



- c) Final size Initial size Growth rate Time of dividing  
d) Initial size Final size Growth rate Time of dividing
14. Natural cytokinins are synthesized in tissue that are  
a) Senescent                      b) Dividing rapidly                      c) Storing food material                      d) Differentiating
15. Which of the following processes is concerned with Cholodny-Went theory?  
a) Photomorphogenesis    b) Photoperiodism                      c) Phototropism                      d) photorespiration
16. Growth at cellular level is the increase in the amount of  
a) Cell wall                      b) Cell membrane                      c) Protoplasm                      d) All of the above
17. Which one of the following is a natural growth inhibitor?  
a) NAA                      b) ABA                      c) IAA                      d) GA
18. I. Antagonist to GA  
II. Promoted bud dormancy  
III. Promoted stomatal closure  
IV. Promoted abscission layer  
Identify the hormone/s which promote/s all these events in plants and choose the correct option  
a) Cytokinin                      b) Auxin                      c) Absciscic acid                      d) C<sub>2</sub>H<sub>4</sub>
19. Thigmotropism is best seen in  
a) Tendrils                      b) Leaf apex                      c) Root apex                      d) Stem apex
20. In coleoptile tissue, auxin is  
a) Not transported because it is used where it is made  
b) Transported by diffusion  
c) Transported from the base to tip by osmosis  
d) Produced by growing apices of stem, which migrate to the region of its action
21. Which of the following induces flowering in long day plants?  
a) Gibberellins                      b) Cytokinin                      c) Auxins                      d) Ethylene
22. I. Lag phase  
II. Stationary phase  
III. Exponential phase  
Arrange the above steps of geometrical growth (from beginning to last) in a correct sequence of their occurrence and choose the correct option accordingly  
a) I → II → III                      b) I → III → II                      c) III → II → I                      d) III → I → II
23. Fruits can be left on the tree longer, so as to increase the market period. This is due to the function of  
a) Delay senescence by auxin                      b) Delay senescence by CH<sub>2</sub> – CH<sub>2</sub>  
c) Delay senescence by cytokinin                      d) Delay senescence by GA
24. Name the process when dedifferentiated cells again loss the ability to divide and get mature?  
a) Cell-enlargement                      b) Redifferentiation                      c) Dedifferentiation                      d) Differentiation
25. For cryopreservation, plant materials are frozen at  
a) –196°C                      b) –150°C                      c) –80°C                      d) –40°C
26. Maximum elongation takes place in  
a) Conducting tissue                      b) Fibre  
c) Both (a) and (b)                      d) Cell wall and membrane
27. One hormone helps in ripening of fruits, while the other stimulates closure of stomata. These are respectively  
a) Absciscic acid and auxin                      b) Ethylene and absciscic acid  
c) Auxin and ethylene                      d) Ethylene and gibberellic acid
28. Micropropagation is done by  
a) Auxins                      b) GA                      c) Cytokinin                      d) Both (a) and (b)
29. Auxanometer is used to mesure  
a) The growth in length of a plant organ                      b) The growth in breadth of a plant organ  
c) Population of the pests attacking a plant                      d) Both (a)and(b)







Substance from ripened organs of plants?

II. Who discovered kinetin from herring sperm?

III. Who discovered GA?

Which of the following option correctly answer the given questions?

