BIOLOGY

BOOKS - A2Z BIOLOGY (HINGLISH)

PLANT GROWTH AND DEVELOPMENT

Section A Topicwise Questions Topic 1 Growth Phases Of Growth Rates And Conditions Of Growth

1. All cells of a plant are descendents of the

A. Zygote

B. Apical meristem

C. Lateral meristem

D. Both B and C

Answer: A

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2. Which of the following is correct about growth?

A. Growth is regarded as one of most fundamental and conspicuous characteristics of living being.

B. Growth can be defined as an irreversible permanent increase in size of an organ or its parts or even of an individual cell.

C. Generally growth is accompanied by metabolic processes (both anabolic and catabolic), that occur at the expense of energy

D. All of the above

Answer: D

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3. The form of growth wherein new cells are always being added to the plant body by the activity of the meristem is called

A. Open form of growth

B. Closed form of growth

C. Determine of growth

D. Both A and C

Answer: A

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4. Recoginise the figure and find the correct labelling

A. a-vascular cambium, b-shoot apical meristem, called the o-root apical meristem

B. b--vascular cambium, e-shoot apical meristem, (A) Open form of growth a-root apical meristem (B) Closed form of growth

C. c-vascular cambium, a-shoot apical meristem, (C) Determinate growth b-root apical meristem

D. c-vascular cambium, b-shoot apical meristem, a-root apical meristem

Answer: C

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5. Root apical meristem and shoot apical meristem are responsible for the growth of plants and principally contribute to the elongation of the plants along their axis. This growth is called

A. Primary growth

B. Indeterminate growth

C. Secondary growth

D. Both B and C

Answer: A

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6. In dicotyledonous plants and gymnosperms, the lateral meristems-vascular cambium and cork cambiumappear later in life.

They are the meristems that cause increase in the gowrth of the organs in which they are active. This is known as

A. Primary growth

B. Secondary growth

C. Indeterminate growth

D. Both B and C

Answer: B

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7. The following figure shows

A. Growth of the pollen tube in terms of surface area

B. Detection of zone of elongation by the parallel line technique

C. Detection of zone of maturation by parallel line technique

D. Detection of zone of meristematic activity by the parallel line technique

Answer: B

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8. Characteristic found in the cells of the meristematic zone is/are

A. The cells of this region are rich in protoplasm, possess small inconspicuous nuclei.

B. Their cell walls are primary in nature, thin and cellulosic with abundant plasmodesmatal connections.

C. Both A and B.

D. None of the above.

Answer: B

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9. Cells attaining their maximum size in terms of wall thickening and protoplasmic modifications belong to

A. Meristematic phase

B. Phase of elongation

C. Phase of maturation

D. Both B and C

Answer: A

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

A. Meristematic phase

B. Phase of elongation

C. Phase of maturation

D. Both B and C

Answer: B

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11. Recognise the figure and fmd out the correct labelling:

A. a and c-arithmetic, b and d-geometric

B. a and c-geometric, b and d-arithmetic

C. a and d-geometric, b and o-arithmetic

D. a and d-arithmetic, b and o-geometric

Answer: D

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12. The increased growth per unit time is termed as

A. Efficiency index

B. Relative growth rate

C. Growth rate

D. Intrinsic rate of natural increase

Answer: C

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13. A sigmoid or S-curve is a characteristic of

A. Living organism growing in a natural enviromnent

B. ypically all cells, tissues and organs of a plant

C. Root elongation at a constant rate

D. Both A and B

Answer: D

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14. Recognise the figure and find out the correct labelling:

A. a-linear curve in geometric growth, b-sigmoid or

B. Measurement and the comparison of total growth S-curve in arithmetic growth per unit time is called the ....a.... growth rate.

C. a-sigmoid or S-curve in geometric growth, b-linear curve in arthetic growth.

D. a-sigmoid or S-curve in arithmetic growth, blinear curve in geometric growth

Answer: B

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15. Fill in the blanks

1. . In ....a.... growth, both the progeny cells following 19 mitotic cell division retain the ability to divide and continue to do so.

2.In .....b growth, following mitotic cell division, only one daughter cell continues to divide while the other differentiates and matures.

3.Anthmetlc growth is mathemancally expressed as ....c...

4.The exponential growth can be expressed as....d...

A. a-arithmetic, b-geometric, c=$W_1 = W_0 e^{rt}$

,d-$L_t = L_0 + rt$

B. a-arithmetic, b-geometric, d=

$W_1 = W_0 e^{rt}$,c-$L_t = L_0 + rt$

C. b-arithmetic, a-geometric, c=$W_1 = W_0 e^{rt}$

,d-$L_t = L_0 + rt$

D. b-arithmetic, c-geometric, d=

$W_1 = W_0 e^{rt}$,d-$L_t = L_0 + rt$

Answer: D

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16. Recognise the figure and fnd out the correct

A. a--epicotyl, b-hypocotyl, c-cotyledon

B. c-epicotyl, a--hypocotyl, b-cotyledon

C. b-epicotyl, o-hypocotyl, a-coty1edon

D. b-epicotyl, a-hypocotyl, c-cotyledon

Answer: C

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17. The measure of the abillty of the plant to produce new plant material is referred to as

A. Relative growth rate

B. Absolute growth rate

C. Efficiency index

D. Both A and C

Answer: C

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18. Fill in the blanks

Qualitative comparisons between the growth of the living system can be in two ways:

(i) Measurement and the comparison of total growth per unit time is called the ..a...grwoth rate.

(ii) The growth of the given system per unit time expressed on a common basis, eg. per unit iniitial parameter is called...b.... growth rate

A. a-absolute,b-releative

B. a-relative,b-absolute

C. a-arithmetic,b-geometeric

D. a-geometric,b-arithmetic

Answer: A

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19. The simplest expression of arithmetic of arithmetic growth is exemplfied buy

A. Living organism growing in a natural enviornment

B. Typically all cells, tissuses and organs of a plant

C. Root enlongation at a constant rate

D. Both A and B

Answer: C

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20. Two leaves A and B are of different sizes but shows absolute increases in area in the unit time to give leaves A^1 and B^1. Find out the absolute growth and releatives growth rate of both the leaves.

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21. Which of the following is necessary for growth

A. Water

B. Oxygen

C. Nutrients

D. All of the above

Answer: D

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22. Auxanometer is required for

A. Studying rate of transpiration

B. Measuring rate of respiration

C. Finding out rate of photosynthese

D. Calculating rate of growth

Answer: D

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23. Shock movements of leaves of Sensitive Plant, Mimosa pudica, are

A. Thermonasty

B. Seismonasty

C. Hydrotropism

D. Chemonasty

Answer: B

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24. Movement of plant part in response to touch is

A. Seismonasty

B. Thigmonasty

C. Nutation

D. None of the above

Answer: B

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25. Clinostat is employed in the study of

A. Osmosis

B. Growth movements

C. Photosynthesis

D. Resipiration

Answer: B

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26. Recognise the figure and fin out the correct labelling

A. a-log phase, b-log phase, c-stationary phase

B. a-log phase, b-log phase, c-stationary phase

C. a-log phase, b-exponential phase, c-stationary phase

D. Both A and C

Answer: D

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27. Clinostat is the apparatus used to

A. Measure the rate of growth in plant

B. Measure the quantity of auxin in plant

C. Measure the effect of light on plant

D. Eliminate the effect of gravity or geotropism on plant

Answer: D

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Section A Topicwise Questions Topic 2 Differentiation Dedifferentiation Redifferentation And

1. Development the sum of two processes

A. Diffferentiation and dedifferentiation

B. Growth and cell division

C. Growth and differentiation

D. dedifferentiation and redifferentiation

Answer: C

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2. 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. Redifferemiation

D. Heterophylly

Answer: B

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3. The cells derived from root apical and Shoot apical a meristems and cambium diiferentiate and mature to perform specific funcitons. This act leading to mature is termed as

A. Differentiation

B. De-Differentiation

C. Redifferentiation

D. hetrophily

Answer: A

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4. Interfaeciculnr cambium and cork cambium are able to divide and produce cells that once again lose the capacity to divide but mature to perform speciftc function. This phenomenon is called

A. Differentiation

B. Dedifferentiation

C. Redifferentiation

D. Heterophylly

Answer: C

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5. Recognise the figure and find out the correct labelling

A. a-elongntion. c-diffrentiation, b-plasmatic growth, d-senescence, e-maturation

B. b-elongation, e-differentiation, a-plasmatic growth, c-senescence, d-maturation

C. a-elongation, d-differentiation, b-plasmatic growth, e-senescence, c-maturation

D. b-elongation, c-differentiation, a-plasmatic growth, e-senescence, d-maturation

Answer: D

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

A. The formation of tracheaIy elements (xylem trachcids and xylem vessels)

B. Formation of meristem like interfascicular cambium from fully differentiated parenchyma cells

C. Formation of meristem like cork cambium from fully differentiated parenchyma cells

D. Both B and C

Answer: A

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7. Which of the following is an example of the dedifferentiation?

