



D.



Answer: A

Watch Video Solution

4. Four potted plants (I,II, III, and IV) of a short day plant, which has the crictical period of 14 hours, are taken and exposed to light for different time periods. The light periods given are listed in the table.

Potted plant	Photoperiod
I	$10hrs$
II	$15hrs$
III	$16hrs$
IV	$20hrs$

Which potted plant will show flowering after exposure to light?

A. I

B. II

C. III

D. IV

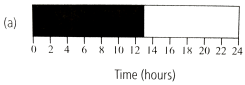
Answer: A

Watch Video Solution

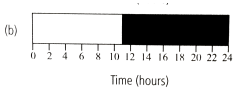
5. Sedum is a long day plant. Its critical duration of light is 13 hours. Under which of the following conditions would it flower?

[Key : ☐ = Period of light ■ = Period of darkness]

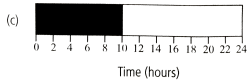
A.



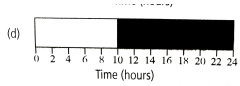
B.



C.



D.



Answer: C

Watch Video Solution

6. Phenomenon of photoperidodism was first discovered by _____in the "Maryland mammoth" variety of_____

A. Garner and Allard, tobacco

B. Went, tobacco

C. Garner and Allard, cocklebur

D. Knott, cocklebur

Answer: A

Watch Video Solution

7. The effect of daily duration of light and dark periods on the growth and development of plants, especially flowering, is called

A. thermotaxism

B. thermotropism

C. phototropism

D. photoperiodism

Answer: D

Watch Video Solution

8. Photoperiod stimulus is perceived by__pigment.

A. cryptochrome

B. cytochrome

C. phytochrome

D. monochrome

Answer: C

Watch Video Solution

Vernalisation

1. Low temperature treatment to speed up the process of flowering is referred to as

A. photoperiodism

B. vernalisation

C. thermoperiodism

D. hydroponics

Answer: B

Watch Video Solution

2. The stimulus of cold treatment (vernalisation) is perceived by

A. leaves

B. flowers

C. roots

D. shoot apices

Answer: D

Watch Video Solution

3. Cabbage is a biennial plant which produces flowers in second year of growth. In an attempt to make it flower in a single year, four potted plants (I,II, II, and IV) of cabbage were subjected to different temperatures for several days as given in the table.

Potted plant	Temperature
I	$5^{\circ} C$
II	$20^{\circ} C$
III	$30^{\circ} C$
IV	$25^{\circ} C$

Which potted plant will show flowering ?

A. I

B. II

C. III

D. IV

Answer: A

Watch Video Solution

4. Vernalisation can often be replaced by

A. auxin

B. cytokinins

C. gibberellins

D. ethylene

Answer: C

Watch Video Solution

Seed Dormancy

1. Which of the following inhibitors causes seed dormancy?

A. Abscisic acid

B. Phenolic acid

C. Para ascorbic acid

D. All of these

Answer: D

Watch Video Solution

2. Select the incorrect statement.

A. Impermeable and hard seed-coat causes seed dormancy

B. Effect of inhibitory substances can be removed by subjecting the seeds to gibberellic acid and nitrates.

C. Immature embryos causes seed dormancy

D. None of these

Answer: D

Watch Video Solution

3. Dormancy of seeds is broken by red light in

A. gram

B. pea

C. lettuce

D. castor

Answer: C

Watch Video Solution

4. In Xanthium and many grasses seed dormancy occurs due to

A. Impermeability of seed coats to oxygen

B. Impermeability of seed coats to water

C. Immaturity of embryo

D. Germination inhibitor

Answer: A

Watch Video Solution

5. A process of breaking seed dormancy of some plants in which seeds are treated in moist medium at low temperature $(5 - 10^{\circ} C)$ for period of time is known as.

A. scarification

B. stratification

C. vernalisation

D. none of these

Answer: A

Watch Video Solution

Hots

1. A young dicot seedling (e.g., soyabean) is laid horizontally on a surface and is subjected to gravity stimulus. The shoot bends in upward direction and the root bends in downwards direction. Which out of the following is the possible reason for this movement ?

A. a) Redistribution of auxins throughout the seedlings is responsible for the stimulatory unequal growth in shoots and roots.

B. b) Redistribution of cytokinins throughout the seddling is respondible for the stimulatory unequal growth in roots and shoots.

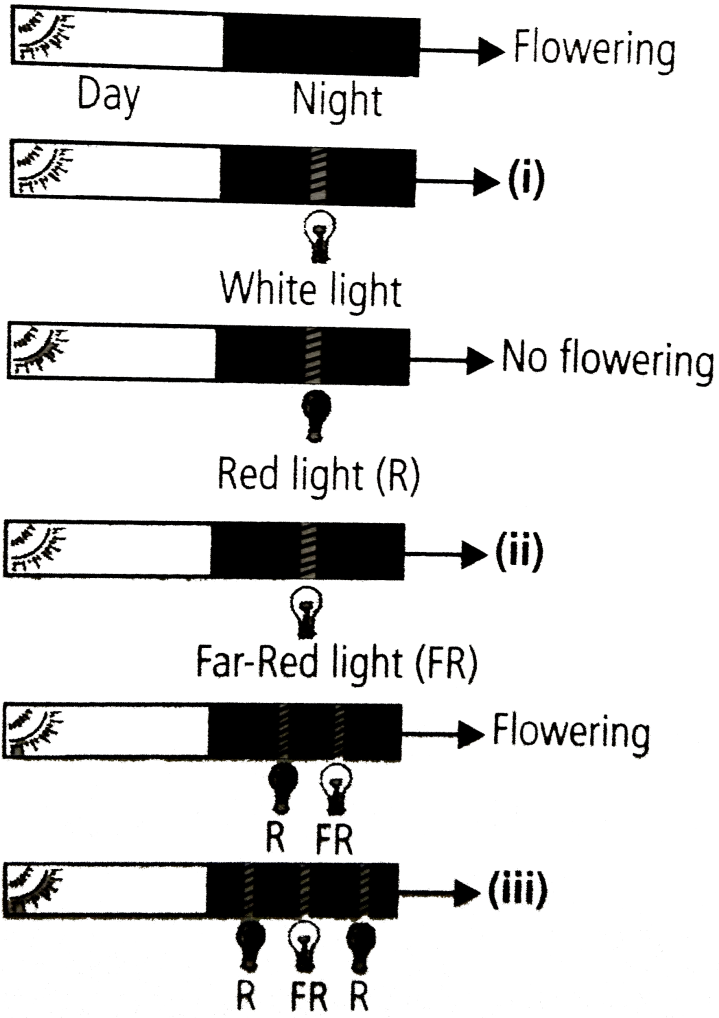
C. c) Redistribution of auxins in roots and cytokinins in shoots is responsible for stimulatory unequal growth.

D. d) Redistribution of auxins in shoots and cytokininis in roots is responsible for stimulatory unequal growth.

Answer: a

Watch Video Solution

2. Given figure shows the effect of interruption of skotoperiod (dark period) in a short day plant by light of different types.



Select the correct option for (i),(ii) and (iii).

A. (i) (ii) (iii)
Flowering Flowering No flowering

B. (i) No flowering (ii) No flowering (iii) Flowering

C. (i) No flowering (ii) Flowering (iii) No flowering

D. (i) Flowering (ii) No flowering (iii) No flowering

Answer: c

Watch Video Solution

3. A farmer while growing grape plants in his garden, observes the following:

(i) Fruit size normally remained small.

(ii) Natural seed abortion.

(iii) Reduced stem and leaf growth.

Which problems could be solved by application of gibberellic acid during the development of fruits?

A. (i) and (ii)

B. (i) and (iii)

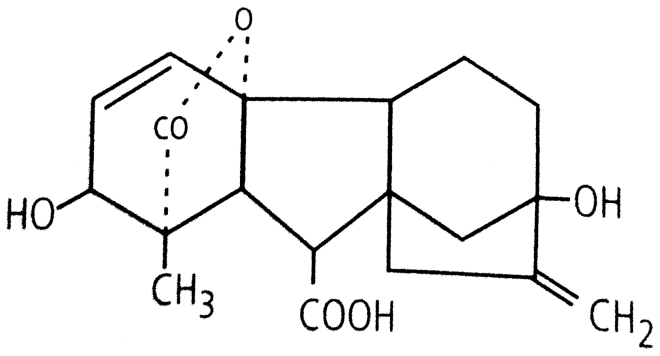
C. (i),(ii) and (iii)

D. None of these

Answer: b

Watch Video Solution

4. Select the correct option regarding the phytohormone to which the given molecualar structure belongs.



A. The hormone promotes femaleness in most flowers.

B. The hormone promotes apical domiance.

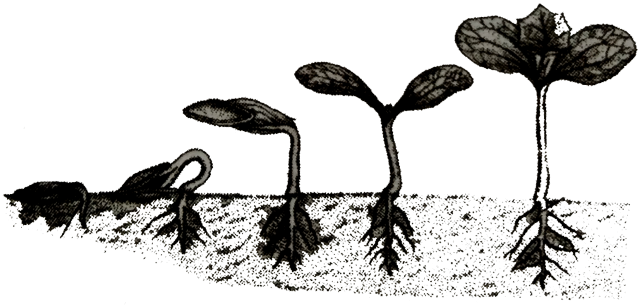
C. The hormone usually decreases the size of stem, leaves, flowes and fruits

D. The hormones breaks seed dormancy by synthesis of certain enzymes.

Answer: d

Watch Video Solution

5. Seed germination is the sprouting of a seed and growth of the embryo present inside the seed into a seedling or young plant capable of independent existence. Refer the given figure showing seed germination and mark the incorrect option.