a) I-Cousin, II-Miller and Skoog, III-Kurosawa

b) I-Cousin, II-Kurosawa, III-Darwin

c) I-Cousin, II-Darwin, III-Kurosawa

d) I-Kurosawa, II-Miller and Skoog, III-Cousins

63. Which of the following is essential for plant growth?

a) H<sub>2</sub>O

b) O<sub>2</sub>

c) Nutrients

d) All of these

64. Identify the pair of physiological effects of two phytohormones, which are synthesized from different amino acids?

I. Formation of perennating buds in *Lemna*.

II. Simultaneous flowering in pineapple.

III. Bolting in cabbage.

IV. Apical dominance in *Polyalthia*.

a) II and IV

b) I and IV

c) II and III

d) I and II

65. Choose the correct statement

I. Cytokinin – Delay of leaf senescence

II. Auxin – Apical dominance

III. Ethylene – Seed germination

IV. Gibberellins – Immature falling of leaves

a) I and II

b) I and IV

c) II and III

d) II and IV

66. In geometrical growth, log phase is represented by

a) Rapid consumption of nutrient

b) Rapid increment of cell number

c) Highest growth rate

d) All of the above

67. The pigment involved in photomorphogenetic movement is

a) Cytochrome

b) Phytochrome

c) Chromatin

d) vernalin

68. Growth in plants is measured by the increase in

I. fresh weight

II. dry weight

III. length, area and volume

IV. cell number

Choose the correct option

a) All except I and II

b) All except III

c) All except IV

d) I, II, III and IV

69. To make stored food available for germination, with which hormone seed should be treated?

a) Gibberellins

b) Auxin

c) Abscisic acid

d) Cytokinin

70. Which of the following induces flowering in long day plants?

a) Gibberellins

b) Cytokinin

c) Auxins

d) Ethylene

71. The movement of hairs in *Drosera* is

a) Theronastic

b) Thigmonastic

c) Seismonastic

d) photonastic

72. Most widely used compound as a source of ethylene is

a) Nephthol

b) Acetol

c) Ethephon

d) Ethepon

73. The site of perception of light is

a) Root

b) Shoot

c) Leaves

d) Meristem

74. On the basis of correlation, find the correct option from columns.

Column I	Column II	Column III
I. Foolish plant	(p) Volatile hormone	(i) Induces dormancy
II. Induces senescence	(q) GA	(ii) Ripens fruits

	(r) Zeatin	(iii) Usually sterile plant
--	------------	--------------------------------

- a) I-p-ii, II-r-i                      b) I-r-iii, II-q-iii                      c) I-q-iii, II-p-ii                      d) I-q-i, II-r-ii
75. Natural cytokinins are synthesised in which regions of plants?  
a) Root apices    b) Young fruit  
c) Developing shoot buds    d) All of the above
76. The rosette habit of cabbage can be changed by application of  
a) IAA    b) GA    c) ABA    d) Ethaphon
77. Which is used as weedicide?  
a) 2,4-D    b) IBA    c) IAA    d) ABA
78. The living differentiated cells, regain capacity of division under certain condition which called  
a) Redifferentiation                      b) Dedifferentiation                      c) Differentiation                      d) Reverse division
79. Photoperiodism was first studied by  
a) Garner and Allard                      b) Darwin    c) FW Went    d) Cousins
80. A phytohormone, which increases the production of starch hydrolyzing enzymes during the germination of maize seeds, is employed for the following  
a) Increasing the vase-life period of flowers                      b) Induction of seedless fruits in grapes  
c) Acceleration of ripening of banana fruits                      d) Eradication of dicot weeds
81. Treatment of seed at low temperature under moist conditions to break its dormancy, is called  
a) Scarification                      b) Vernalization                      c) Chelation                      d) Stratification
82. The Plant Growth Regulator (PGR), ethylene comes under the category of  
a) Simple plant hormone                      b) Complex plant hormone  
c) Plant growth inhibitor hormone                      d) Plant growth promoter hormone
83. Plants requiring low light intensity for optimum photosynthesis are called  
a) Heliophytes                      b) Pteridophytes                      c) Sciophytes                      d) Bryophytes
84. *Nicotiana sylvestris* flowers only during long days while *N. tobacum* flowers only during short days. If raised in the laboratory under different photoperiods, they can be induced to flower at the same time and can be cross fertilized to produce self-fertile offspring.  
What is the best reason for considering *N. sylvestris* and *N. tobacum* to be separate species?  
a) They are physiologically distinct                      b) They are morphologically distinct  
c) They cannot interbreed in nature                      d) They are reproductively distinct
85. Large amount of ethylene is synthesised by  
a) Developing roots and fruits                      b) Developing shoots and flowers  
c) Senescence tissues and ripening fruits                      d) Young tissue and unripened fruits
86. In geometrical growth, lag phase is represented by  
a) Initial rapid growth                      b) Latter rapid growth                      c) Initial slow growth                      d) Latter slow growth
87. Natural and synthetic-auxin (IAA, NAA, IBA, 2-4-D) have been used extensively in  
a) Agriculture                      b) Horticulture                      c) Both (a) and (b)                      d) Sericulture
88. Water is required in plant growth for  
a) Enzymatic reactions                      b) Cell enlargement                      c) Extension growth                      d) All of these
89. IAA is derived from or which of the following is involved in the synthesis of a plant IAA and vasoconstrictor serotonin?  
a) Tryptophan                      b) Tyrosine                      c) Phenylalanine                      d) None of these
90. During differentiation, the cells undergo few to major structural changes in their  
a) Cell wall                      b) Protoplasm                      c) Both (a) and (b)                      d) Cytoplasm
91. Study the following statement  
I. Cytokinins are formed primarily in roots  
II. Auxin and cytokinin are antagonistic in apical dominance  
III. Kinetin (a modified DNA purine) was discovered from herring sperm

IV. Zeatin is auxin

V. Zeatin was firstly extracted from herring

Choose the incorrect one

- a) I and II                      b) III                      c) II and V                      d) IV and V