A. The formation of tracheary elements (xylem tracheids and xylem vessels)

B. Formaation of meristem like interfascicular cambium from fully differentiated parenchyma cells

C. Formation of meristem like cork cambium from fully differentiated parenchyma cells

D. Both B and C

Answer: D

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8. Read the following statements and lind out the incorrect statement

(a) In plants, growth and differentiation both

are open, i.e it can be indeterminate or determinate.

(b) The final structure at maturity of a cell or tissue is also determined by the location of the cell within.

(c) Cells positioned away from root apical meristems mature as epidermis, while those pushed to the peripheijy differentiate as root cap cells.

(d) Environmental signals such as light, temperature and gravity also effect certain phases or stages of growth.

A. b and d

B. c and a

C. a and c

D. c and d

Answer: D

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9. The following figure shows

A. Heterophylly in larkspur

B. Heterophylly in buttercup

C. Heterophylly in cotton and coriander

D. Heterophylly in cotton, coriander and larkspur

Answer: A

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10. Plants follow different pathways in response to environment or phases of life to form different kind of structures. This ability is called

A. Development

B. Differentiation

C. Plasticity

D. Photoperiodism

Answer: C

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

A. Development

B. Differentiation

C. Plasticity

D. Photoperiodism

Answer: A

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12. Which of the following is an example of plasticity?

A. Heterophylly in cotton, coriander and larkspur

B. Heterophylly in buttercup

C. Bolting in beet and cabbage

D. Both A and B

Answer: D

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13. In some plants, the leaves of the juvenile plant are different in shape from those in mature plants. This is the heterophylly due to phases of life and seen in

A. Cotton, coriander and buttercup

B. Buttercup and larkspur

C. Buttercup only

D. Cotton, coriander and larkspur

Answer: D

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14. The following figure shows

A. Heterophylly in larkspur

B. Heterophylly in buttercup

C. Heterophylly in cotton and coriander

D. Heterophylly in cotton, coriander and larkspur.

Answer: B

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15. In some plants, the shapes of leaves produced in air is different from those produced in water. This the heterophyllous development as seen in

A. Cotton, coriander and buttercup

B. Buttercup and larkspur

C. Buttercup only

D. Cotton, coriander and larkspur

Answer: C

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16. Growth plotted against time gives a

A. Parabolic curve

B. Sigmoid curve

C. Upright line

D. Horizontal line

Answer: B

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Section A Topicwise Questions Topic 3 Plant Growth Regulators Characteristics And The Discovery

1. Kinetin is chemically

A. Indole-3-acetic acid

B. Terpenes

C. N^6 furfurylamino purine

D. Carotenoid

Answer: C

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2. Callus is:

A. Differentiated mass of cells

B. Undifferentiated mass of cells

C. Deditfercntiated mass of cells

D. Redifferentiated mass of cells

Answer: B

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3. Which is correctly matched?

A. Passive transpon-ATP

B. Apoplast-Plasmodesmata

C. Potassium-Readily mobilisation

D. Bakane of Rice seedling-F. Skoog

Answer: C

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4. The PGRs can be broadly divided into two groups based on their functions in living plant body. One group of PGRs are involved in growth promoting activities, such as cell division, cell enlargement, pattern formation, tropic growth, flowering, fruiting and seed formation These are also called

A. Plant growth regulators

B. Plant growth promoters

C. Plant growth inhibitors

D. Plant growth supporters

Answer: B

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5. Which of the following PGRs are categorised as plant growth promoters?

A. Auxin, GA and cytokinin

B. Ethylene and ABA

C. Ethylene, auxin, GA and cytokinin

D. Auxin, GA, ABA and cytokinin

Answer: A

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6. The PGRs which play an important role in plant responses to wound and stresses of biotic and abiotic origin and also involved in various growth inhibiting activities such as dormancy and abscission, is/are

A. ABA

B. Ethylene

C. Auxin, cytokinin and GA

D. ABA and ethylene

Answer: D

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7. The PGR, ethylene, could fit either the groups-plant growth promoters and inhibitors but it is largely an

A. Promoter of growth activities

B. Inhibitor of growth activities

C. Supporter of growth activities

D. Inducer of growth activities

Answer: B

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8. The following experiment demonstrate that the

A. Tip of coleoptile is the source of auxin

B. Tip of coleoptile is the site of transmittable influence that caused the bending of entire coleoptile

C. Both A and B

D. Tip of coleoptile is the source of cytokinin

Answer: C

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9. The discovery of each of the five major groups of PGRs (auxin, GA, cytokinin, ABA and ethylene) have been accidental. All this started with the observation of

A. F.W. Went

B. E. Kurosawa

C. Skoog and Miller

D. Charles Darwin and his son Francis Darwin

Answer: D

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10. Who confirmed the release of a volatile substance from ripening oranges that hastened the ripening of stored unripened bananas?

A. Skoog and Miller

B. E. Kurosawa

C. Cousins

D. F.W.Went

Answer: C

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11. Who observed that the coleoptiles of canary grass responded to unilateral illumination by growing towards the light (phototropism)?

A. F.W. Went

B. B. Kurosawa

C. Skoog and Miller

D. Charles Darwin and his son Francis Darwin

Answer: D

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12. Auxin was isolated from tips of coleoptiles of

A. Canary grass by Charles Darwin and Francis Darwin

B. Canary grass by F.W. Went

C. Oat seedlings by Charles Darwin and Francis Darwin

D. Oat seedlings by F.W. Went

Answer: D

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13. Who reported the appearance of symptoms of the Bakane disease in uninfected rice

seedlings when they were treated with sterile filtrates of the fungus?

A. Skoog and Miller

B. E. Kurosawa

C. Cousins

D. F. W. Went

Answer: B

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14. In the above observation, the active substances were later identified as

A. Abscisic acid

B. Gibberellic acid

C. Indole acetic acid

D. N^6-furfurylamino purine

Answer: B

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15. Cytokinesis promoting active substance is called kinetin which is identified, crystallised and termed by

A. F.W. Went

B. E. Kurosawa

C. Skoog and Miller

D. Charles Darwin and his son Francis Darwin

Answer: C

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16. Who observed that from the internodal segments of tobacco stems the callus proliferated only if, in addition to auxins the nutn'ents medium was supplemented with one of the following: extracts of vascular tissues, yeast extract, coconut milk or DNA?

A. F. Skoog and co-workers

B. Cousins

C. E. Kurosawa

D. F.W.Went

Answer: A

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17. During mid-l960s, three independent researchers reported the purification and chemical characterization of three different kinds of inhibitors: inhibitor-B, abscission II and dormin. Later all the three were proved to be chemically identical. It was named

A. Indole acetic acid

B. Indole butyric acid

C. Naphthalene acetic acid

D. Abscisic acid

Answer: D

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18. Bending of stem/coleoptile towards light or shoot of potted plant placed near a window is due to

A. Greater oxygen availability to the tip

B. More auxin content on the shaded side

C. Greater light availability to tip

D. Availability of necessary warmth to the tip

Answer: B

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19. Who first suggested presence of growth regulatory chemicals in plants ?