A. Cotyledons are brought out of the soil by the greater growth of hypocotyl

B. Cotyledons becoms green and functional as first leaves of the seedling.

C. The hypocotyl does not elongate much, instead the epicotyl grows and takes the plumule above the soil.

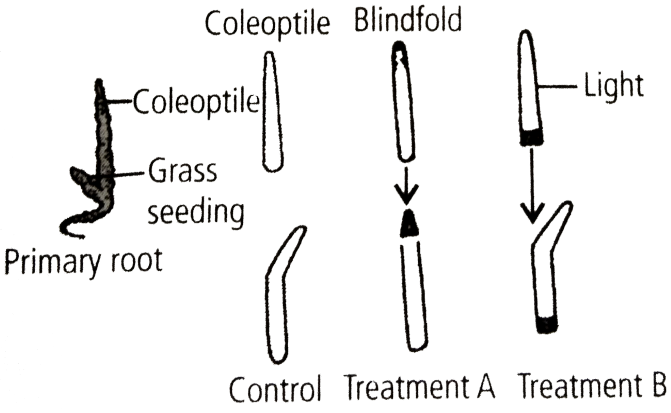
D. This kind of germination is found in seeds of beans.

Answer: c

Watch Video Solution

6. Charles Darwin and his son, Francis experimented with phototropism of grass seedlings by placing a metal foil blindfold over different parts of the seedling's coleoptile. A simplified version of their results is shown

below. Which of the following statements best explains their results?



A. a) The light signal is perceived a few milimetres below the tip, and these cells cause the coleoptile to grow toward the light.

B. b) Both the seedling root and coleoptile perceie and respond to light in the same manner.

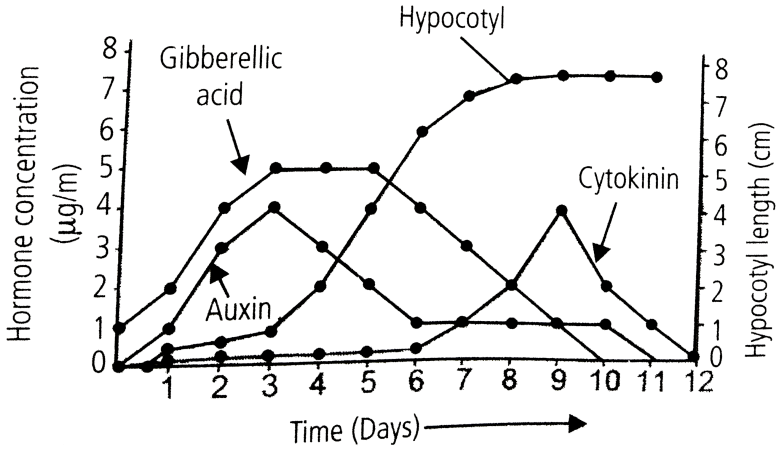
C. c) A chemical messenger must travel from the base of the coleoptile to the tip.

D. d) The light signal is perceived at the tip of the coleoptile, but the growth response occurs a few milimetres below the tip.

Answer: d

Watch Video Solution

7. Plant hormones play a role in regulating seed germination. The graph shows changes in hormone concentrations (left axis) and hypocotyl growth (right axis) over time for moong bean. Which hormone(s) most likely regulates hypocotyl (bean sprout) growth during moong bean germination?



A. Gibberellic acid

B. Auxin

C. Cytokinin alone

D. Both (a) and (b)

Answer: d

Watch Video Solution

Examplar Problems

1. Ethylene is used for

A. retarding ripening of tomatoes

B. hastening of ripening of fruits

C. slowing down ripening of apples

D. both (b) and (c)

Answer: b

Watch Video Solution

2. Coconut water contains

A. ABA

B. auxin

C. cytokinin

D. gibberellin

Answer: c

Watch Video Solution

3. The effect of apical dominance can be overcome by which of the following hormone ?

A. IAA

B. Ethylene

C. Gibberellin

D. Cytokinin

Answer: d

Watch Video Solution

4. Match the following.

$A.\ IAA$	(i)Hering spermDNA
$B.\ ABA$	(ii)Bolting
$C.$ Ethylene	(iii)Stomatal closure
$D.\ GA$	(iv)Weed-free lawns
$E.$ Cytokinins	(v)Ripening of fruits

A. A-(iv),B-(iii),C-(iv),-D-(ii),E-(i)

B. A-(iv),B-(iii),C-(iv),D-(ii),E-(i)

C. A-(iv),B-(i),C-(iv),D-(iii),E-(ii)

D. A-(iv),B-(iii),C-(ii),D-(i),E-(iv)

Answer: a

Watch Video Solution

5. Apples are generally wrapped in waxed paper to

A. prevent sunlight for changing its colour

B. prevent aerobic respiration by checking the entry of O_2

C. prevent ethylene formation due to injury

D. make the apples look attractive

Answer: b

Watch Video Solution

6. Growth can be measured in various ways. Which of these can be used as parameters to measure growth?

A. Increase in cell number

B. Increase in cell size

C. Increase in length and weight

D. All the above

Answer: d

Watch Video Solution

7. The term synergistic action of hormones refers to

A. A) when two hormones act together but bring about opposite effects.

B. B) when two hormones act together and contribute to the same function.

C. C) when one hormone affects more than one function

D. D) when many hormones bring about any one function

Answer: b

Watch Video Solution

8. Plasticity in plant growth means that

A. plant roots are extensible

B. plant development is dependent on the environment

C. stems can extend

D. none of the above

Answer: b

Watch Video Solution

9. To increase sugar production in sugarcanes, they are sprayed with

A. I A A

B. cytokinin

C. gibberellin

D. ethylene

Answer: c

Watch Video Solution

10. ABA acts antagonistic to

A. ethylene

B. cytokinin

C. gibberellic acid

D. IAA

Answer: c

Watch Video Solution

11. Monocarpic plants are those which

A. bear flowers with one ovary

B. flower once and die

C. bear only one flower

D. all of the above

Answer: b

Watch Video Solution

12. The photoperiod in plants is perceived at

A. meristem

B. flower

C. floral buds

D. leaves

Answer: d

Watch Video Solution

Assertion Reason

1. Assertion : Primary growth of the plants contributes to the elongation of the plants along their axis.

Reason : Root apical meristem and shoot apical meristem are responsible for primary growth of the plants.

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If both assertion and reason are false

Answer: a

Watch Video Solution

2. Assertion : The constantly dividing cells both at the root apex and the shoot apex, show the meristematic phase of growth.

Reason : The cells of this region are rich in protoplasm and are without nuclei.

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If both assertion and reason are false

Answer: c

Watch Video Solution

3. Assertion : Nutrients are required by plants for the synthesis of protoplasm and act as source of energy.

Reason : Water provides the medium for enzymatic activities needed for growth.

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If both assertion and reason are false

Answer: b

Watch Video Solution

4. Assertion : Development is the sum of growth and differentiation.

Reason : Development in plants is under the control of extrinstic factors only.

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If both assertion and reason are false

Answer: c

Watch Video Solution

5. Assertion : The difference in shapes of leaves produced in air and those produced in water in buttercup represent the heterophyllous

development due to environment.

Reason : The phenomenon of heterophylly is an example of plasticity.

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If both assertion and reason are false

Answer: b

Watch Video Solution

6. Assertion : Auxins help to prevent fruits and leaves droo at early stages.

Reason : Auxins promote the abscission of older mature leaves and fruits.

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If both assertion and reason are false

Answer: b

Watch Video Solution

7. Assertion : Decapitation is widely used in tea plantation and hedge-making.

Reason : Removal of shoot tips usually results in the growth of lateral buds.

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If both assertion and reason are false

Answer: a

Watch Video Solution

8. Assertion : 2,4-D is extensively used in agricultural and horticultural practies.

Reason : 2,4-D is a herbicide.

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If both assertion and reason are false

Answer: a

Watch Video Solution

9. Assertion : Gibberellins cause fruits like apple to elongate and improve its shape.

Reason : GA_3 is used to speed up the malting process in brewing industry.

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If both assertion and reason are false

Answer: b

Watch Video Solution

10. Assertion : Kinetin is found naturally in plants.

Reason : Cytokinin breaks seed and bud dormancy.

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If both assertion and reason are false

Answer: d

Watch Video Solution

11. Assertion : The most widely used compound as source of ethylene is ethephon.

Reason : Ethephon hastens fruit ripening in tomatoes and apples and accelerates abscission in stems and leaves.

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If both assertion and reason are false

Answer: c

Watch Video Solution

12. Assertion : Auxin was isolates by F.W. went from the tips of coleoptiles of wheat seedlings.

Reason : Etylene delays the senescence.

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If both assertion and reason are false

Answer: d

Watch Video Solution

13. Assertion : Abscisic acid (ABA) is also called stress hormone.

Reason : ABA increases the tolerance of plants to various kinds of stresses.

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If both assertion and reason are false

Answer: a

Watch Video Solution

14. Assertion : In some plants flowering depends only on a combination of light and dark exposure.

Reason : The site of perception of light or dark duration are the shoot apices of plants.

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If both assertion and reason are false

Answer: d

Watch Video Solution

15. Assertion : Vernalisation is the promotion of flowering by a period of low temperature.

Reason : It prevents precocious reproductive development late in the growing season.