92. SDP also called

- a) Short night plant                      b) Long night plant  
c) Intermediate night plant                      d) None of these

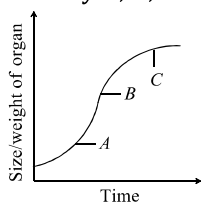
93. Arithmetic growth is linear because

- a) One daughter cell remains meristematic and other differentiates and mature  
b) Both daughter cell remains meristematic  
c) Both daughter cells gets matured  
d) All of the above

94. In S-shaped curve, the growth is highest in which phase?

- a) Lag phase                      b) Steady phase                      c) Log phase                      d) All of these

95. Identify A, B, C in the given graph and choose the correct option accordingly



- a) A-Log phase, B-Lag phase, C-Stationary phase  
b) A-Lag phase, B-Log phase, C-Stationary phase  
c) A-Lag phase, B-Stationary phase, B-Log phase  
d) B-Log phase, B-Stationary phase, A-Lag phase

96. Pick out the correct statements.

V. Cytokinins especially help in delaying senescence.

VI. Auxins are involved in regulating apical dominance.

VII. Ethylene is especially useful in enhancing seed germination.

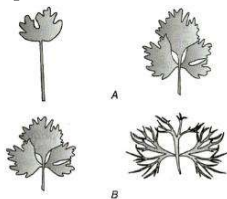
VIII. Gibberellins are responsible for immature falling of leaves.

- a) I and III                      b) I and IV                      c) II and III                      d) I and II

97. Haptonastic movement is found in

- a) *Drosera*                      b) *Oxalis*                      c) *Mimosa*                      d) *Cucurbita*

98. Diagram A and B indicate the shape of leaves in larkspur and buttercup respectively, choose the correct option



- a) The juvenile and adult leaf of larkspur differ in size due to genetic and plant growth regulator factors  
b) Both leaf of buttercup differ in size due to genetic and intercellular factors  
c) Both larkspur and buttercup leaf size variation is due to habitat plasticity  
d) None of the above

99. Canary grass experiment for phototropism was firstly conducted by

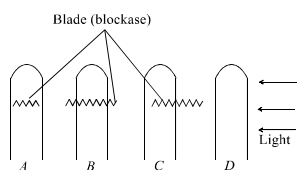
- a) Went                      b) Darwin                      c) Cousins                      d) Kurosawa

100. Which one is an example of redifferentiation?

- a) Cork cambium                      b) Secondary cortex  
c) Meristems                      d) Interfascicular cambium

101. Which hormone is called the dormancy hormone?

- a) IAA                                      b) NAA                                      c) ABA                                      d) GA
102. Plant growth regulators are also described as  
a) Plant growth substance                                      b) Plant hormones  
c) Phytohormones                                      d) All of these
103. Name of a gaseous plant hormone is  
a) IAA                                      b) Gibberellins                                      c) Ethylene                                      d) Abscisic acid
104. Exponential growth can't be sustained for much time due to  
I. limited space and nutrient  
II. accumulation of toxic agent  
III. unlimited space and nutrient  
IV. accumulation of nutrient agent  
Choose the correct combination of options  
a) I and III                                      b) III and IV                                      c) I and II                                      d) IV and II
105. Programmed cell death is scientifically termed as  
a) Autotomy                                      b) Cell lysis                                      c) Apoptosis                                      d) None of these
106. The following statements are given about plant growth hormones:  
IX. Kinetin is a degradative substance from DNA molecule.  
X. ABA is present, in all the plants.  
XI. Low ratio of cytokinins to auxins favours root formation only.  
XII. ABA is synthesized catabolically through mevalonate pathway.  
The correct combination is  
a) I and II                                      b) II and III                                      c) I and III                                      d) III and IV
107. Plants follow ...A... pathways in response to environment or phases of life to form different kind of structures. This ability is called ...B...  
Complete the given statement with the correct combination of options  
a) A-same; B-elasticity                                      b) A-elasticity; B-same  
c) A-different; B-plastically                                      d) A-same; B-plastically
108. Opening of floral buds into flowers, is a type of  
a) Autonomic movement of locomotion                                      b) Autonomic movement of variation  
c) Paratonic movement of growth                                      d) Autonomic movement of growth
109. The bioassay of auxin is  
a) *Avena* curvature test                                      b) Callus formation  
c) Culture of fungus                                      d) Seed dormancy
110. The cells derived from cambium, root apical and shoot apical meristem differentiate and mature to perform specific functions. This act is called  
a) Differentiation                                      b) Dedifferentiation                                      c) Redifferentiation                                      d) All of these
111. Induction of flowering by low temperature treatment is  
a) Vernalization                                      b) Cryobiology                                      c) Photoperiodism                                      d) Pruning
112. Response of plants due to reversible turgor change in pulvinus is  
a) Nyctinastic                                      b) Seismonastic                                      c) Heptonastic                                      d) Photonastic
113. The type of growth where new cells are always being added to plant body by the activity of meristem is called  
a) Closed form of growth                                      b) Diffused form of growth  
c) Open form of growth                                      d) Discontinuous form of growth
114. Which of the following is a day neutral plant?  
a) *Helianthus annuus*                                      b) *Euphorbia pulcherrima*  
c) *Avena sativa*                                      d) *Beta vulgaris*
115. Four coleoptile for experiment