A. Went

B. Sachs

C. Darwin

D. Cousins

Answer: A

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20. Plant grwoth hormones extracted from a fungus and a fish are respectively

A. Gibberellin and zeatin

B. Ethylene and cytokinin

C. Auxin and 2, 4-D

D. Gibberellin and kinetin

Answer: D

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21. Which one of the following is a natural growth inhibitor ?

A. NAA

B. ABA/Ethylene

C. 1AA

D. GA

Answer: B

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22. Bakane disease of Rice is due to

A. NAA

B. 2, 4-D

C. IAA

D. GA

Answer: D

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23. Bakane disease leads to the discovery of which phytohormone (PGR)

A. ABA

B. LAA

C. GA

D. IBA

Answer: C

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24. Some early experiments on phototropic curvature in grasses led to discovery of

A. Auxins

B. Gibberellins

C. Cytokinins

D. None of the above

Answer: A

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25. Hormone discovered through tissue culture technique is

A. Auxin

B. Cytoklnln

C. Gibberellin

D. Abscisic acid

Answer: B

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26. Gibberellin was first isolated from

A. A bacterium

B. A fungus

C. An alga

D. A virus

Answer: B

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27. Kinetin is

A. indole butyric acid

B. Indole acetic acid

C. Butyric acid

D. N^6-furfuryl amino-purine`

Answer: D

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Section A Topicwise Questions Topic 4 Physiological Effects Of Plant Growth Regulators Auxins

1. Which one of the PGRs would you use if you are asked

(a) Induce growth in axillary buds

(b) 'Bolt' a rosette plant

(c) Induce immediate stomatal closure in leaves

A. a-cytokinin, GA, c-ABA

B. a-auxin, b-GA, e-ABA

C. a-auxin, b-ethylene, c-GA .

D. a -cytokinin, b ethylene, c ABA

Answer: A

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2. What would be expected to happen if you forget to add cytokinin to the culture medium?

A. There will be no differentiation of root

B. There will be no ditferentiation of shoot

C. A callus will be produced

D. Nothing would happen

Answer: B

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3. What would be happen if a rotten fruit gets mixed with unripe fruits?

A. Hastens the ripening of unripe fruits

B. Retards the ripening of unripe fruits

C. Nothing would happen

D. Unripe fruit is now not healthier for consumption

Answer: A

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4. What would be expected to happen if a dividing cell stop differentiating?

A. Dedifferentiation takes place

B. Reditferentiation takes place

C. Callus is formed

D. Bolting takes place

Answer: C

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5. What would be happen if GA_3 is applied to rice seedlings?

A. Plant show extra elongation

B. Length of the plant decreases

C. Bolting takes place

D. Both A and C

Answer: A

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6. Which one of the PGRs would be used by farmers if they are asked to?

(a) Induce parthenocarpy in tomatoes

(b) Hastens fruit ripening in tomatoes and apples

(c) Induces howering in mango

(d) Elongation and improvement in shape of apple

A. a-auxins, b-ethephon, c-ethylene, d-GA, e-cytokinin

B. a-ethylene, b-GA, c-auxin, d ethephon, e-cytokinin

C. a-auxin, b-ethephon, c-cytokinin, d-ethylene, e-GA

D. a-cytokinin, b-auxin, c-GA, d-ethephon, e-ethylene

Answer: A

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7. Which accelerates the abscission in liower and fruit like thinning of cotton, cherry and walnut?

A. Auxin

B. ABA

C. GA3

D. Ethephon

Answer: D

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8. Read the following statements and find out the incorrect statement.

A. Auxins initiates flowering in pineapples and ethylene promotes flowering in pineapples.

B. 2, 4-D is used to prepare weed-free lawns by gardeners.

C. There are more than 100 gibberellins reported from widely different organisms such as fungi and higher plants. A11 GAs are acidic.

D. The ability of GAS to cause an increase length of axis used to increase the length of grapes stalks

Answer: A

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9. The most widely used compound as source of ethylene is

A. Kinetin

B. Zeatin

C. Ethephon

D. Lunaric acid

Answer: C

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10. ABA acts antagonistic to

A. NAA

B. IBA

C. IAA

D. GA

Answer: D

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11. Recognise the figure and find out the correct matching.

A. a-plant showing apical dominance, b-decapitated plant showing growth of lateral buds.

B. a-plant with apical bud removed, bplant with apical bud intact

C. a-plant with apical bud intact, b-plant with apical bud removed

D. Both A and C

Answer: D

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12. The hormone which promotes rapid intemodc or petiole elongation in deep water rice plants, also

A. Initiates germination in peanut seeds and sprouting of potato tubers

B. Breaks seed and bud dormancy

C. Inhibits seed germination

D. Both A and B

Answer: D

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13. Fill in the blanks:

1. Spraying sugarcane crop with ....a.... increases in the length of the stem, thus increasing the yield by as much as .....b.. tonnes per acre.

2. .....c does not occur naturally in plants.

3. Search for natural substances with cytokinin like activities led to the isolation of ...d... from corn kernels and coconut milk.

A. a-auxins, b-lO, o-NA A, d-zeatin (

B. a-gibberellins, b-20, c-zeatin, d-kinetin

C. a-gibberellins, b-lO, c-zeatin, d-kinetin

D. a--gibberellins, b---20, c-kinetin, d-zeatin

Answer: D

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14. Which one of the PGRs would you use if you are asked to?

(a) Induce rooting in a twig

(b) Quickly ripen a fruit

(c) Delay leaf senescence

A. a-auxin, b-ethylene, c-GA

B. a-cytokinin, b-ethylene, c-GA

C. a-auxin, b-ethylene, c-cytokinin

D. a-cytokinin, b-GA, c-auxin

Answer: C

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15. Ageing of leaves and shoots is called

A. Chlorosis

B. Wilting

C. Senescence

D. Necrosis

Answer: C

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

A. Kinetin

B. GA3

C. ABA

D. IBA/IAA

Answer: D

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17. Match the columns

A. 1-b, 2-e,3-a,4-c,5-d

B. 1-b,2-c,3-d-4-e,5-a

C. 1-a,2-e,3-b,4-d,5-c

D. 1-e,2-d,3-c,4-b,5-a

Answer: A

View Text Solution

18. The natural plant hormone isolated from cormn kernels and coconut milk is

A. Florigen

B. GA_3

C. Free auxins

D. Zeatin

Answer: D

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19. How does pruning help in making the hedge dense

A. It releases wound hormones

B. Apical shoot grows faster after pruning

C. It frees axillary buds from apical dominance

D. It induces differentiation of new shoots from rootstock

Answer: C

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20. α-amylase synthesis is promoted by

A. IAA

B. GA

C. Cytokinin

D. NAA

Answer: B

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21. Richmond-Lang effect is due to

A. Gibberellins

B. Auxin

C. Ethylene

D. Kinetin

Answer: D

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22. Which is not a function of cytokinin ?

A. Delay in senescence

B. Breaking seed dormancy

C. Promoting bud dormancy

D. Promoting stomatal opening

Answer: C

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23. Which statements are correct ?

a - Cytokinins suppress the synthesis of chlorophyll

b - Auxins control apical dominance

c - Gibberellins promote shoot elongation

d - Abscisic acid enables seeds to with-stand desiccation.

A. c and b only

B. b and c only

C. a and c only

D. b, c and (1 only

Answer: D

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24. Ethylene is connected with

A. Aerobic respiration

B. Climacteric respiration

C. Anaerobic respiration

D. Fermentation

Answer: B

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25. Parthenocarpic fruits cannot be produced by application of

A. IAA

B. 2, 4-D

C. ABA

D. IBA

Answer: C

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26. Which is used as a weedicide ?