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

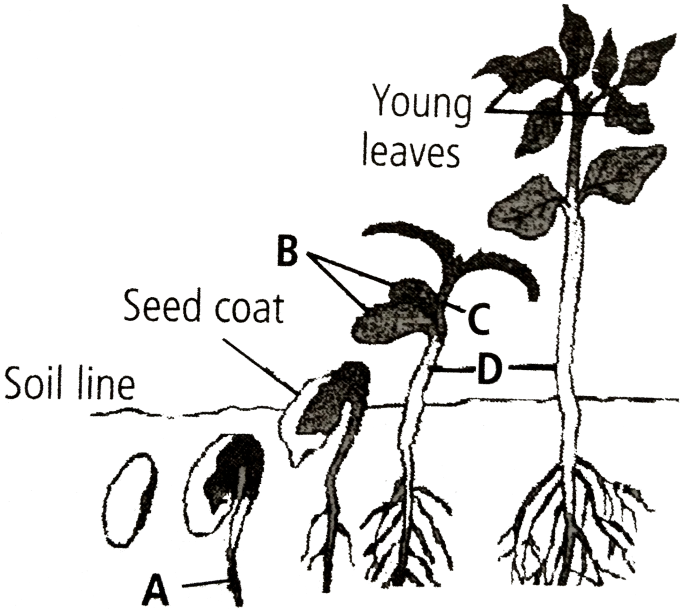
D. If both assertion and reason are false

Answer: b

Watch Video Solution

Plant Growth And Development

1. The given diagram shows different stages of seed germination. Identify A,B,C and D and select the correct option.



A. A Plumule B cotyledons C Epicotyl D Hypocotyl

B. A Radicle B cotyledons C Epicotyl D Hypocotyl

C. A Mesocotyl B cotyledons C Epicotyl D Hypocotyl

D. A Root hair B cotyledons C Hypocotyl D Epicotyl

Answer: B

Watch Video Solution

2. An irreversible or permanent increase in size, mass or volume of a cell, organ or organism is called as _____.

A. growth

B. differentiation

C. dedifferentitation

D. development

Answer: A

Watch Video Solution

3. Growth in plants is

A. only determinate

B. only indeterminate

C. mostly determinate

D. both determinate and indeterminate.

Answer: D

Watch Video Solution

4. Meristematic cells are characterised by

A. thin cellulosic cell walls

B. dense protoplasm

C. prominent nuclei

D. all of these

Answer: D

Watch Video Solution

5. Increased vacuolation, cell enlargement and new cell wall deposition are the characteristics of cells in____phase of growth.

A. meristematic

B. elongation

C. maturation

D. differentitation

Answer: B

Watch Video Solution

6. Vascular cambium and cork cambium are

A. lateral meristems

B. intercalary meristems

C. primary meristems

D. apical meristems.

Answer: A

Watch Video Solution

7. Increase in girth (diameter) of plant as a result of the activities of lateral meristems is called

A. primary growth

B. secondary growth

C. open form of growth

D. diffuse growth

Answer: B

Watch Video Solution

8. Secondary growth generally occurs in

A. monocots

B. dicots

C. gymnosperms

D. both (b) and (c)

Answer: D

Watch Video Solution

9. Growth at cellular level, is principally a consequence of increase in the amount of

A. protoplasm

B. DNA

C. cell wall

D. cell organelles

Answer: A

Watch Video Solution

10. Growth is maximum in zone of

A. cell elongation

B. cell division

C. cell maturation

D. all of these

Answer: A

Watch Video Solution

11. Fastest phase of S-shaped growth curve is

A. lag phase

B. log phase

C. stationary phase

D. both (a) and (b)

Answer: B

Watch Video Solution

12. Read the following statements regarding arithmetic growth and select the correct answer.

(i) Rate of growth is constant.

(ii) One daughter cell remains meristematic while the other one differentiates and matures.

(iii) Mathematical expression is $L_t = L_0 + rt$.

A. statements (i) and (ii) are correct.

B. statements (ii) and (iii) are correct

C. statements (i) and (iii) are correct

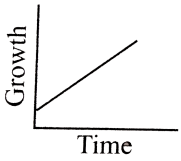
D. All statements are correct

Answer: D

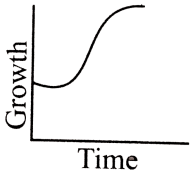
Watch Video Solution

13. Which one is the correct graph for arithmetic growth?

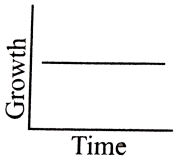
A. (a)



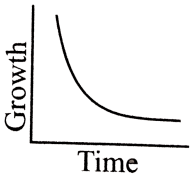
B. (b)



C. (c)



D. (d)



Answer: A

Watch Video Solution

14. Select the incorrect statement among the following.

A. Increase in growth per unit time is growth rate.

B. A sigmoid growth curve is a characteristic of most living organsims in their natural environment.

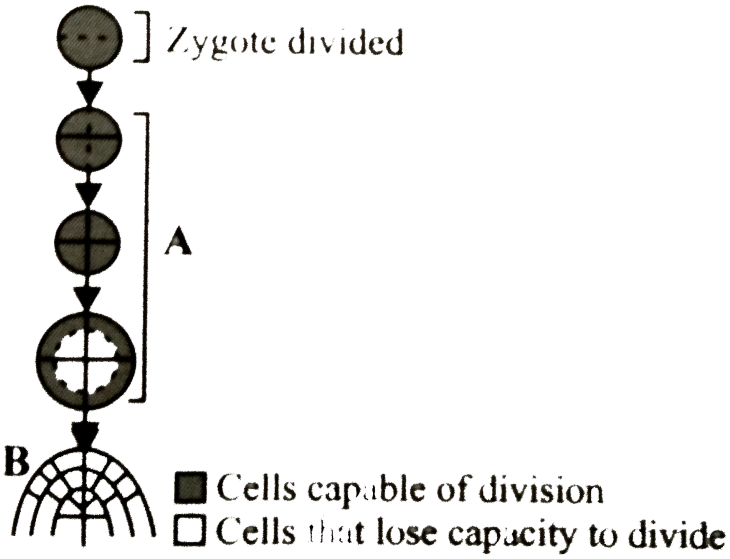
C. Rate of growth is constant during geometrical growth.

D. Exponential phase is also called as log phase.

Answer: C

Watch Video Solution

15. The given figure shows development of an embryo that undergoes two phases A and B. select the correct option regarding it.



A. A Geometric phase B Arithmetic phase

B. A Arithmetic phase B Geometric phase

C. A Arithmetic phase B Exponential phase

D. A Exponential phase B Stationary phase

Answer: A

Watch Video Solution

16. The exponential growth can be mathematically expressed as

A. $L_t = L_0 + rt$

B. $W_1 = W_0 + e^{rt}$

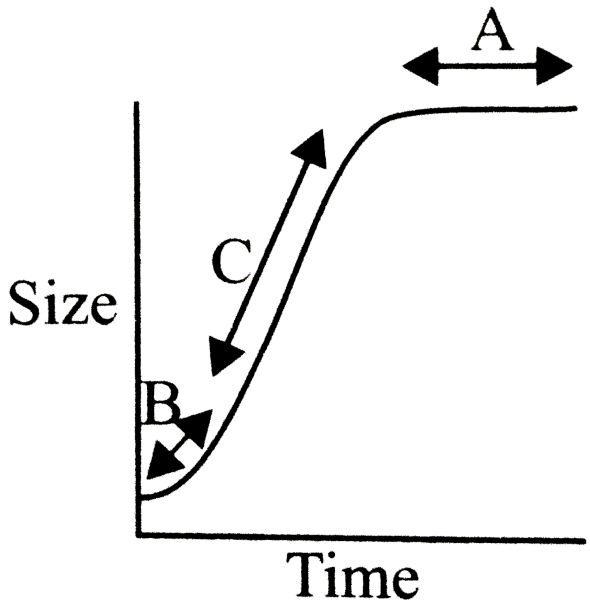
C. $W_1 = W_0 e^{rt}$

D. $L_t = L_0 - rt$

Answer: C

Watch Video Solution

17. Given graph is drawn on the parameters of growth versus time. Here A,B and C respetively represent



A. exponential phase, log phase and steady state phase

B. steady state phase, log phase and log phase

C. log phase, steady state phase and logarithmic phase

D. log phase, log phase and steady state phase.

Answer: B

Watch Video Solution

18. Read the given statements and select the correct option.

(i) One marize root cell can give rise to more than 17,500 cells.

(ii) A cell in watermelon can increase in size upto 3,50,000 times.

(iii) The growth of pollen tube is measured in terms of length.

(iv) The growth of the leaf is measured in term of surface area.

A. statements (i) and (ii) are correct.

B. statements (ii) and (iii) are correct

C. statements (i) and (iii) are correct

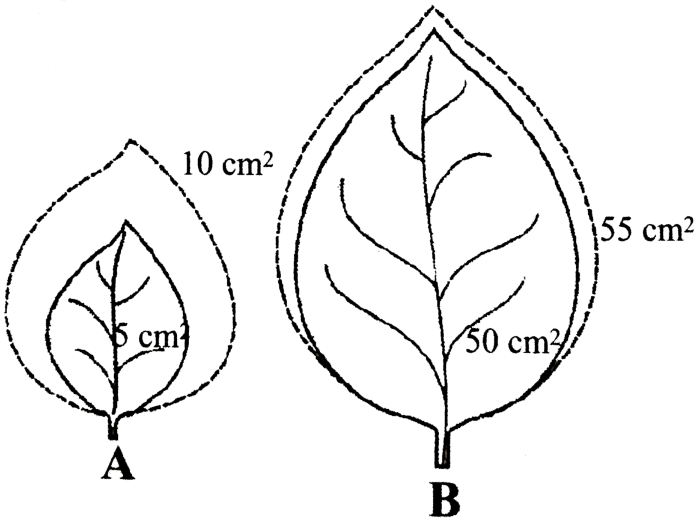
D. statements (i), (ii),(iii) and (iv) are correct.