Which coleoptile bend toward the light? Choose the correct option

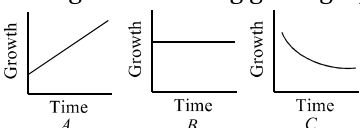
- a) A and B                      b) C and D                      c) A and D                      d) C and B
116. Which one of the following acids is a derivative of carotenoids?  
 a) Indole-butyric acid      b) Indole-3 acetic acid      c) Gibberellic acid      d) Abscisic acid
117. Growth plotted against time gives a  
 a) Parabolic curve      b) Sigmoid curve      c) Upright line      d) Horizontal line
118. Cell elongation in intermodal regions of the green plants takes place due to  
 a) Indole acetic acid      b) Cytokinins      c) Gibberellins      d) Ethylene
119. An enzyme that can stimulate germination of barley seeds is  
 a)  $\alpha$ -amylase      b) Lipase      c) Protease      d) Invertase
120. The final structure at maturity of a cell/tissue is determined by  
 a) Type of cells      b) Type of cell division  
 c) Location of cell within tissue      d) Nutrient in cells
121. Charles Darwin and Francis Darwin are related with  
 a) Vernalisation      b) Effect of plant hormones (auxin)  
 c) Photoperiodism      d) Phototropism
122. Vernalisation can be reversed by  
 a) Application of high temperature      b) Application of auxin  
 c) Application of more less temperature      d) Application of gibberellin
123. Constantly dividing cells, both at the root apex and shoot apex represents  
 a) Elongation phase of the growth      b) Meristematic phase of the growth  
 c) Maturation phase of the growth      d) None of the above
124. In most of the higher plants, the growing ...A... bud inhibits the growth of ...B... bud, a phenomenon called apical dominance. Removal of the shoot tips usually results in growth of ...C... buds.  
 Complete the given statement with the correct combination of options given in the codes below  
 a) A-lateral, B-axillary, C-axillary      b) A-apical, B-lateral, C-apical  
 c) A-apical, B-lateral, C-lateral      d) A-lateral, B-apical, C-lateral
125. How many gibberellins are reported from widely different organism such as plant and fungi?  
 a) More than 50      b) More than 75      c) More than 100      d) More than 25
126. Abscisic acid is primarily synthesized in  
 a) Lysosomes      b) Golgi complex      c) Chloroplast      d) ribosomes
127. Cytokinins are formed in  
 a) Roots      b) Leaves      c) Fruits      d) Stems
128. Which hormone (PGR) encounters the apical dominance induced by auxin?  
 a) IAA      b) Cytokinin      c)  $C_2H_4$       d) NAA
129. The terms auxin is applied to  
 I. IAA      II. IBA  
 III. NAA      IV. 2-4-D  
 Select the correct option  
 a) I, II and III      b) II, III and IV      c) I, III and IV      d) I, II, III and IV
130. Which of the following is an anti-gibberellin?  
 a) Auxin      b) ABA      c) Ethylene      d) Cytokinin
131. Which hormone is responsible for apical growth?  
 a) IAA      b) ABA      c) GA      d) All of these
132. Increase in the girth of plant (organ) takes place by  
 a) Vascular cambium      b) Cork cambium