A. Indole acetic acid

B. Napthalene acetic acid (NAA)

C. Indole butyric acid (IBA)

D. 2, 4-D

Answer: D

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27. Internodal elongation is stimulated by

A. Auxin

B. Phenol

C. Cytokinin

D. Gibberellin

Answer: D

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28. Size of grapes increases in application of

A. Gibberellin

B. Auxm

C. Cytokinin

D. All of the above Cytokinins .

Answer: A

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29. Cytokinins

A. Cause leaf abscissnon

B. Delay leaf abscission

C. Promote stomatal closing

D. Promote seed dormancy

Answer: B

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30. Synthetic auxins are employed for

A. Ripening of fruits

B. Increasing size of fruits

C. Killing weeds

D. Preventing elongation of intemode

Answer: C

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31. Auxin synthesis occurs in

A. Root/shoot tips

B. Cortex

C. Xylem

D. Phloem

Answer: A

 Watch Video Solution

32. Bud dormancy is induced by

A. IAA

B. GA

C. ABA

D. Ethylene

Answer: C

Watch Video Solution

33. Common inhibitor of germination is

A. GA

B. ABA

C. Pantothenic acid

D. Tartaric

Answer: B

Watch Video Solution

34. Which one prevents premature fall of fruit ?

A. NAA

B. Ethylene

C. GA_3

D. Zeatin

Answer: A

Watch Video Solution

35. Cytokinin synthesis is maximum in

A. Roots

B. Leaves

C. Shoot tip

D. Fruit

Answer: A

 Watch Video Solution

36. High concentration of auxin is present in

A. Rootapex

B. Shootapex

C. Petiole

D. Node

Answer: B

Watch Video Solution

37. Growth substance that stimulates nodule formation in leguminous plants is

A. NAA

B. IAA

C. IBA

D. ABA

Answer: B

 Watch Video Solution

38. Hormone found in liquid endosperm of Coconut/Coconut milk factor is

A. Gibberellin

B. Auxin

C. Ethylene

D. Cytokinin

Answer: D

Watch Video Solution

39. Fruit drop is prevented by spraying

A. Auxin

B. Ethylene

C. Ethylene

D. Cytokinins

Answer: A

 Watch Video Solution

40. 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

41. 2 : 4-D causes

A. Delay in senescence

B. Bolting

C. Increase in branehes

D. Increased growth of all pants

Answer: D

Watch Video Solution

42. The name zeatin was coined by

A. Skoog

B. Miller

C. Latham

D. Melvin

Answer: C

Watch Video Solution

43. IAA was first isolated from

A. Corn germ oil

B. Human urine

C. Gibberella

D. Rhizopus

Answer: C

Watch Video Solution

44. Movement of auxin is

A. Centripetal

B. Basipetal

C. Acropetal

D. Both B and C

Answer: B

Watch Video Solution

45. What is a stress hormone ? Or The hormone produced during adverse environmental conditions is

A. Benzyl aminopurine

B. Dichlorophenoxy acetic acid

C. Ethylene

D. Abscisic acid

Answer: D

Watch Video Solution

46. The regulator which retards ageing/senescence of plant parts is

A. Cytokinin

B. Auxin

C. Gibberellin

D. Abscisic acid

Answer: A

47. Bananas can be prevented from overripening by

A. Maintaining them at room temperature

B. Refrigeration

C. Dipping in ascorbic acid solution

D. Storing in a freezer

Answer: C

Watch Video Solution

48. Apical dominance is caused by

A. Abscisic acid in lateral bud

B. Cytokinin in leaftip

C. Gibberellin in lateral buds

D. Auxin in shoot tip

Answer: D

Watch Video Solution

49. Which one is the test for gibberellin ?

A. Bolting in Cabbage

B. Morphogenesis in tobacco callus

C. Rapid division in Carrot cells

D. Elongation of Oat coleoptile

Answer: A

Watch Video Solution

50. Abscisic acid causes

A. Stomatal closure

B. Stem elongation

C. Leaf expansion

D. Root elongation

Answer: A

Watch Video Solution

51. Abscisic acid controls

A. Cell division

B. Leaf fall and dormancy

C. Shoot elongation

D. Cell elongation and wall formation

Answer: B

Watch Video Solution

52. Parthenocarpy can be achieved by

A. Zeatin

B. ABA

C. Auxin

D. Kinetin

Answer: C

Watch Video Solution

53. Highest auxin concentration occurs

A. In growing tips

B. In leaves

C. At base of plant organs

D. In xylem and phloem

Answer: A

Watch Video Solution

54. Auxin suppresses growth of

A. Lateral axillary buds

B. Apical buds

C. Roots on stem cuttings

D. All of the above

Answer: A

 Watch Video Solution

Section A Topicwise Questions Topic 5 Photoperiodism And Vernalisation

1. Would a defoliated plant respond to photoperiodic cycle?

A. Yes

B. No

C. Can't say

D. Any condition is possible

Answer: B

Watch Video Solution

2. Read the following statements and iind out the incorrect statements.

(a) Both a short day plant and a long day plant can hower simultaneously in a given place.

(b) Sugar beet, cabbage and carrot are common biennials.

(c) Some important food plants, wheat, barley and rye has three kinds of varieties, winter, summer and spring varieties.

(d) Vemalisation promotes precocious

reproductive development late in the growing season, and enables the plant to have sumcient time to reach matun'ty

(e) Many of the extrinsic factors such as temperature and light, control plant growth and development via

A. a and b

B. b and c

C. c and b

D. d and c

Answer: C

View Text Solution

3. Plants which require the exposure to light for a period exceeding a well defined critical duration for howering are called

A. Short day plants

B. Long day plants

C. Day neutral plants

D. Short long day plants

Answer: B

Watch Video Solution

4. Plants which must be exposed to light for a period less than the critical duration before the howering is initiated in then are called

A. Short day plants

B. Long day plants

C. Day neutral plants

D. Short long day plants

Answer: A

Watch Video Solution

5. Plants in which there is no such correlation between exposure to light duration and induction of howen'ng response are called

A. Short day plants

B. Long day plants

C. Day neutral plants

D. Short long day plants

Answer: C

Watch Video Solution

6. Recognise the figure and find out the correct labelling.

A. a-long day plant, b-short day plant, c-day neutral plan

B. b-long day plant, a-short day plant, c-day neutral plant

C. c-long day plant, b-Short day plant, a-day neutral plant

D. a-long day plant, c-short day plant, b-day neutral plant

Answer: A

View Text Solution

7. Fill in the blanks:

(1) Wheat, barley end rye have two kinds of varieties: wmter and spring varieties. The

‘spring’ variety are normally plented in ....a.... and come to flower and produce gram before the end of growing season.

(2) 'Winter varieties, however if planned in ..b... would normally fail to flower or produce mature grain within a span of flowering season.

(3) hence ‘winter’ varieties are planted in ..c.... . They germinate, and over .....d come out as harvested usually around mid-summer.

A. a-spring, b-winter, c-spring, d-winter, espring

B. a-winter, b-spring, c-winter, d-spring, ewinter

C. a--spring, b-spn'ng, c-autumn, d-winter, espring

D. a-spring, b-winter, c-autumn, d-spring, e-

Answer: C

 Watch Video Solution

8. Certain plants need to be exposed to low temperature ' so as to hasten liowering later in life. This treatment is known as