Answer: D

Watch Video Solution

19. The given figure shows growth of two leaves over the period of one day. If $AG =$ absolute growth and RGR= relative growth rate, then select

the correct option.



A.	$AG$for leaf$A$	$RGR$for leaf$A$	$AG$for leaf$B$	$RGr$for leaf$B$
	1 %	1	2 %	2
B.	$AG$for leaf$A$	$RGR$for leaf$A$	$AG$for leaf$B$	$RGr$for leaf$B$
	100 %	5	10 %	5
C.	$AG$for leaf$A$	$RGR$for leaf$A$	$AG$for leaf$B$	$RGr$for leaf$B$
	5	100 %	5	10 %
D.	$AG$for leaf$A$	$RGR$for leaf$A$	$AG$for leaf$B$	$RGr$for leaf$B$
	5	100 %	5	100 %

Answer: C

View Text Solution

20. A primary root grows from 5 cm to 19 cm in a week. Calculate the absolute growth rate (AGR) and relative growth rate (RGR) over the period.

A. $\begin{matrix} AGR & RGR \\ 14cm & 2.8 \end{matrix}$

B. $\begin{matrix} AGR & RGR \\ 14cm & 3.8 \end{matrix}$

C. $\begin{matrix} AGR & RGR \\ 3.8cm & 14 \end{matrix}$

D. $\begin{matrix} AGR & RGR \\ 24cm & 2.8 \end{matrix}$

Answer: A

Watch Video Solution

21. The factors which influence growth are

A. nutrients

B. water, oxygen

C. light, temperature

D. all of these

Answer: D

Watch Video Solution

22. Cells of tracheary elements (trcheids and vessels) become dead at maturity and lose their protoplasm due to the deposition of lignocellulosic cell wall thickenings. This is an example of

A. growth

B. differentiation

C. dedifferentitation

D. redifferentiation

Answer: B

Watch Video Solution

23. Which of the following is an example of differentiation ?

A. Lignocellulosic wall thickenings of tracheids

B. Loss of nucleus, vacuolisation and end wall perofrations in sieve tube elements

C. Elongation, thickening and emptying of sclerenchyma fibers

D. All of these

Answer: D

Watch Video Solution

24. Living differentiated cells which have otherwise lost the capacity to divide, can region the power of division under certain conditions. This phenomenon is termed as

A. differentiation

B. dedifferentiation

C. redifferentitation

D. development

Answer: B

Watch Video Solution

25. The dedifferentiated cells mature to form some specific cells to perform specific functions, this is referred to as

A. differentiation

B. dedifferentiation

C. redifferentitation

D. development

Answer: C

Watch Video Solution

26. _____are the examples of tissues, formed by dedifferentiation.

A. Interfassicular cambium

B. Cork cambium

C. Both (a) and (b)

D. Tracheary elements

Answer: C

Watch Video Solution

27. Examples of tissues that are formed by redifferentiation are

A. secondary xylem

B. secondary phloem

C. cork cell

D. all of these

Answer: D

Watch Video Solution

28. If a part of pith from the stem of a plant is used as an explant and cultured on nutrient medium, which of the following processes is responsible for the formation of an undifferentiated mass of cells called callus?

A. Growth

B. Differentiation

C. Dedifferentitation

D. Redifferentiation

Answer: C

View Text Solution

29. _____includes all the changes that an organism undergoes during its life cycle, from seed germination to senescence.

A. Growth

B. Differntitation

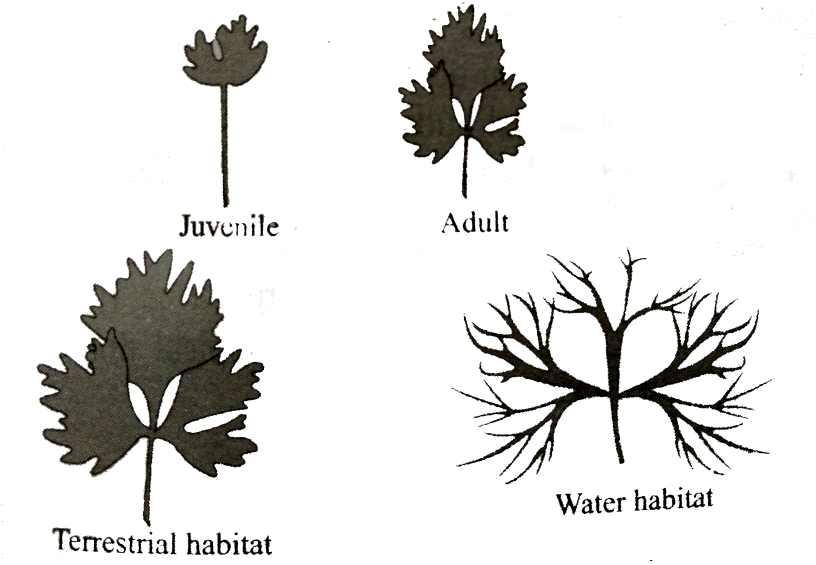
C. Dedifferentitation

D. Development

Answer: D

Watch Video Solution

30. Different kinds of structures develop in plants in different phase of growth or in response to enviornment. This ability is called____.



A. plasticity

B. elasticity

C. heterophylly

D. differentiation

Answer: A

Watch Video Solution

31. In aquatic plant Ranunculus flabellair (buttercup), submerged leaves are highly dissected whereas the emerged leaves are broad and lobed. This is an example of

A. heterophylly

B. enviornmental plasticity

C. phenology

D. both (a) and (b)

Answer: D

Watch Video Solution

32. Intrinsic heterophylly is found in all except

A. cotton

B. enviornmental plasticity

C. cariander

D. larkspur

Answer: B

Watch Video Solution

33. Development in plants is influenced by both intrinsic and extrinsic factors. Which of the following is included under interinsic factors?

A. Growth regulators

B. Oxygen

C. Water

D. All of these

Answer: A

Watch Video Solution

34. Cytokinis are mostly

A. glucosides

B. phenolics

C. amino purines

D. organic acids

Answer: C

Watch Video Solution

35. Select the pair that consists of plant growth promoters only.

A. Auxins and cytokinins

B. Gibberellins and ABA

C. Ethylene and ABA

D. All of these

Answer: A

Watch Video Solution

36. Which of the following is both a growth promoter as well as a growth inhibitor?

A. Auxin

B. Gibberellic acid

C. ABA

D. Ethylene

Answer: D

Watch Video Solution

37. Functions of plant growth promoters and plant growth inhibitros are given here in a jumbled up manner. Select the option that correctly

segregates these functions.

(i) Cell division (ii) Cell enlargement

(iii) Pattern formation (iv) Tropic growth

(v) Flowering (vi) Fruiting

(viii) Seed germination (viii) Response to wounding

(ix) Response to stresses of biotic and abiotic origin

(x) Dormancy

A. Functions of growth promoters $(i).(ii).(vii).(ix)$ functions of growth inhibitors $(ii).(iv).(v).(vi).(viii).(x)$

B. Functions of growth promoters $(viii).(ix).(x)$ functions of growth inhibitors $(i).(ii).(iii).(iv).(v).(vi).(vii)$

C. Functions of growth promoters $(i).(ii)(iii).(iv)(v).(vi).(vii)$ functions of growth inhibitors $(viii).(ix).(x)$

D. Functions of growth promoters $(i).(ii)(iii).(iv)(v).(vi).(vii).(ix).(x)$ functions of growth inhib $(viii)$

Answer: C

Watch Video Solution

38. Hormone involved in phototropism is

A. IA A

B. gibberellin

C. kinetin

D. 2,4-D

Answer: A

Watch Video Solution

39. Which plant hormone induces the phenomenon of photoropism in plants?

A. Auxins

B. Ethylene

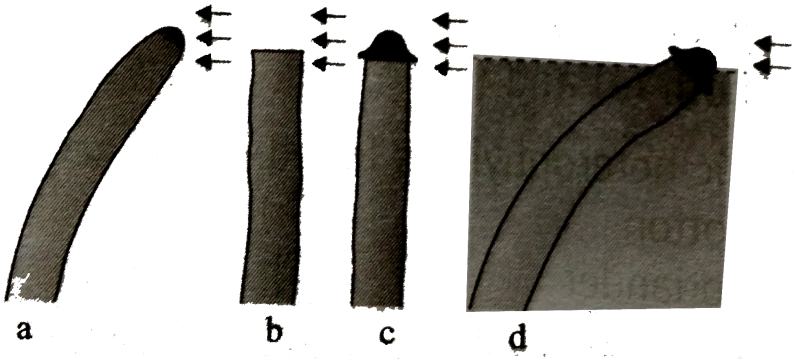
C. Cytokinin

D. Gibberellin

Answer: A

Watch Video Solution

40. Avena curvature test is a bioassay for examining the activity of



A. auxins

B. gibberellins

C. cytockinins

D. ethylene

Answer: A

Watch Video Solution

41. Gibberellin was first extracted from

A. Gibberella fujikori

B. Gelidium

C. Gracilaria

D. Aspergillus

Answer: A

Watch Video Solution

42. Which one is paired incorrectly?

A. Auxin - Isolated from human urine

B. Zeatin - Isolated from corn kernels and coconut milk

C. Gibberellins - Isolated from fungus G. fujikori

D. Abscisic acid - Isolated from ripened oranges

Answer: D

Watch Video Solution

43. Who isolated auxins from tips of coleoptiles of oat seedings?

A. Darwin and Darwin

B. Went

C. Skoog et al.

D. Kurosawa

Answer: B

Watch Video Solution

44. High concentration of auxin is present in

A. root apex

B. stem apex

C. node

D. petiole

Answer: B

Watch Video Solution

45. Which of the following effects of auxins on plants is the basis for their commercial application?

A. Cellus formation

B. Curvature of stem

C. Induction of root formation in stem cuttings

D. Induction of shoot formation

Answer: C

Watch Video Solution

46. Which of the following hormones is used in root formation on stem cutting?

A. Kinetin

B. GA

C. ABA

D. IBA

Answer: D

Watch Video Solution

47. Select the correct statements (s) regarding auxins.

A. Auxins promote root growth only at extermely low concentrations and they inhibit root growth at higher concentrations.