- d) A-Multiplicative phase; B-Replicative growth
161. In expression,  $L_t = L_0 + rt$ , of arithmetic growth rate,  $L_t, L_0$  and  $r$  represents
- $L_t$                        $L_0$                        $r$
- a) Length at time zero    Length at time ' $t$ '    Elongation per unit time
- b) Length at time ' $t$ '    Length at time zero    Elongation per unit time
- c) Length at time ' $t$ '    Length at time zero    Growth rate
- d) Both (b) and (c)
162. Ethephon
- a) Hasten fruit ripening in tomatoes                      b) Accelerate abscission
- c) Promote female flower cucumbers                      d) All of the above
163. The chemical nature of gibberellins is
- a) Acidic                      b) Alkaline                      c) Proteinaceous                      d) Amines
164. Which hormone was first isolated from human urine?
- a) Auxin                      b) ABA                      c) Ethylene                      d) Gibberellic acid
165. Which phytohormone has viral inhibitory property?
- a) IAA                      b)  $GA_3$                       c) ABA                      d) 2,4-D
166. Which of the following is the effect of a plant hormone, which is synthesized more in the absence of light?
- a) Inhibits the development of seedless fruits                      b) Responsible for closing of stomata
- c) Induces the dormancy of seeds                      d) Length of internodes increases
167. Shock movement in 'touch me not' plant is
- a) Seismonasty                      b) Photonasty                      c) Chemonasty                      d) Thermonasty
168. Vernalisation helps in
- a) Shortening of reproductive phase                      b) Shortening of juvenile phase
- c) Shortening of vegetative phase                      d) Both (a) and (c)
169. Efficiency index in the exponential phase of geometrical growth is the ability of plants to produce
- a) Cell wall                      b) New enzyme
- c) New plant material                      d) Young ones through mitosis
170. Day neutral plant relates to
- a) Loss of activity during day time                      b) Overactive during day time
- c) Flowering in all possible photoperiods                      d) No flowering in any photoperiod
171. Opening of flower is an example of
- a) Spontaneous movement                      b) Hyponastic movement
- c) Epinastic movement                      d) Cleistogamous movement
172. Among the following given graphs, which show the linear growth curve?
- 
- a) A and B                      b) B and C                      c) A and C                      d) Only A
173. Which of the following movements is induced by injury?
- a) Aerotropism                      b) Geotropism                      c) Tromonasty                      d) Traumatropism
174. Substance related with phototropism in shoot, is
- a) Ethanol                      b) Cytokinins                      c) Auxin                      d) Gibberellins
175. I. Plasmatic growth  
II. Differentiation  
III. Maturation  
IV. Senescence
- Identify the correct sequence of the following events occurring in plants and choose the correct option

accordingly

- a) I → II → III → IV      b) I → II → IV → III      c) IV → III → II → I      d) IV → I → II → III

176. Which pigment involves in photoperiodic change in plants?

- a) Phytochrome      b) Cytochrome      c) Chlorophyll      d) Anthocyanin

177. Initially, the ABA was identified as

- a) Inhibitor B      b) Abscission II      c) Dormin      d) All of these

178. Florigen is produced in the region of

- a) Leaves      b) Fruit      c) Root      d) Trunk

179. I. Cell elongation

II. Cell division

III. Cell differentiation

Among the above mentioned, what is/are the function(s) of auxin?

- a) I and II      b) III and I      c) II and III      d) I, II and III

180. Closure of lid of pitcher, in pitcher plant, is

- a) Tropic movement      b) Paratonic movement  
c) Turgor movement      d) Autonomous movement

181. In some plants, sleep movement of leaves is due to

- a) Excess of photosynthesis      b) Osmotic changes at base of leaf  
c) Excess of respiration      d) Excess of transpiration

182. Hormone inducing fruit ripening is

- a) Ethylene      b) Cytokinin      c) Gibberellic acid      d) Abscisic acid

183. The discovery of gibberellins is related with one of the following

- a) Blast disease of rice      b) Rust disease of wheat  
c) Bakane disease of rice      d) Early blight disease of potato

184. Phase of maturation is characterised by

I. Cells attaining their maximal size

II. Proper wall thickening and protoplasmic modification

III. Rapid cell division

Select the correct option

- a) I and II      b) II and III      c) I and III      d) I, II and III

185. The following statements are given about plant growth hormones:

I. Cytokinins suppress the synthesis of chlorophyll.

II. Auxins control apical dominance.

III. Gibberellins promote shoot elongation.

IV. Abscisic acid enabling seeds to withstand desiccation.

Which of the above statements are correct?

- a) I and II      b) II and III      c) I and III      d) II, III and IV

186. Growing season is the season of plants in which there is

- a) Maximum vegetative growth      b) Minimum vegetative growth  
c) Moderate vegetative growth      d) Maximum reproduction occurs

187. I. On plotting the length of an organ against time, a linear curve is obtained

II.  $L_t = L_0 + rt$

III. Following mitotic division, one daughter cell continues to divide while the other differentiate and mature

Above are the properties of

- a) Arithmetic growth rate      b) Geometric growth rate  
c) Both (a) and (b)      d) Elongation growth rate

188. The problem of necrosis and gradual senescence, while performing tissue culture can be overcome by

- a) Spraying auxins      b) Spraying cytokinins      c) Suspension culture      d) subculture

189. The ability of plants to follow different pathway to form different structures in response to environment is

called

- a) Plasticity                      b) Elasticity                      c) Growth                      d) Development

190. Opening and closing of flowers represent a kind of

- a) Nastic movement                      b) Tropic movement  
c) Mutation                      d) Autonomic movement