A. Stratification

B. Scarification

C. Vemalisation

D. Photoperiodism

Answer: C

 Watch Video Solution

9. Seeds of winter varieties are benefitted by technique

A. Senescence

B. Photoperiodism

C. Vernalisation

D. Abscission

Answer: C

 Watch Video Solution

10. Biennials get changed into annuals by

A. Hormones

B. Photoperiodism

C. Grafting

D. Vernalisation

Answer: D

Watch Video Solution

11. Which ones are long day plants

A. Wheat, Poppy, Soyabean

B. Wheat, Poppy, Beet

C. Wheat, Oat, Soyabean

D. Wheat,Xanthium, Paddy

Answer: B

Watch Video Solution

12. Which of the following is a short day plant

A. Wheat

B. Barley

C. Larkspur

D. Dahlia

Answer: D

Watch Video Solution

13. One set of plants exposed to 12 hr day and 12 hr night llowered. The other set with similar exposure to daynight period but with dark

period interrupted by Hash of light did not come to flower. The plant is

A. Long day

B. Day neutral

C. Indeterminate

D. Short day.

Answer: D

Watch Video Solution

14. Physiologically active form of phytochrome is

A. $P_{730} / P_{\mathrm{fr}}$

B. P_{660} / P_{r}

C. P_{700}

D. P_{680}

Answer: A

Watch Video Solution

15. When the dark period of short day plants is intrrupted by a brief exposure of light, then the plant

A. Will not tlower at all

B. Flowers immediately

C. Gives more flowers

D. Turns into a long day plant

Answer: A

Watch Video Solution

16. Phytochrome was isolated by

A. Butler et al

B. W. Went

C. R. Hill

D. Borthwick et al

Answer: A

Watch Video Solution

17. Vemalisation is

A. Growth curve related to light

B. Effect of photoperiods on plant growth

C. Speeding up ability to flower by low temperature treatment

D. Diurnal photoperiodicity

Answer: C

Watch Video Solution

18. What is true about phytochrome ?

A. Pr absorbs red light and becomes Pf,

B. Pr absorbs yellow light and becomes Pf,

C. Pf, absorbs yellow light and becomes P,

D. Pf, absorbs red light and becomes Pr.

Answer: A

Watch Video Solution

19. Flowering in short day plants is induced by

A. Short days and interrupted long nights

B. Short days and uninterrupted long nights

C. Short nights

D. Long day with interrupted night

Answer: B

Watch Video Solution

20. Photoperiodic stimulus is picked up by

A. Phytohormones

B. Stomata

C. Phytochrome

D. Enzymes

Answer: A

 Watch Video Solution

21. A long day plant flowers only when it is exposed to

A. Red light

B. Light more than critical day length

C. Light equal to critical day length

D. Light less than critical day length

Answer: A

Watch Video Solution

22. Pick up the correct explanation

A. Xanthium-Long day plant

B. Sunflower-Short day plant

C. Wheat-Shon day plant

D. Tomato-Day neutral plant

Answer: C

Watch Video Solution

23. The term phytochrome was introduced by

A. Borthwick and Hendricks

B. Borthwick

C. Moore

D. Garner and Allard

Answer: D

Watch Video Solution

24. A long day plant is

A. Wheat/Spinach

B. Soyabean

C. Tobacco

D. Xanthium

Answer: D

Watch Video Solution

25. In short day plants, flowering is inhibited by

A. Interruption of dark by white or red light

B. Dark interruption by far red light

C. Dark interruption by red light followed by far red light

D. Not possible

Answer: A

Watch Video Solution

26. The piament involved in red - far red light interconversion is

Or

The pigm,ent involved in photomorphogenetic

movements is

Or

Pigment involved in photo - perception in flowering is

A. Carotene

B. Phytochrome

C. Cytochrome

D. Lycopene

Answer: B

 Watch Video Solution

27. Seasonality of plants is due to

A. Phototropism

B. Photosynthesis

C. Photopenodism

D. Photolysis

Answer: C

Watch Video Solution

28. Which of the following induces flowering in short day plant

A. Ailxin

B. Cytokinin

C. Gibberellln

D. Propylene

Answer: B

Watch Video Solution

29. In a plant subjected to continuous red light, phytochrome will show

A. Increased synthesis

B. Decreased level

C. Destruction

D. Destruction and synthesis remain in balance

Answer: D

 Watch Video Solution

30. Cytokinin

A. Is a hormone whose main function is the induction of cell division

B. is the process of cell division

C. Refers to cell movements

D. Causes dormancy

Answer: A

Watch Video Solution

31. F lorigen is produced in the region of

A. Leaves

B. Fruit

C. Root

D. Trunk

Answer: A

Watch Video Solution

32. Which one is short day plant ?

A. Brassica campestris

B. Raphanus sativus

C. Glycine max

D. Papaver sommférum

Answer: C

Watch Video Solution

33. Which one can absorb red and far-red light

?

A. Carotene

B. Xanthophyll

C. Chlorophyll

D. Phytochrome

Answer: D

Watch Video Solution

34. Who discovered Photoperiodism?

A. Darwin

B. Lysenko

C. Amon

D. Garner and Allard

Answer: D

Watch Video Solution

35. Which is not a phytohorrnone?

A. Phytochrome

B. Florigen

C. GA

D. IAA

Answer: A

 Watch Video Solution

36. Gibberellic acid induces flowering

A. Some plants only

B. Long day plants under short day conditions

C. Short day plants under long day conditions

D. Day neutral plants

Answer: B

Watch Video Solution

37. Photoperiodism is probably due to synthesis of

A. Cytokinins

B. Gibberellins

C. Auxm

D. Florigen

Answer: D

Watch Video Solution

38. A chemical believed to be involved in flowering is

A. Gibberellin

B. Kinetin

C. Florigen

D. IBA

Answer: C

Watch Video Solution

39. Which one shows red - far-red inter conversions?

A. Carotenoids

B. Cytochromes

C. Chlorophylls

D. Phytochrome

Answer: D

 Watch Video Solution

40. Which of the following plant hormone substtutes for long photoperiods in flowering plants

A. Ethylene

B. Auxin

C. Gibberellin

D. Cytokinin

Answer: C

 Watch Video Solution

Section B Assertion Reasoning Questions

1. Assertion: Plant growth is unique because plants retain the capacity for unlimited growth throughout their life.

Reason: Plants have different type of meristems at certain locations in their body that have capacity to divide and self-perpetuate.

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

B. If both assertion and reason are true but reason is not the correct explanation of the 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: During differentiation, cells undergo few to major structural changes both in their cell walls and protoplasm.

To form a tracheary element, the cells would lose their protoplasm. They also develop a very strong, elastic, Ignocellulosw secondary cell walls, to carry water to long distances even under extreme tension.

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

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

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: A

 Watch Video Solution

3. Assertion: In plants differentiation is open.

Reason: Cells or tissues ansmg out of the same meristem have different structures at maturity.

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

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

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: A

 Watch Video Solution

4. Assertion: Growth, differentiation and development are very closely related events in the life of a plant.

Reason: Development in plants (i.e, both

growth and differentiation) is under the control of intrinsic and extrinsic facotrs.

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

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

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: B

Watch Video Solution

5. Assertion: Both natural and synthetic auxins have been used extensively in agricultural and horticultural practices.

Reason: Auxin is widely applied in tea plantations and hedge-making.

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

explanation of the assertion.

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

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: C

 Watch Video Solution

6. Assertion: GAS leads to early seed production in conifers.

Reason: Spraying juvenile conifers with GAs hastens the maturity period.

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

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

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: A

 Watch Video Solution

7. Assertion: Ethylene helping the plants to increase their absorption surface.

Reason: Ethylene promotes root growth and root hair formation.

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

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

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

the assertion.

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: A

Watch Video Solution

Section D Chapter End Test

1. Falling of floral parts, leaves and fruits from the mother plant is called

A. Senescence

B. Abscission

C. Photoperiodism

D.

Answer: B

Watch Video Solution

2. Exponential growth occur in

A. Yeast

B. Bacteria

C. Asexual reproduction

D. All of the above

Answer: D

 Watch Video Solution

3. A green plant will turn yellow if planed in the dark. This is called

A. Phototropism

B. Dormancy

C. Chlorosis

D. Etiolation

Answer: D

Watch Video Solution

4. Cut or excised leaves remain green for long if induced to root of dipped in

A. Gibberellins

B. Auxins

C. Abscission

D. Vemalisation

Answer: B

 Watch Video Solution

5. At the onset of speed germination ,the digestive enzymes amylase are produced by the action of

Or

The activity of α amylase in the endosperm of barley geminating seed is induced is induced by