B. Concentration of auxins which is inhibitroy to root growth causes initiation of adventitions roots from the nodes or basal regions of stem.

C. Auxins such as NA A and IBA are used to induce rooting in stem cuttings.

D. All of these

Answer: D

Watch Video Solution

48. Apical dominance is dicot plants is due to the presence of more____in the apical bud then in the lateral ones.

A. auxins

B. cytockinins

C. gibberellins

D. ethylene

Answer: A

Watch Video Solution

49. The term 'auxin precursor' refers to

A. raw material used in the synthesis of auxin

B. compound which inhibits the action of auxin

C. artificially synthesised auxin

D. active form of auxin

Answer: A

Watch Video Solution

50. Read the given statements and select the correct option.

(i) Darwin and Darwin (1880) found that sensation of unilateral illumination was perceived by the coleoptile tip of canary grass.

(ii) IA A is universal natural auxin, discovered by Kogi et al.

(iii) IBA is both natural and synthetic auxin.

(iv) Auxins promote the growth of lateral shoots.

A. statements (i) and (ii) are correct.

B. statements (ii) and (iii) are correct

C. Statements (i), (ii) and (iii) are correct

D. Statements (i),(ii),(iii) and (iv) are correct.

Answer: C

Watch Video Solution

51. In the process of apical dominance, lateral buds are unable to grow in the presence of apical bud. This is due to

A. less amount of auxin in apical bud

B. more amount of auxin in apical bud

C. less amount of cytokinins in lateral buds.

D. more amount of cytokinins in lateral buds.

Answer: B

Watch Video Solution

52. Decapitation i.e. removal of shoot tips in a plant usually results in

A. inactivation of lateral buds

B. growth of lateral buds

C. cessation of plant growth

D. yellowing of leaves.

Answer: B

Watch Video Solution

53. In tea plantations and hedge making, gardeners trim the plants regularly so that they remain bushy. Scientific explanation behind this is

A. removal of apical dominance

B. growth of lateral buds

C. suppression of lateral buds

D. both (a) and (b)

Answer: D

Watch Video Solution

54. Removal of auxin source demonstrates that leaf abscission is _____by auxin, and apical dominance is_____by auxin.

A. promoted, promoted

B. inhibited, inhibited

C. promoted, inhibited

D. inhibited, promoted

Answer: D

Watch Video Solution

55. The hormone responsible for apical dominance is

A. I A A

B. GA

C. ABA

D. florigen

Answer: A

Watch Video Solution

56. Functions of auxins include

A. promoting flowering in pineapple

B. induing parthenocarpy in tomato

C. use as herbicides to kill dicot weeds

D. all of these

Answer: D

Watch Video Solution

57. To get a carpet like grass, lawns are moved regularly, this is done to

A. remove the shoot apical meristem

B. remove the axillary buds

C. accelerate the growth of terminal bud

D. both (b) and (c)

Answer: D

Watch Video Solution

58. Arificial application of auxins like IA A, IBA and NA A to unpollinated pistils can form

A. furits with much flesh

B. larger fruits

C. sweet fruits

D. seedless fruits

Answer: D

Watch Video Solution

59. The term 'antiauxin' refers to

A. raw material used in the synthesis of auxin

B. compound which inhibits the action of auxin

C. arificially synthesised auxin

D. active form of auxin.

Answer: B

Watch Video Solution

60. Which of the following statements regarding gibberellins is incorrect?

A. GA_3 was one of the first gibberellins to be discovered

B. All GA are acidic

C. They increase the length of plant axis as in graphs sugarcanes etc.

D. They promote senescence.

Answer: D

Watch Video Solution

61. The fruits can be left on the three longer using GA so as to extend the market period. This is due to which function of GA?

A. Bolting

B. Delaying senescence

C. Internodal elongation

D. Inducing parthenocarpy

Answer: B

Watch Video Solution

62. To speed up the malting process in brewing industry the growth hormone used is

A. auxin

B. gibberellin

C. kinetin

D. ethylene

Answer: B

Watch Video Solution

63. Read the given statements and select the correct option.

statement 1 : Elongation of reduced stem is possible due to application of gibberellin hormone.

Statement 2: Gibberellin stimulates cell divison and cell elongation.

A. Both statements 1 and 2 are corret

B. Statement 1 is correct but statement 2 is incorrect

C. Statement 1 is incorrect but statement 2 is correct

D. Both statements 1 and 2 are incorrect

Answer: A

Watch Video Solution

64. Spraying sugarcane with gibberellins increases the yield by as much as 20 tonnes per acre. GA performs it by

A. inproving the quality of fruit

B. increasinf sugar content

C. Internodal elongation

D. delaying senescence.

Answer: C

Watch Video Solution

65. Dwarfness can be controlled by treating the plant with

A. cytokinin

B. gibberellic acid

C. auxin

D. antigibberellin

Answer: B

Watch Video Solution

66. Bolting, i.e. internode elongation just prior to flowering in beet, cabbage and many rosette plants, is promoted by

A. auxins

B. gibberellins

C. cytokinins

D. ethylene

Answer: B

Watch Video Solution

67. Internodal elongation is stimulated by

A. auxin

B. ABA

C. cytokinin

D. gibberellin

Answer: D

Watch Video Solution

68. Which phytohormone would you use if you are asked to 'bolt' a rosette plant?

A. Auxins

B. Gibberellins

C. Cytokinins

D. Any of these

Answer: B

Watch Video Solution

69. Which of the following physiological effects is caused in plants by gibberellic acid?

A. shortening of genetically tall plants

B. Elongation of genetically dwarf plants

C. Rooting in stem cuttings

D. Yellowing of young leaves

Answer: B

Watch Video Solution

70. The activity of α-amylase in the endosperm of a germinating seed of barley is induced by

A. ethylene

B. cytokinin

C. IA A

D. gibberellin

Answer: D

Watch Video Solution

71. Kinetin, a modified form of adenine was discovered from

A. autoclaved herring sperm DNA

B. coconut milk

C. corn kernel

D. fungus

Answer: A

Watch Video Solution

72. Hormone primarily concern with cell division is

A. IA A

B. NA A

C. cytokinin

D. gibberellic acid

Answer: C

Watch Video Solution

73. Match column I with column II and select the correct option from the codes given below.

$column I$	$column II$
A. Natural auxin	$(i) NAA$
B. Synthetic auxin	(ii) Zeatin
C. Bakane disease of rice	$(iii) IAA$
D. Natural cytokinin	$(iv) GA$
	(v) Kinetic

A. A-(iii),B-(i),C-(iv),D-(ii)

B. A-(i),B-(iii),C-(iv),D-(v)

C. A-(iii),B-(i),C-(iv),D-(v)

D. A-(iv),B-(i),C-(v),D-(ii)

Answer: A

Watch Video Solution

74. Natural cytokinins are synthesised in regions where rapid cell division occurs. Such regions are

A. root apices

B. developing shoot buds

C. young fruits

D. all of these

Answer: D

Watch Video Solution

75. What would happen if you forget to add cytokinin to the culture medium ?

A. Callus will not develop shoot buds

B. Callus will not develop root buds

C. Callus will stop differentiating

D. Both (a) and (b)

Answer: A

Watch Video Solution

76. In addition to auxins_____must be supplied to culture medium to obtain a good callus in plant tissue culture,

A. ABA

B. cytokinins

C. gibberellins

D. ethylene

Answer: B

Watch Video Solution

77. In plant tissue culture experiments, high auxin to cytokinin ratio favours_____development and high cytokinin to auxin ratio favours_____development.

A. root, shoot

B. root, root

C. shoot, shoot

D.

Answer: A

Watch Video Solution

78. A plant hormone used for inducing morphogensis in plant tissue culture is

A. abscisic acid

B. gibberellin

C. cytokinin

D. ethylene

Answer: C

Watch Video Solution

79. The phenomenon of apical dominance can be overcome by exogenous application of

A. auxins

B. gibberellins

C. cytokinins

D. ethylene

Answer: C

Watch Video Solution

80. Phytohormone A causes apical dominance while phytohormone B overcomes the same. Select the option that correctly identifies A and B.