191. During differentiation of tracheary elements,

- a) The cells lose its protoplasm  
b) Cells develop very strong elastic lignocellulosic secondary cell walls  
c) Both (a) and (b)  
d) The cell increases its protoplasm

192. Leaf abscission, fruit fall, and bud dormancy occurs by which phytohormone?

- a) Auxin                      b) Cytokinin                      c) Gibberellins                      d) Abscisic acid

193. The response of different organisms to environment rhythms of light and darkness, is called

- a) Phototropism                      b) Phototaxis                      c) Photoperiodism                      d) Vernalization

194. An example of short day plant is

- a) Wheat                      b) Maize                      c) *Chrysanthemum*                      d) radish

195. The plant hormone produced by *Rhizobium* for nodulation is

- a) IBA                      b) NAA                      c) 2,4-D                      d) IAA

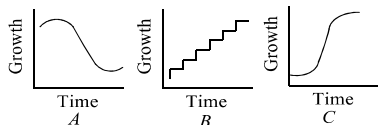
196. Growth of the plant is

- a) Determinate                      b) Indeterminate                      c) Both (a) and (b)                      d) None of the above

197. Plant growth Regulators (PGR) or plant hormones are generally

- a) Produced from many parts of plant                      b) Produced from shoot apices and stem apices  
c) Produce single effect                      d) Are basic in nature

198.



Which of the following graph shows the sigmoid growth curve?

- a) A and B                      b) C                      c) A                      d) B

199. Which of the following functions is/are not the function/s of cytokinin?

- I. New leaves formation  
II. Chloroplast formation in leaves  
III. Lateral shoot formation  
IV. Adventitious shoot formation  
V. Rooting on stem cuttings

Choose the correct option

- a) Only I                      b) II and III                      c) Only IV                      d) Only V

200. Stimulus of vernalisation is perceived by

- a) Shoot tips                      b) Mature tissues                      c) Embryo tips                      d) Both (a) and (c)

201. Differentiation in plants is open because

- a) Cells/tissue arising out of meristem regain the capacity of division under certain conditions  
b) Cells/tissue arising out of different meristem have different structures at maturity  
c) Cells/tissue arising out of different meristem have same structures at maturity  
d) All of the above

202. Growth of plant is

- a) Arithmetic                      b) Geometric                      c) Both (a) and (b)                      d) Additive

203. Mobilization of stored food in germinating seed is triggered by

- a) ABA                      b) GA                      c) Cytokinin                      d) Ethylene

204. The cells in the root and shoot apex

- a) Are rich in protoplasm  
b) Have conspicuous nuclei

- c) Have their cell wall which are primary in nature, thin and cellulosic with abundant plasmodesmatal connections  
 d) All of the above

205. Identify two physiological processes induced by two different phytohormones having a common precursor, which is formed due to the catalytic activity of pyruvic dehydrogenase complex.

- I. more female folwers in cucumber. II. a-amylase production in barley grain.  
 III. Acceleration of fruit ripening in tomato.  
 IV. Delay in sprouting of potato tubers. the correct combination is

- a) I and II                      b) I and III                      c) II and IV                      d) III and IV

206. Auxin originates at the tip of the stem and controls growth elsewhere. The movement of auxin is largely

- a) Basipetal                      b) Acropetal                      c) Both (a) and (b)                      d) centripetal

207. S-shaped or sigmoid growth curve have

- I. lag phase  
 II. log phase  
 III. stationary phase  
 IV. diminishing growth phase

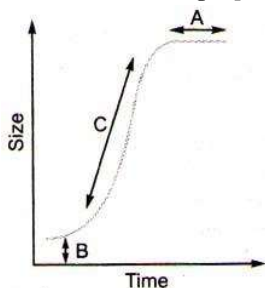
Select the correct option

- a) All except IV                      b) All except III                      c) All except II                      d) I, II, III and IV

208. The cells proximal (just next away from the tip) to the meristematic zone represents the phase of

- a) Division                      b) Maturation                      c) Elongation                      d) Meristematic division

209. Given below is a graph drawn on the parameters of growth versus time. A, B and C respectively represent



- a) Exponential phase, log phase and steady state phase  
 b) Steady state phase, lag phase and log phase  
 c) Slow growing phase, lag phase and steady state phase  
 d) Lag phase, steady state phase and log phase

210. When transition from juvenile to adult is gradual than this type of development is called

- a) Homoblastic development                      b) Heteroblastic development  
 c) Homoheteroblastic development                      d) Hetero and homoblastic development

211. Specific areas in the higher plants which takes part in the formation of new cells are called

- a) Permanent tissue                      b) Quicent centre                      c) Meristems                      d) Subapical part

212. which of the  $PGR_6$  induces parthenocarp in tomatoes?