A. Cytokinin

B. Gibberellins

C. Ethylene

D. Auxin

Answer: B

Watch Video Solution

6. Drooping of Tamarind leaves after sunset is

A. Phototropism

B. Phototaxis

C. Photonasty

D. Chemotaxis

Answer: C

Watch Video Solution

7. Beta vulgaris is

A. SDP

B. LDP

C. DNP

D. SLDP

Answer: B

8. The pineapple which under natural condition is difficult to blossom has been

made to produce fruits throughout the year by application of

A. 1AA, IBA

B. NAA 2, 4-D

C. Phenyl acetic acid

D. Cytokinins

Answer: B

 Watch Video Solution

9. Pruning of plants promotes branchin becaues the axillary buds get sensitized to

A. 1AA

B. Ethylene

C. Gibberellin

D. Cytokinin

Answer: A

Watch Video Solution

10. Which of the following is a long day plant

A. POPPY

B. Xanthium

C. Paddy

D. Soyabean

Answer: A

Watch Video Solution

11. Photoperiodism is associated with the formation of

A. Auxin

B. Chlorophyll

C. Florigen

D. Gibberellin

Answer: C

Watch Video Solution

12. Common biosynthetic inhibitor of GA is

A. CCC

B. Jasmonic acid

C. Citric acid

D. Lactic acid

Answer: A

Watch Video Solution

13. Movement stimulated by external factor is

A. Spontaneous movement

B. Autonomic movement

C. Physicalmovement

D. Paratonic movement

Answer: D

Watch Video Solution

14. Bending of stem towards light is

A. Photoperiodism

B. Heliotropism

C. Photonasty

D. Hydrotropism

Answer: B

 Watch Video Solution

15. Short day plant is

A. Xanthium

B. Pisum

C. Cucumis

D. Avena

Answer: A

Watch Video Solution

16. Ability of Venus Fly Trap to capture insects is due to

A. Specialised “muscle-like” cells

B. Chemical stimulation by prey

C. Rapid turgor pressure changes

D. Passive process requiring no special ability on the part of the plant.

Answer: C

Watch Video Solution

17. Gibberellinisa

A. Sterol

B. Vitamin

C. Sugar

D. Protein

Answer: A

Watch Video Solution

18. Which hormone is not translocated?

A. Auxin

B. Gibberellins

C. ABA

D. Cytokinin

Answer: B

Watch Video Solution

19. Essential requirement for seed germination

A. O_2 and light

B. H_2 and $O(2)$

C. H_2O and high temperature

D. Scarification and vemalisation

Answer: B

Watch Video Solution

20. Banana is seedless because

A. It reproduces asexually

B. It is sprayed by auxin

C. Both A and B

D. None of the above

Answer: A

Watch Video Solution

21. Antherozoids are attracted towards archegonia in fern plant. The phenomenon is

A. Nyctinasty

B. Chemonasty

C. Thigmonasty

D. Seismonasty

Answer: B

Watch Video Solution

Watch Video Solution

22. Herbicides kill plants by inhibiting

A. PSI

B. PS11

C. Translocation

D. Both A and B

Answer: B

 Watch Video Solution

23. During drought, plants develop hormone

A. Indole acetic acid

B. Naphthalene acetic acid

C. Indole butyric acid

D. Abscisic acid

Answer: D

 Watch Video Solution

24. Antiauxin used in picking cotton balls is

A. 2, 4-D

B. TIBA

C. NAA

D. Both A and B

Answer: B

 Watch Video Solution

25. First natural cytokinin was discovered by

A. Skoog and Miller

B. Latham

C. Benson and Calvin

D. Thimann and Went

Answer: B

 Watch Video Solution

26. Storage sprouting of potato can be prevented by

A. Maleic hydrazide

B. Gibberellins

C. Indole acetic acid

D. Cytokinins

Answer: A

Watch Video Solution

27. Anti gibberellin is

A. Cycocel

B. Plastoquinone

C. 1AA

D. Ubiquinone

Answer: A

Watch Video Solution

28. Growing trees and shrubs in small pots is

A. Bonsai

B. Culture

C. Green gardening

D. Tree culture

Answer: A

Watch Video Solution

29. Which of the following is a cytokinin ?

A. Phytochrome

B. Ethylene

C. Leucine

D. Zeatin

Answer: D

Watch Video Solution

30. Negative phototropism occurs in

A. Root

B. Stem

C. Leaf

D. Flower

Answer: A

 Watch Video Solution

31. Movement of Sunflower towards the direction of Sun in

A. Photonasty

B. Phototropism

C. Nyctinasty

D. Seismonasty

Answer: B

Watch Video Solution

32. Skototropic movements are induced by

A. Night

B. Light

C. Touch

D. Heat

Answer: A

Watch Video Solution

33. Assertion: "Touch" responses in Mimosa is an example of such movement.

Reason : Nastic movements occur in the direction of stimulus.

A. Tropic

B. Nastic

C. Tactic

D. All of the above

Answer: D

Watch Video Solution

34. The movement of plant organs in response to force of gravity is called

A. Phototropism

B. Phototaxis

C. Photolysis

D. Photonasty

Answer: C

Watch Video Solution

35. Agent orange is

A. Weedicide with dioxin

B. Chemical used in luminous paint

C. Biodegradable insecticide

D. Colour used in fluorescent lamp

Answer: A

Watch Video Solution

36. Which one among the following chemical is wued for causing defoliation of for causing defoliation of forest trees

A. Phosphon

B. Maleic hydrazide

C. AMO 1618

D. 2,4-D

Answer: D

Watch Video Solution

37. Which combination is used in fruit ripening ?

A. 80% CH4 + 20% 02

B. 80% C_2H_4 + 20% CO_2

C. 80% CO_2 + 20% C_2H_4

D. 80% 0 CH_4 + 20% CO_2

Answer: C

Watch Video Solution

38. The response of different organisms to environmental rhythms of light and darkness is called:

A. Photoperiodism

B. Phototropism

C. Phototaxis

D. Vernalisation

Answer: A

Watch Video Solution

39. Example of positive geotropism is

A. Closing of flowers

B. Upward growth of stem

C. Downward growth of root

D. Lateral growth of root

Answer: C

Watch Video Solution

40. Which one prevents photo-oxidation and pigment destruction?

A. Cytochrome

B. Phytohormone

C. Phycocyanin

D. Phycoerythrin

Answer: A

 Watch Video Solution

41. If a tree flowers thrice in a year (October, January and july) in nothern india, it is said to be

A. Photo! and thermo-sensitive

B. Photoand thermo-insensitive

C. Photosensitive but thermo-insensitive

D. Thermosensitive but photo-insensitive

Answer: B

Watch Video Solution

42. Gibberellins induce

A. Cell division

B. Leaf senescence

C. Hydrolysing enzymes in germinating seeds

D. Flowering

Answer: C

 Watch Video Solution

43. Which of the following is not caused by deficiency of mineral nutrition

A. Chlorosis

B. Internode shortening

C. Necrosis

D. Etiolation

Answer: D

Watch Video Solution

44. Leaf fall occurs when content of

A. Abscisic acid decreases

B. Auxin decreases

C. Auxin increases

D. Gibberellin decreases

Answer: B

Watch Video Solution

45. Interfascicular cambium formation is induced by

A. Auxin

B. Cytokinin

C. Gibberellin

D. Ethylene

Answer: B

46. Bulliform cells in Grass leaves show

A. Grovyth movement

B. Tropic movements

C. Turgor movements

D.