A. $\begin{matrix} A & B \\ \text{Auxin} & \text{Cytokinin} \end{matrix}$

B. $\begin{matrix} A & B \\ \text{Cytokinin} & \text{Auxin} \end{matrix}$

C. $\begin{matrix} A & B \\ \text{Gibberellin} & \text{Cytokinin} \end{matrix}$

D. $\begin{matrix} A & B \\ \text{Auxin} & \text{Gibberellin} \end{matrix}$

Answer: A

Watch Video Solution

81. Hormone that promotes growth of lateral buds and has negative effect on apical dominance is

A. cytokinin

B. gibberellin

C. auxin

D. both (b) and (c)

Answer: A

Watch Video Solution

82. Auxin and cytokinin are antagonistic in which of the following funtions ?

A. Cell division

B. Phototropism

C. Apical dominance

D. Geotropism

Answer: C

Watch Video Solution

83. Induction of cell division activity and delay in senescence is caused by

A. gibberellin

B. auxin

C. cytokinin

D. ethylene

Answer: C

Watch Video Solution

84. Cytokinins help to produce all except

A. new leaces

B. chloroplast in leaces

C. lareral shoot growth and adventitious shoot formation

D. rooting on cut stem.

Answer: D

Watch Video Solution

85. Which among the following is not a function of cytokinis?

A. Essential for cytokinesis during cell division

B. Delays the senescence of leaves

C. Helps in fruit ripening

D. Helps to overcome apical dominance

Answer: C

Watch Video Solution

86. Match column I with column II and select the correct option from the codes given below.

$Column I$	$Column II$
(Phytohotomne)	(Plant part where it is synthesised)
$A.\ IAA$	(i)Tissues undergoing senescence
$B.$ Cytokinins	(ii)Shoot apices
$C.$ Ethylene	(iii)Root apices

A. A-(ii),B-(iii),C-(i)

B. A-(iii),B-(ii),C-(i)

C. A-(i),B-(ii),C-(iii)

D. A-(ii),B-(i),C-(iii)

Answer: A

Watch Video Solution

87. Read the given statements and select the correct option.

Statement 1: Ethylene is a gaseous hormone.

Statement 2: Ethylene causes climacteric ripening of fruits.

A. Both statements 1 and 2 are corret

B. Statement 1 is incorrect but statement 2 is incorrect

C. Statement 1 is incorrect but statement 2 is correct

D. Both statements 1 and 2 are incorrect

Answer: B

Watch Video Solution

88. Arifical ripening of fruits is caused by the treatment of

A. I A A

B. N A A

C. ethylene

D. Kinetin

Answer: C

Watch Video Solution

89. If a rotten fruit gets mixed with unripe fruits, the unripe fruits will

A. also be rotten

B. ripe quickly

C. remain unchanged

D. none of these

Answer: B

Watch Video Solution

90. The most widely used compound as a source of C_2H_4 is

A. Kinetin

B. zeatin

C. IBA

D. ethephon

Answer: D

Watch Video Solution

91. Read the given statements to identify the phytohormone that performs these functions.

(i) Horizontal growth of seedlings, swelling of the axis and apical hook formation in dicot seedlings.

(ii) Promoting senescence and abscission of leaves and flowers.

(iii) Breaking seed and bud dormancy.

(iv) Initiating germination in peanut seeds.

(v) Sprouting of potato tubers.

A. ABA

B. Ethylene

C. GA

D. Cytokinins

Answer: B

Watch Video Solution

92. Gibberellins promote the formation of $\underline{A}$flowers on genetically $\underline{B}$ plants in Cannabis whereas ethylene promotes formation of $\underline{C}$ flowers on genetically $\underline{D}$ Cannabis plants.

A. $\begin{matrix} A & B & C & D \\ \text{male} & \text{female} & \text{female} & \text{male} \end{matrix}$

B. $\begin{matrix} A & B & C & D \\ \text{male} & \text{male} & \text{female} & \text{female} \end{matrix}$

C. $\begin{matrix} A & B & C & D \\ \text{female} & \text{male} & \text{male} & \text{female} \end{matrix}$

D. $\begin{matrix} A & B & C & D \\ \text{female} & \text{female} & \text{male} & \text{male} \end{matrix}$

Answer: A

Watch Video Solution

93. A farmer grows cucumber plants in his field. He wants to increase the number of female flowers in them. Which plant growth regulator can be applied to achieve this?

A. ABA

B. Ethylene

C. GA

D. Cytokinins

Answer: B

Watch Video Solution

94. Seed dormancy is caused by

A. C_2H_4

B. ABA

C. I A A

D. GA_3

Answer: B

Watch Video Solution

95. Select the mismatched pair.

A. Gibberellic acid - Increase yield of sugarcane

B. Cytokinin - Promotes apical dominance

C. Ethylene - Sprouting of potato tuber

D. Abscisic acid - Inhibits seed germination

Answer: B

Watch Video Solution

96. Read the given statements and identify the plant hormones X,Y and Z.

(i) Hormone Y induces flowering in mango and also promotes rapid internode/petiole elongation in deep water rice plants and hence helping leaves or upper part of shoot to remain above water.

(ii) Hormone X promotes root growth and root hair formation.

(iii) Hormone Z inhibits the seed germination, increases the tolerance of plant to various stresses, play important role in seed development, maturation and dormancy.

A. $Y - ABA, X - \text{Auxin}, Z - GA$

B. $Y - C_2H_4X - \text{Auxin}, Z - GA$

C. $Y - \text{Auxin}, X - C_2H_4, Z - GA$

D. $Y - C_2H_4, X - C_2H_4, Z - ABA$

Answer: D

Watch Video Solution

97. The hormone 'X' does the following functions.

(i) Induces seed dormancy.

(ii) Inhibits seed germination.

(iii) Stimulates closureo of stomata. The hormone 'X' should be

A. ABA

B. ethylene

C. GA

D. cytokinins

Answer: A

Watch Video Solution

98. The hormone which reduces transpiration rate by inducing stomatal closure is

A. ABA

B. ethylene

C. cytokinin

D. gibberellin

Answer: A

Watch Video Solution

99. Bud dormancy is induced by

A. I A A

B. GA

C. ABA

D. ethylen

Answer: C

Watch Video Solution

100. Hormone responsible for ageing is

A. GA

B. I A A

C. ABA

D. cytokinin

Answer: C

Watch Video Solution

101. Read the given statements and select the option that correctly identifies the incorrect ones.

(i) Cytokinin is primarily concerned with cell division.

(ii) C_2H_4 breaks seed and bud dormancy

(iii) ABA stimulates the opening of stomata.

(iv) C_2H_4 initiates germination in peanut seeds, sprouting of potato

tubers.

(v) ABA is synergistic to GA.

A. (i),(ii) and (iv)

B. (iii) and (ii)

C. (iii) and (v)

D. (iv) and (v)

Answer: C

Watch Video Solution

102. Match column I with column II and select the correct option from the codes given below,

$Column I$	$Column II$
A. Auxin	(i)Fruit ripening
B. Cytokinins	(ii)Phototropism
C. abscisic acid	(iii)Antagonist to GAs
D. Ethylene	(iv)Growth of lateral buds

A. A-(iv),B-(ii),C-(iii),D-(i)

B. A-(ii),B-(iv),C-(iii),D-(i)

C. A-(ii),B-(iii),C_(iv),D-(i)

D. A-(iii),B-(iv),C-(ii),D-(i)

Answer: B

Watch Video Solution

103. Match column I with column II and select the correct option from the codes given below.

$Column I$	$Column II$
A. Auxins	(i)Breaking seed dormancy
B. Gibberellins	(ii)Inducing fruit ripening
C. Cytokinins	(iii)Formation of abscission layer
D. Ethylene	(iv)Root initiation
	(v)Chloroplast development in leaves

A. A-(iv), B-(i), C-(v), D-(ii)

B. A-(iv),B-(v),C-(iii),D-(ii)

C. A-(i),B-(iii),C-(ii),D-(iv)

D. A-(iii),B-(iv),C-(i),D-(v)

Answer: A

Watch Video Solution

104. Plants which require an exposure to light for a period greater than critical day length are

A. long day plants

B. short day plants

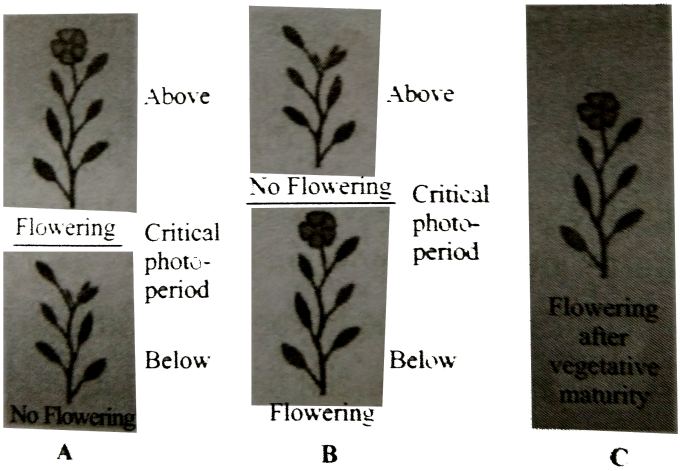
C. long-short day plants

D. short-long day plants

Answer: A

Watch Video Solution

105. The given figure shows flowering responses of three plants A,B and C to the photoperiod. Select the correct option regarding this.



A. A Long day plant B Day neutral plant C Short day plant

B. A Short day plant B Day neutral plant C Long day plant

C. A Long day plant B Short day plant C Day neutral plant

D. A Short day plant B Long day plant C Day neutral plant

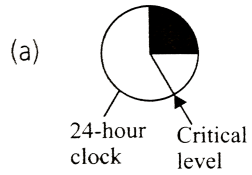
Answer: C

Watch Video Solution

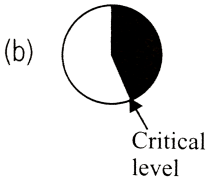
106. Maryland mammoth tabacco is a short day plant. Its critical duration of darkness is 10 hours. Under which of the following conditons will it not flower?

[Key : ▭ Light period ▬ Dark period]

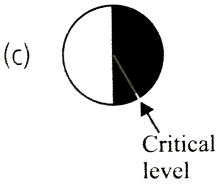
A.