- a) Auxin                      b) Gibberellin                      c) Cytokinin                      d) Ethylene

213. Temperature required for vernalisation is

- a) 5°C to 10°C                      b) 5°C to 15°C                      c) 0°C to 5°C                      d) 3°C to 17°C

214. Which of the following pairs, is not correctly matched?

- a) Absciscic acid - Stomatal closure                      b) Gibberellic acid - Leaf fall  
 c) Cytokinin - Cell division                      d) IAA - Cell wall elongation

215. 'Bakane' (foolish seedling) disease of rice seedlings, was caused by

- a) Fungi                      b) Protozoa                      c) Bacteria                      d) Virus

216. 6-furfuryl amino purine, 2-4 dichlorophenoxy acetic acid and indole-3 acetic acid are examples respectively for

- a) Synthetic auxin kinetin and natural auxin                      b) Gibberellins, natural auxin and kinetin

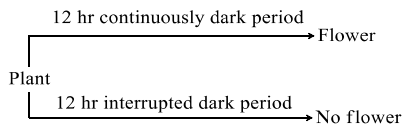
- c) Natural auxin, kinetin and synthetic auxin      d) Kinetin, synthetic auxin and natural auxin
217. Which of the following is not an influence of auxin?  
 a) Apical dominance      b) Parthenocarpy      c) Tropic movements      d) Bolting
218. Importance of day length in flowering of plants was first shown in  
 a) *Lemna*      b) Tobacco      c) Cotton      d) *Pentunia*
219. Intussusception is  
 a) Removal of old material from cell wall  
 b) Deposition of new material into cell wall during differentiation  
 c) Deposition of new material into cell wall during cell division  
 d) Another name of cell division
220. One of the synthetic auxin is  
 a) NAA      b) IAA      c) GA      d) IBA
221. Examples of plants which requires vernalisation is/are  
 a) Pea      b) Beet      c) Cabbage      d) All of these
222. I. More female flowers in cucumber  
 II.  $\alpha$ -amylase production is barley grain  
 III. Acceleration of fruit ripening in tomato  
 IV. Delayed in sprouting in potato tubers  
 From the given effects find, out the effects of ethylene and choose the correct option accordingly  
 a) I and II      b) I and III      c) II and IV      d) III and IV
223. Study the following statements  
 I. Increase in girth of plants is primary growth  
 II. Increase in girth of plants occurs due to apical meristem  
 III. Secondary growth of plants occurs due to lateral meristem  
 IV. Vascular cambium and cork cambium are the lateral meristem of plants  
 V. Elongation of a plant along the axis is called primary growth  
 Choose the incorrect options  
 a) I and II      b) III and IV      c) IV and V      d) I and V
224. Plant growth is unique because  
 a) Plant retains the capacity for unlimited growth  
 b) Plant retains the capacity for limited growth  
 c) Plants have diffused growth that differs from animals  
 d) None of the above
225. I. Kinetin is a degradative substance from DNA  
 II. ABA is present in all plants including lower plants  
 III. Low ratio of cytokinin to auxin favours root formation only  
 IV. ABA is synthesised catabolically through glycolysis pathway  
 Choose the correct combination of options  
 a) I and II      b) II and III      c) I and III      d) III and IV
226. Search for natural cytokinin lead to the  
 a) Isolation of zeatin from corn kernels      b) Isolation of zeatin from coconut milk  
 c) Isolation of zeatin from sugarcane      d) Both (a) and (c)
227. A sleep movement in plants is a nastic response, that occurs daily in response to  
 a) Dark      b) Light      c) Water      d) Both (a) and (b)
228. Synthetic auxins are used for  
 a) Killing weeds      b) Ripening fruits  
 c) Increasing the size of the fruits      d) Stimulating growth of cells in tissue culture
229. In the given diagram, identify the type of growth phase in *A* and *B* and choose a correct option accordingly