Answer: D

 Watch Video Solution

47. Leaf of Mimosa droops down on touching because of

A. Water loss from leaflet bases

B. changes in water concentration

C. Loss of water from cells to intercellular spaces in pulvinus and pulvinules

D. All of the above

Answer: C

Watch Video Solution

48. Phyotron is a device by whiovh

A. Electron are bombarbed

B. Proton are liberated

C. Plants are grown in controlled environment

D. Mutations are produced in plants

Answer: C

Watch Video Solution

49. Herbicides are chemicals which control

A. Insects

B. Fungi

C. Weeds

D. Nematodas

Answer: C

Watch Video Solution

50. Closure of lid in Pitcher Plant is a

A. Tropic movement

B. Turgor movement

C. Paratonic movement

D. Autonomic movement

Answer: C

Watch Video Solution

Others

1. Phototropism in shoots is attributed to or phototropic movements are due to

A. Auxin

B. Gibberellins

C. Cytokinin

D. Abscisic acid

Answer: A

Watch Video Solution

2. Phytochrome is found in

A. Algae

B. Fungi

C. Vascular cryptogams

D. Flowering plants

Answer: D

Watch Video Solution

3. Plants requiring exposure to light for less than the critical photoperiod for flowering are

A. LDP

B. DNP

C. SLDP

D. SDP

Answer: D

Watch Video Solution

4. Which of the following harmones can replace vernalization

or

Genetic dwarfness can be overcome by treating with

A. Auxin

B. Cytokinin

C. Gibberellins

D. Ethylene

Answer: C

Watch Video Solution

5. Pr state of phytochrome absorbs light wave-length of

A. 660 nm

B. 640 mm

C. 620 nm

D. 720 nm

Answer: A

Watch Video Solution

6. Which one is not correctly matched ?

A. Cytokinin-celldivision

B. IAA-cellwallelongation

C. Abscisic acid-stomatal closure

D. Gibberellic acid--1eaf fall

Answer: D

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7. Opening of floral buds is

A. Autonomic movement of variation

B. Paratonic movement of growth

C. Autonomic movement of growth

D. Autonomic movement of locomotion

Answer: C

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8. Bioassay of IAA is

A. Avena curvature test

B. Callus test

C. Leaf disc test

D. amylase test

Answer: A

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9. The phytohormone which induces triple response is

A. IAA

B. ABA

C. GA

D. C_2H_4

Answer: D

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10. An example of short day plant is

A. Maize

B. Radish

C. Chrysanthemum

D. Wheat

Answer: C

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11. Find the correct statements

1. Causal organism of foolish seedling disease is source of gibberellin

2. Ascorbic acid is growth promoter

3. Ratio of auxin to cytokinin controls differentiation

4. Bolting of cabbage can be induced by treatment with IAA

A. 1, 2, 3 correct

B. l, 2 correct

C. 2, 4 correct

D. 1, 3 correct

Answer: D

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12. Synthetic plant hormone is

A. IAA

B. 2,4-D/NAA

C. GA

D. Zeatin

Answer: B

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13. 6- furfuryl ammino purine 2, 4-dichorophenoxy acetic acid and indole -3 -acetic acid are examples respectively for

A. Synthetic auxin, kinetin and natural auxin

B. Gibberellin, natural auxin and kinetin

C. Natural auxin, kinetin and synthetic auxin

D. Kinetin, synthetic auxin and natural auxin

Answer: D

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14. Ethylene is metabolic product of

A. Valine

B. Serine

C. Methionine

D. Glutamic acid

Answer: C

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15. Which one is derivative of a carotenoid

A. IAA

B. ABA

C. IBA

D. GA

Answer: B

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16. In signoid growth curve, upper asymptote represents period of

A. Establishment

B. Negative acceleration

C. Positive acceleration

D. Equilibrium

Answer: D

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17. What causes a green plant to bend towards light as it grows ?

A. Because green plants need light to carry on photosynthesis.

B. Because green plants are phototropic.

C. Light stimulates plant cells on the lighted side to grow faster.

D. Auxin accumulates on shaded side stimulating greater cell elongation.

Answer: D

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18. Artificial ripening of fruits/banana is accomplished by treatment with

A. Sodium chloride

B. IAA

C. Ethylene gas

D. Kinetin

Answer: C

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19. Bending of tentacles of Drosera over the insect is

A. Photonastic

B. Thermonastic

C. Thigmonastic

D. Seismonastic

Answer: C

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20. Which locomotory movement is not correct

A. Cyclosis and rotation of cytoplasm in Hydrilla.

B. Sucrose induced movement of sperms.

C. Flagellar movement of slime mould.

D. Chlamydomonas moves away from intense light.

Answer: C

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21. Which one demonstrates process associated with abscission of a leaf

A. In the leaf concentration of both auxin and ABA decreases.

B. In the leaf concentration of both auxin and ABA increases.

C. Reduction in ABA concentration and increase of auxin concentration in the leaf.

D. Reduction in concentration of auxin and increase of concentration ofABA in the leaf.

Answer: D

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22. Which one the following plant function is not generally governed or controlled by auxin

A. Apical dominance

B. Photosynthesis

C. Photoperiodism

D. Growth

Answer: B

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23. Response of plants due to reversibole turgor change in pulvinus as a result of touch is

A. Photonasty

B. Thermonasty

C. Seismonasty

D. Chemonasty

Answer: C

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24. Hormone primarily concern with cell division is

A. IAA

B. NAA

C. Cytokinin/Zeatin

D. Gibberellic acid

Answer: C

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25. Leaf fall can be prvented by

A. Abscisic acid

B. Adenine

C. Florigen

D. Cytokinins

Answer: D

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26. Cytokinins which have specific effect in cytokinesis are modified forms of

A. Cytosine

B. Adenine

C. Guanine

D. Thiamine

Answer: B

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27. One of the commonly used plant growth hormone in tea plantation is

A. Zeatin

B. ABA

C. IAA

D. Ethylene

Answer: C

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28. Impotance of day length (photoperiodism) in flowering of plants was first shown in

A. Cotton

B. Tobacco

C. Lemna

D. Petunia

Answer: B

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29. Growth in length is measured with the help of

A. Manometer

B. Auxanometer

C. Potometer

D. Clinostat

Answer: B

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30. Vemalisation occurs in response to

A. Highlightintensity

B. Low temperature

C. High temperature

D. Lowlightintensity

Answer: B

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31. Some flowers (e.g., Oxalis) open in the morning and close during evening because of

A. Photonasty

B. Phototropism

C. Phototaxy

D. Nyctinasty

Answer: A

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32. Parthenocarpic fruits can be produced by application of auxin

A. IAA

B. IBA

C. NAA

D. All of the above

Answer: D

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33. Which wavelengths are the most effective in photoperiodism ?

A. Green and yellow

B. Blue and red

C. Blue and violet

D. Red and far red.

Answer: D

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34. Transport of cytokinin in the plant body is

A. Basipetal

B. Lateral

C. Acropetal

D. On all sides

Answer: C

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35. Which one hastens flowering in plants

A. Stratification

B. Scariiication

C. Vemalisation

D. Water deficit

Answer: C

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36. Auxanometer is used to measure plant organ

A. Growth in length

B. Pest population

C. Growth in breadth

D. Both A and B

Answer: A

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37. Day neutral plant

A. Lose activity during day time

B. F lower in all possible photoperiods

C. Become overactive during day time

D. Do not iiower in any photoperiod

Answer: B

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38. Study of phototropic lead to the discovery of

A. Cytokinln

B. Ethylene

C. Gibberellin

D. Auxin

Answer: D

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39. Vernalisation is seen in

A. Sugar beet

B. Carrot

C. Cabbage

D. All of the above

Answer: D

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40. The rosette habit of cabbage can be changed by applicaton of

A. ABA

B. IAA

C. GA

D. Ethephon

Answer: C

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41. Exponential growth in plants can be expressed as

A. $L_1 = L_0 + rt$

B. $L_0 = Le^{rt}$

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

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

Answer: C

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42. Which is incorrectly matched

A. Adenine derivative-Kinetin

B. Terpenes-IAA

C. Carotenoid derivative-ABA

D. Indole compounds-IBA

Answer: B

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43. Natural cytokinins are synthesised in tissues that are

A. Storing food

B. Differentiating

C. Dividing

D. Senescent

Answer: C

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44. Through their effect on plant growth regiulators, what do the temperature and light control in the plants

A. Stomatal closure

B. Apical dominance

C. Flowering

D. Fruit development

Answer: C

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45. Hormone antagonist to gibberellins is

A. IAA

B. ABA

C. Zeatin

D. Ethylene

Answer: B

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46. Vernalization stimulates flowering in

A. Ginger

B. Tunneric

C. Zaminkand

D. Carrot

Answer: D

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47. Growth hormone that speeds up malting in brewery industry is

A. Kinetin

B. Gibberellic acid

C. Auxin

D. Ethylene

Answer: B

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48. One harmone is used to speed up the malting process in barely, another is used to promote flowering in pineapple, while the third helps in the delay of leaf senescence. These are respectively