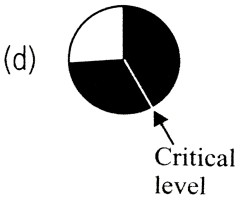
B.



C.



D.



Answer: A

Watch Video Solution

107. Four potted plants (I,II, III, and IV) of a short day plant, which has the crictical period of 14 hours, are taken and exposed to light for different time periods. The light periods given are listed in the table.

Potted plant	Photoperiod
I	$10hrs$
II	$15hrs$
III	$16hrs$
IV	$20hrs$

Which potted plant will show flowering after exposure to light?

A. I

B. II

C. III

D. IV

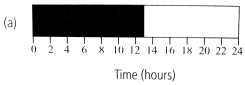
Answer: A

Watch Video Solution

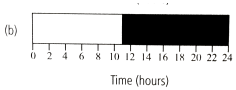
108. Sedum is a long day plant. Its critical duration of light is 13 hours. Under which of the following conditions would it flower?

[Key : ☐ = Period of light ■ = Period of darkness]

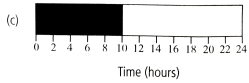
A.



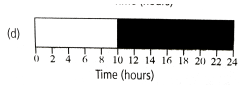
B.



C.



D.



Answer: C

Watch Video Solution

109. Phenomenon of photoperidodism was first discovered by _____in the "Maryland mammoth" variety of_____

A. Garner and Allard, tobacco

B. Went, tobacco

C. Garner and Allard, cocklebur

D. Knott, cocklebur

Answer: A

Watch Video Solution

110. The effect of daily duration of light and dark periods on the growth and development of plants, especially flowering, is called

A. thermotaxism

B. thermotropism

C. phototropism

D. photoperiodism

Answer: D

Watch Video Solution

111. Photoperiod stimulus is perceived by___pigment.

A. cryptochrome

B. cytochrome

C. phytochrome

D. monochrome

Answer: C

Watch Video Solution

112. Low temperature treatment to speed up the process of flowering is referred to as

A. photoperiodism

B. vernalisation

C. thermoperiodism

D. hydroponics

Answer: B

Watch Video Solution

113. The stimulus of cold treatment (vernalisation) is perceived by

A. leaves

B. flowers

C. roots

D. shoot apices

Answer: D

Watch Video Solution

114. Cabbage is a biennial plant which produces flowers in second year of growth. In an attempt to make it flower in a single year, four potted plants (I,II, II, and IV) of cabbage were subjected to different temperatures for several days as given in the table.

Potted plant	Temperature
I	$5^{\circ}C$
II	$20^{\circ}C$
III	$30^{\circ}C$
IV	$25^{\circ}C$

Which potted plant will show flowering ?

A. I

B. II

C. III

D. IV

Answer: A

Watch Video Solution

115. Vernalisation can often be replaced by

A. auxin

B. cytokinins

C. gibberellins

D. ethylene

Answer: C

Watch Video Solution

116. Which of the following inhibitors causes seed dormancy?

A. Abscisic acid

B. Phenolic acid

C. Para ascorbic acid

D. All of these

Answer: D

Watch Video Solution

117. Select the incorrect statement.

A. Impermeable and hard seed-coat causes seed dormancy

B. Effect of inhibitory substances can be removed by subjecting the seeds to gibberellic acid and nitrates.

C. Immature embryos causes seed dormancy

D. None of these

Answer: D

Watch Video Solution

118. Dormancy of seeds is broken by red light in

A. gram

B. pea

C. lettuce

D. castor

Answer: C

Watch Video Solution

119. In Xanthium and many grasses seed dormancy occurs due to

A. Impermeability of seed coats to oxygen

B. Impermeability of seed coats to water

C. Immaturity of embryo

D. Germination inhibitor

Answer: A

Watch Video Solution

120. A process of breaking seed dormancy of some plants in which seeds are treated in moist medium at low temperature $(5 - 10^{\circ} C)$ for period of time is known as.

A. scarification

B. stratification

C. vernalisation

D. none of these

Answer: A

Watch Video Solution

121. A young dicot seedling (e.g., soyabean) is laid horizontally on a surface and is subjected to gravity stimulus. The shoot bends in upward direction and the root bends in downwards direction. Which out of the following is the possible reason for this movement ?

A. Redistribution of auxins throughout the seedlings is responsible for the stimulatory unequal growth in shoots and roots.

B. Redistribution of cytokinins throughout the seddling is respondible for the stimulatory unequal growth in roots and shoots.

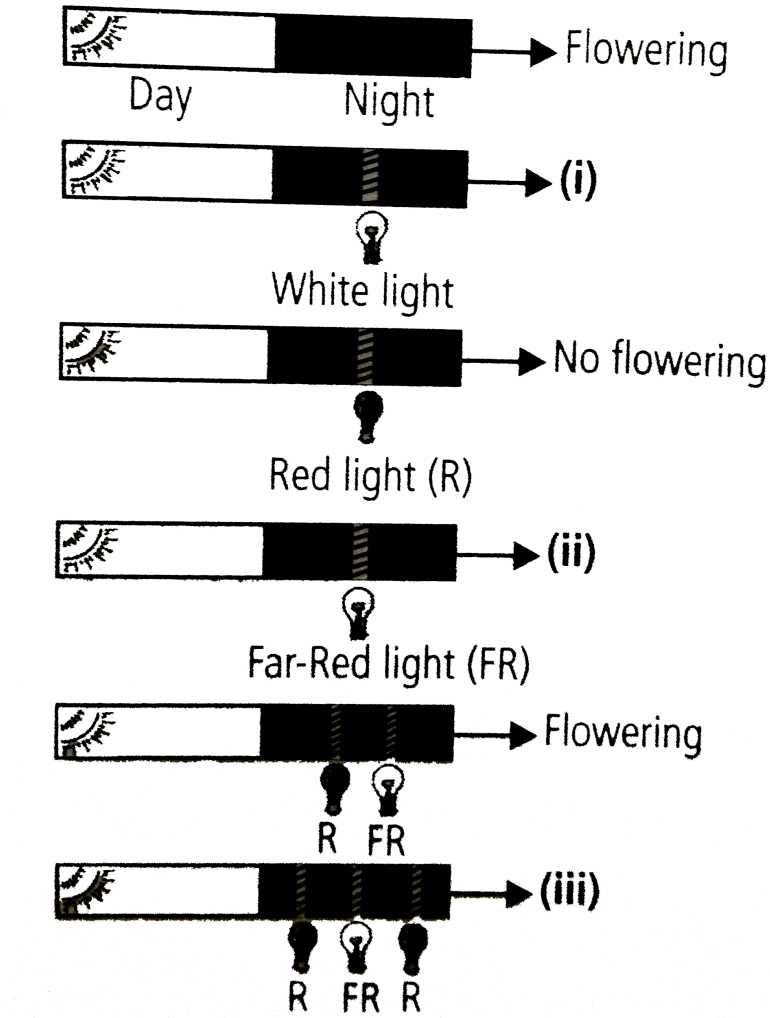
C. Redistribution of auxins in roots and cytokinins in shoots is responsible for stimulatory unequal growth.

D. Redistribution of auxins in shoots and cytokininis in roots is responsible for stimulatory unequal growth.

Answer: a

Watch Video Solution

122. Given figure shows the effect of interruption of skotoperiod (dark period) in a short day plant by light of different types.



Select the correct option for (i),(ii) and (iii).

A. (i) Flowering (ii) Flowering (iii) No flowering

B. (i) No flowering (ii) No flowering (iii) Flowering

C. (i) No flowering (ii) Flowering (iii) No flowering

D. (i) Flowering (ii) No flowering (iii) No flowering

Answer: c

Watch Video Solution

123. A farmer while growing grape plants in his garden, observes the following:

(i) Fruit size normally remained small.

(ii) Natural seed abortion.

(iii) Reduced stem and leaf growth.

Which problems could be solved by application of gibberellic acid during the development of fruits?

A. (i) and (ii)

B. (i) and (iii)

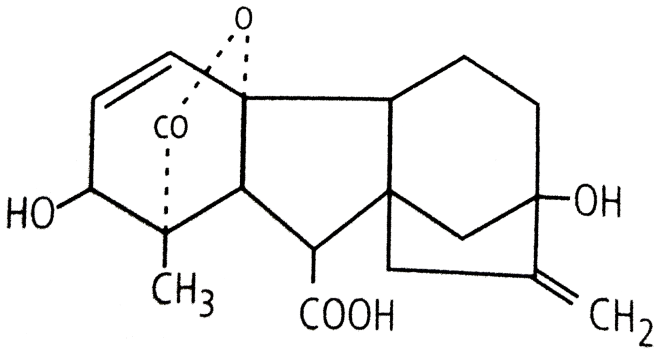
C. (i),(ii) and (iii)

D. None of these

Answer: b

Watch Video Solution

124. Select the correct option regarding the phytohormone to which the given molecualar structure belongs.



A. The hormone promotes femaleness in most flowers.

B. The hormone promotes apical domiance.

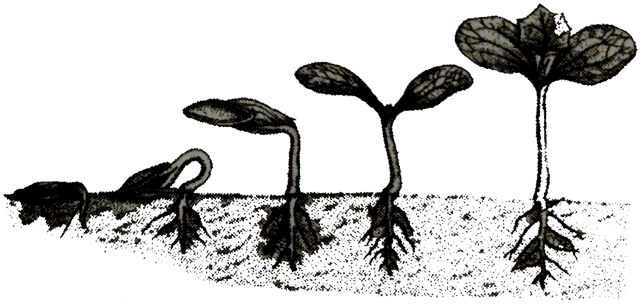
C. The hormone usually decreases the size of stem, leaves, flowes and fruits

D. The hormones breaks seed dormancy by synthesis of certain enzymes.

Answer: d

Watch Video Solution

125. Seed germination is the sprouting of a seed and growth of the embryo present inside the seed into a seedling or young plant capable of independent existence. Refer the given figure showing seed germination and mark the incorrect option.