- a) Root production takes place  
c) Both (a) and (b)
252. Ethylene is used  
a) To decrease the senescence  
c) For ripening of fruits
253. Growth curve is the  
a) Pictorial representation of total growth/space  
b) Graphical representation of total growth/space  
c) Graphical representation of total growth/time  
d) All of the above
254. Hormone replacing the requirement of vernalization is  
a) ethylene                      b) auxin                      c) gibberellins                      d) cytokinin
255. Photoperiod was first observed in  
a) Potato                      b) Maryland mammoth                      c) Four O'clock                      d) Evening primrose
256. Decapitation (shoot tip removal) is widely used in  
a) Blotting                      b) Hedge making                      c) Tea plantation                      d) Both (b) and (c)
257. Phototropic curvature is the result of uneven Distribution of  
a) Gibberellin                      b) Phytochrome                      c) Cytokinins                      d) Auxin
258. In photoactive plants, during day time the following ionic flux of guard cell is directly involves the expenditure of energy.  
a) Outward movement of malate                      b) Inward movement of potassium ions  
c) Outward movement of protons                      d) Inward movement of chloride
259. Which one of the following statement is incorrect?  
a) Apparent growth is an irreversible increase in mass or volume  
b) Real growth is the formation of new protoplasm  
c) Growth in plants is open ended  
d) Growth in plants is closed ended
260. Which hormone causes stunted growth in pea?  
a) Gibberellic acid                      b) Auxin                      c) Cytokinin                      d) Ethylene
261. Leaf abscission is caused by  
a) ABA                      b) Cytokinin                      c) Auxin                      d) gibberellin
262. I. Auxin II. Cytokinin III. GA IV. ABA  
Which of the above mentioned PGA are acidic in nature? Choose the correct option accordingly  
a) I and II                      b) I, III and IV                      c) I, II and III                      d) I, II, III and IV
263. In plants, phototropism is the movement  
a) Towards the light source                      b) Away from the light source  
c) Parallel to the light source                      d) Lateral to the light source
264. Which was discovered first?  
a) GA<sub>1</sub>                      b) GA<sub>2</sub>                      c) GA<sub>3</sub>                      d) GA<sub>4</sub>
265. Which one is the example of dedifferentiation?  
a) Procambium and vascular cambium                      b) Cork cambium and interfascicular cambium  
c) Cork cambium and vascular cambium                      d) Procambium and cork cambium
266. Identify the correct option for A and B
- | Compound | Function       |
|----------|----------------|
| 2,4-D    | A              |
| B        | Fruit ripening |
| A        | B              |
- a) Insecticide    Auxin                      b) Insecticide    Cytokinin  
c) Insecticide    GA                      d) Weedicide    Ethylene
267. Auxin causes

- a) Growth of apical bud  
c) Seed dormancy
- b) Growth of lateral bud  
d) Fall of leaf
268. Apical dominance is caused by  
a) Auxin                      b) Cytokinin                      c) Ethylene                      d) Gibberellin
269. Permanent localised qualitative change in size, biochemistry, structure and function of cells or organs is called  
a) Cell division                      b) Meristematic division  
c) Differentiation                      d) Dedifferentiation
270. The maximum growth rate occurs in  
a) Stationary phase                      b) Senescent phase                      c) Lag phase                      d) Exponential phase
271. The coiling of tendril around some base in response to touch, is called  
a) Hydrotaxis                      b) Chemotaxis                      c) Thigmotropism                      d) Geotaxis
272. 'Apical dominance' in plants is the result of  
a) Cytokinin                      b) Auxin                      c) Gibberellin                      d)  $\text{CH}_2 - \text{CH}_2$
273. Heterophylly can be observed in  
I. cotton  
II. coriander  
III. larkspur  
Select the right option  
a) I, II and III                      b) I and II                      c) II and III                      d) I and III
274. Apple's elongation and improvement of its shape is performed by  
a) Auxin                      b) Ethylene                      c)  $\text{C}_2\text{H}_4$                       d) GA
275. In which category will you place this flower?  


Choose the correct option  
a) SDP                      b) LDP                      c) DNP                      d) L-SDP

276. In the exponential phase of geometric growth, the  
a) Progeny cells stops dividing  
b) Both progeny cells follow mitotic division  
c) Both (a) and (b)  
d) Only one progeny cell follows mitotic division graphs

277. Surface area of roots by promoting roots growth and root hair formation is increased by  
a) Cytokinin                      b) Kinetin                      c) Ethylene                      d) ABA

278. Quantitative comparison between the growth of living system can be made in  
a) Two ways                      b) Three ways                      c) One ways                      d) Four ways

279. Gibberellins promotes cell division and elongation in  
a) Leaves                      b) Roots                      c) Shoots                      d) All of these

280. I. Indole-3-acetic acid  
II. 2-4, dichlorophenoxy acetic acid  
III. 6 Indole butyric acid  
IV. Naphthalene acetic acid  
Above are the examples of which PGR?  
a) Auxin                      b) Cytokinin                      c) Ethylene                      d) Gibberellin

281. Sprouting of potato under storage condition can be prevented by  
a) auxin                      b) gibberellin                      c) Ethylene                      d) cytokinin

282. The hormone present in the liquid endosperm of coconut is  
a) Cytokinin                      b) Gibberellins                      c) Ethylene                      d) auxin

283. After a series of experiments, it was concluded that the ...A... of coleoptile was the site of transmittable