A. Auxin, Gibberellin and Cytokinin

B. Gibberellin, Cytokinin, Auxin

C. Gibberellin, Auxin, Cytokinin

D. Cytokinin, Auxin, Gibberellin

Answer: C

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49. Which of the following is not a physiological effect/ an influence of auxin

A. Promotes bolting

B. Prevents early fruit and leaf drop

C. Promotes howering

D. Initiates rooting in stem cuttings

Answer: A

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50. The phenomenon which shortens vegetative period and hastens flowering is

A. Etiolation

B. Vemalisation

C. Photoperiodism

D. Parthenocarpy

Answer: B

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51. Abscisic acid is called stress hormone as it

A. Induces flowering

B. Breaks seed dormancy

C. Promotes leaf fall

D. Promotes stomatal closure

Answer: D

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52. Flowering response to length of day and night in plants is called

A. Phototropism

B. Photorespiration

C. Photoperiodism

D. Photo-oxidation

Answer: C

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53. Hormone that promotes growth of lateral buds and has nagative effect on apical dominance is

A. Cytokinin

B. Gibberellin

C. Auxin

D. Both B and C

Answer: A

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54. Which one o f the following plant hormone (phytomone) Is know as a stress hormone

A. Indole acetic acid

B. Abscisic acid

C. Ethylene

D. GA_3

Answer: B

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55. Dr. F. Went noted that is coleoptile tips were removed and placed on agar for one hour , the agar would produce a bending when placed on one side of freshly cut

coleoptile stumps .Of what sighifcance is this exeriment

A. It demonstrated polar movement of auxins.

B. It made possible the isolation and exact identification of auxin.

C. It is the basis for quantitative determination of small amounts of growth~promoting substances.

D. It supports the hypothesis that 1AA is auxin.

Answer: B

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

A. Short day length

B. Long day length

C. Critical daylength

D. Intervening light period

Answer: C

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57. Under water stress, the leaves of plants are found to contain higher concentration of

A. Gibberellic acid

B. Cytokinins

C. Abscisic acid

D. Auxins

Answer: C

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58. Boioassary for auxin is

A. Hydroponics

B. Potometer

C. Lettuce hypocotyl elongation

D. Avena coleoptile curvature

Answer: D

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59. Which growth regulators is used to prepare weed-free lawns by the gardeners?

A. Indole-S-acetic acid

B. Indole butyric acid

C. 2, 4-dichlorophenoxy acetic acid

D. Naphthalene acetic acid

Answer: C

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60. What causes a green plant exposed to the light on only one side, to bend toward the source of light as it grows

A. nght stimulates plant cells on the lighted side to grow faster

B. Auxin accumulates on the shaded side, stimulating greater cell elongation there

C. Green plants need light to perform photosynthesis

D. Green plants seek light because they are phototropic

Answer: B

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61. The rate of growth of any organism follows

Or

Typical growth curve in plants is

A. Stair-steps shaped

B. Parabolic

C. Sigmoid

D. Linear

Answer: C

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62. Gibberellin facilitates seed germination by triggering the synthesis of

A. aamylase

B. 3amylase

C. amylase and 3amylase

D. amylase and protease

Answer: D

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63. The inhibitory effect of red light on flowering during critical dark period in short day plants can be overcome by

A. Blue light

B. Far-redlight

C. Infra-red rays

D. Ultraviolet rays

Answer: B

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64. The primary hormone causing abscission of leaves is

A. IAA

B. Ethylene

C. ABA

D. Cytokinin

Answer: C

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65. Avena coleoptilre test detects the presence of

A. ABA

B. GA_3

C. 1AA

D. Ethylene

Answer: C

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66. Which of the following prevents falling of fruits

OR

Fruit and leaf drop at early stages can be prevented by the application

A. Ethylene

B. Auxins

C. Gibberellic

D. Cytokinins

Answer: B

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

A. cytokinins

B. auxins

C. GA

D. CoA

Answer: A

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68. Curling of tendrils is due to

A. thigmotropism

B. phototropism

C. chemotropism

D. nyctinasty

Answer: A

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69. Bud dormancy is induced by

A. IAA

B. GA

C. ABA

D. ethylene

Answer: C

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70. Pruning of plants promotes branchin becaues the axillary buds get sensitized to

A. ethylene

B. gibberellin

C. cytokinin

D. indole acetic acid

Answer: C

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71. Gibberellins can promote seed germination because of their influence on

A. rate of cell division

B. production of hydrolyzing enzymes

C. synthesis of abscisic acid

D. absorption of water through hard seed coat

Answer: B

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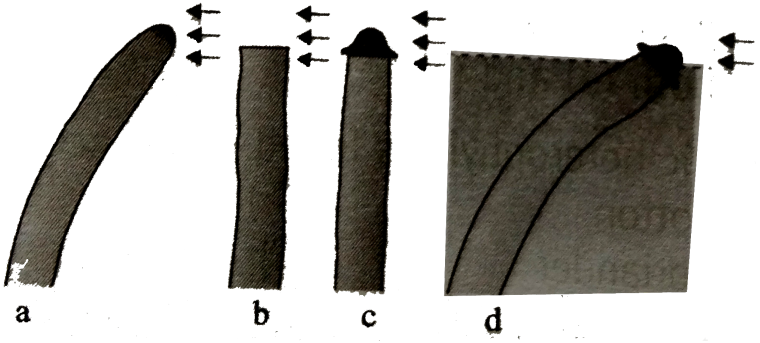
72. Avena curvature test is a bioassay for examining the activity of



A. auxins

B. gibberellins

C. cytokinins

D. ethylene

Answer: A

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73. Bean seeds were planted and put on a sunny windowsill. As the plants grew, their stems bent toward the window. This bending was most likely caused by an

A. unequal distribution of auxin in the stem

B. unequal distribution of a neurotransmitter in the stem

C. equal distribution of auxin in the stem

D. equal distribution of a neurotransmitter in the stem

Answer: A

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74. Coconut water is rich in

A. auxins

B. gibberellins

C. abscisic acid

D. cytokinin

Answer: D

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75. Gibberellins can promote seed germination because of their influence on

A. rate of cell division

B. production of hydrolyzing enzymes

C. synthesis of abscisic acid

D. absorption of water through hard seed coat

Answer: B

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76. 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 = Auxin, Z = GA

B. Z = GA, X = Auxin, Y = C_2H_4

C. Y = Auxin, X = CZH, Z = GA

D. Y , C_2H_4, X = C_2H_4, Z = GA

Answer: D

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77. Gibberellins can promote seed germination because of their influence on

A. rate of cell division

B. production of hydrolysing enzymes

C. synthesis of abscisic acid

D. absorption of water through hard seed coat

Answer: B

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78. Match the column and select the correct option: (2016)

A. (i)-(III), (ii)-(I), (iii)-(II), (iv)-(IV)

B. (i)-(I), (ii)-(II), (iii)-(III), (iv)-(IV)

C. (i)-(II), (ii)-(I), (iii)-(III), (iv)-(IV)

D. (i)-(III), (iiHI), (iii)-(IV), (iv)-(H)

Answer: A

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79. Which of the following sets contain natural hormone?

A. 2, 4-D, IBA, Gibberellin

B. Cytokinin, 2,4-D, NAA

C. IAA, Zeatin,ABA

D. Ethylene, PAA,VABA

Answer: C

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80. Assertion: Photomodulation of howering is a phytochrome regulated process.

Reason: Active form of phytochrome (PFR) directly induces floral induction in shoot buds.

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

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

C. If the assertion is true but reason is false

D. If both the assertion and reason are false

Answer: A

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81. Assertion: Vemalization is acceleration of subsequent llowenng by low temperature treatment.

Reason: Site of vernalization is apical meristem.

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82. Assertion: Dark period play more important part in flowering than light period.

Reason : Flowering occurs in short-day plant if the dark period is interrupted by light break.

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83. Assertion.Plant growth regulators are very important for plant growth and development

Reason. Auxins do not induce flowering in gymnosperms.

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84. Assertion : A correct concentration of auxin and cytokinin is required for the development of root and shoot in callus.

Reason: When the ratio of kinetin to auxin is high only shoot develop but when the ratio is low only roots develop

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

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

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