A. Cotyledons are brought out of the soil by the greater growth of hypocotyl

B. Cotyledons becoms green and functional as first leaves of the seedling.

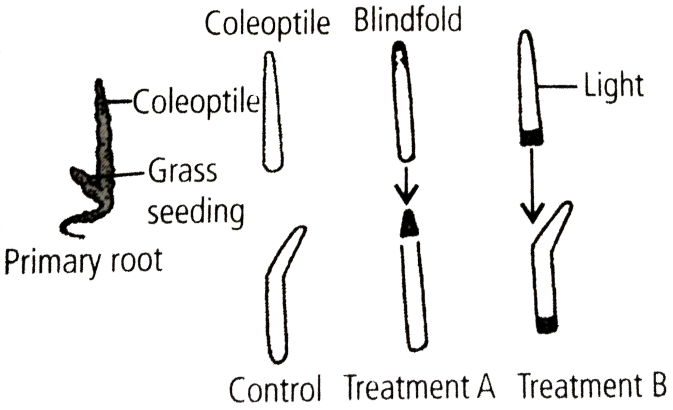
C. The hypocotyl does not elongate much, instead the epicotyl grows and takes the plumule above the soil.

D. This kind of germination is found in seeds of beans.

Answer: c

Watch Video Solution

126. Charles Darwin and his son, Francis experimented with phototropism of grass seedlings by placing a metal foil blindfold over different parts of the seedling's coleoptile. A simplified version of their results is shown below. Which of the following statements best explains their results?



A. The light signal is perceived a few milimetres below the tip, and these cells cause the coleoptile to grow toward the light.

B. Both the seedling root and coleoptile perceie and respond to light in the same manner.

C. A chemical messenger must travel from the base of the coleoptile to the tip.

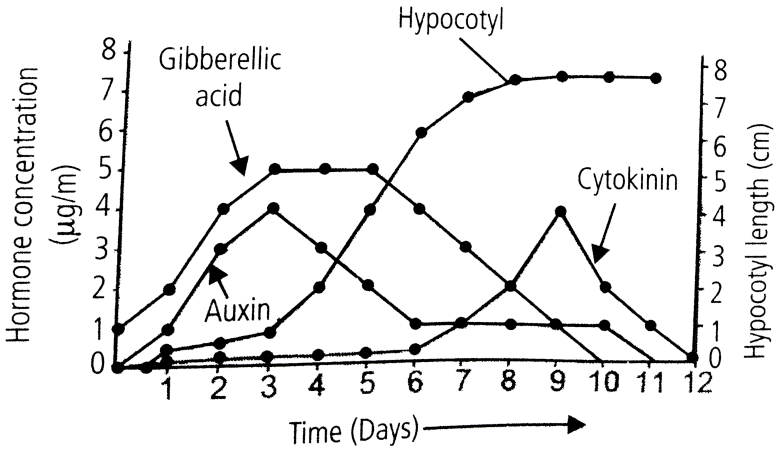
D. The light signal is perceived at the tip of the coleoptile, but the growth response occurs a few milimetres below the tip.

Answer: d

Watch Video Solution

127. Plant hormones play a role in regulating seed germination. The graph shows changes in hormone concentrations (left axis) and hypocotyl growth (right axis) over time for moong bean. Which hormone(s) most likely regulates hypocotyl (bean sprout) growth during moong bean

germination?



A. Gibberellic acid

B. Auxin

C. Cytokinin alone

D. Both (a) and (b)

Answer: d

Watch Video Solution

128. Ethylene is used for

A. retarding ripening of tomatoes

B. hastening of ripening of fruits

C. slowing down ripening of apples

D. both (b) and (c)

Answer: b

Watch Video Solution

129. Coconut water contains

A. ABA

B. auxin

C. cytokinin

D. gibberellin

Answer: c

Watch Video Solution

130. The effect of apical dominance can be overcome by which of the following hormone ?

A. IA A

B. Ethylene

C. Gibberellin

D. Cytokinin

Answer: d

Watch Video Solution

131. Match the following.

$A.\ IAA$	(i)Hering spermDNA
$B.\ ABA$	(ii)Bolting
$C.$ Ethylene	(iii)Stomatal closure
$D.\ GA$	(iv)Weed-free lawns
$E.$ Cytokinins	(v)Ripening of fruits

A. A-(iv),B-(iii),C-(iv),-D-(ii),E-(i)

B. A-(iv),B-(iii),C-(iv),D-(ii),E-(i)

C. A-(iv),B-(i),C-(iv),D-(iii),E-(ii)

D. A-(iv),B-(iii),C-(ii),D-(i),E-(iv)

Answer: a

Watch Video Solution

132. Apples are generally wrapped in waxed paper to

A. prevent sunlight for changing its colour

B. prevent aerobic respiration by checking the entry of O_2

C. prevent ethylene formation due to injury

D. make the apples look attractive

Answer: b

Watch Video Solution

133. Growth can be measured in various ways. Which of these can be used as parameters to measure growth?

A. Increase in cell number

B. Increase in cell size

C. Increase in length and weight

D. All the above

Answer: d

Watch Video Solution

134. The term synergistic action of hormones refers to

A. when two hormones act together but bring about opposite effects.

B. when two hormonea act together and contribute to the same function.

C. when one hormone affects more than one function

D. when many hormones bring about any one function

Answer: b

Watch Video Solution

135. Plasticity in plant growth means that

A. plant roots are extensible

B. plant development is dependent on the environment

C. stems can extend

D. none of the above

Answer: b

Watch Video Solution

136. To increase sugar production in sugarcanes, they are sprayed with

A. I A A

B. cytokinin

C. gibberellin

D. ethylene

Answer: c

Watch Video Solution

137. ABA acts antagonistic to

A. ethylene

B. cytokinin

C. gibberellic acid

D. IA A

Answer: c

Watch Video Solution

138. Monocarpic plants are those which

A. bear flowers with one ovary

B. flower once and die

C. bear only one flower

D. all of the above

Answer: b

Watch Video Solution

139. The photoperiod in plants is perceived at

A. meristem

B. flower

C. floral buds

D. leaves

Answer: d

Watch Video Solution

140. Assertion : Primary growth of the plants contributes to the elongation of the plants along their axis.

Reason : Root apical meristem and shoot apical meristem are responsible for primary growth of the plants.

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If both assertion and reason are false

Answer: a

Watch Video Solution

141. Assertion : The constantly dividing cells both at the root apex and the shoot apex, show the meristematic phase of growth.

Reason : The cells of this region are rich in protoplasm and are without nuclei.

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If both assertion and reason are false

Answer: c

Watch Video Solution

142. Assertion : Nutrients are required by plants for the synthesis of protoplasm and act as source of energy.

Reason : Water provides the medium for enzymatic activities needed for growth.

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If both assertion and reason are false

Answer: b

Watch Video Solution

143. Assertion : Development is the sum of growth and differentiation.

Reason : Development in plants is under the control of extrinstic factors only.

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If both assertion and reason are false

Answer: c

Watch Video Solution

144. Assertion : The difference in shapes of leaves produced in air and those produced in water in buttercup represent the heterophyllous development due to environment.

Reason : The phenomenon of heterophylly is an example of plasticity.

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If both assertion and reason are false

Answer: b

Watch Video Solution

145. Assertion : Auxins help to prevent fruits and leaves droo at early stages.

Reason : Auxins promote the abscission of older mature leaves and fruits.

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If both assertion and reason are false

Answer: b

Watch Video Solution

146. Assertion : Decapitation is widely used in tea plantation and hedge-making.

Reason : Removal of shoot tips usually results in the growth of lateral buds.

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If both assertion and reason are false

Answer: a

Watch Video Solution

147. Assertion : 2,4-D is extensively used in agricultural and horticultural practies.

Reason : 2,4-D is a herbicide.

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If both assertion and reason are false

Answer: a

Watch Video Solution

148. Assertion : Gibberellins cause fruits like apple to elongate and improve its shape.

Reason : GA_3 is used to speed up the malting process in brewing industry.

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If both assertion and reason are false

Answer: b

Watch Video Solution

149. Assertion : Kinetin is found naturally in plants.

Reason : Cytokinin breaks seed and bud dormancy.

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If both assertion and reason are false

Answer: d

Watch Video Solution

150. Assertion : The most widely used compound as source of ethylene is ethephon.

Reason : Ethephon hastens fruit ripening in tomatoes and apples and accelerates abscission in stems and leaves.

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If both assertion and reason are false

Answer: c

Watch Video Solution

151. Assertion : Auxin was isolates by F.W. went from the tips of coleoptiles of wheat seedlings.

Reason : Etylene delays the senescence.

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If both assertion and reason are false

Answer: d

Watch Video Solution

152. Assertion : Abscisic acid (ABA) is also called stress hormone.

Reason : ABA increases the tolerance of plants to various kinds of stresses.

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If both assertion and reason are false

Answer: a

Watch Video Solution

153. Assertion : In some plants flowering depends only on a combination of light and dark exposure.

Reason : The site of perception of light or dark duration are the shoot apices of plants.

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If both assertion and reason are false

Answer: d

Watch Video Solution

154. Assertion : Vernalisation is the promotion of flowering by a period of low temperature.

Reason : It prevents precocious reproductive development late in the growing season.

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If both assertion and reason are false

Answer: b


Watch Video Solution