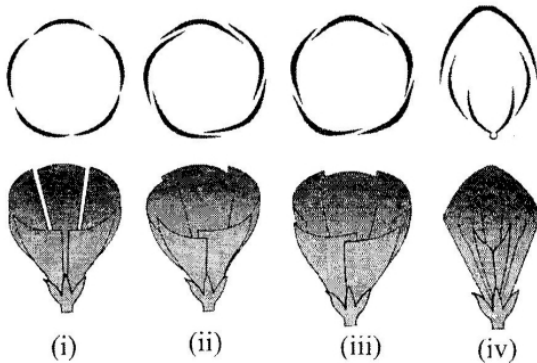


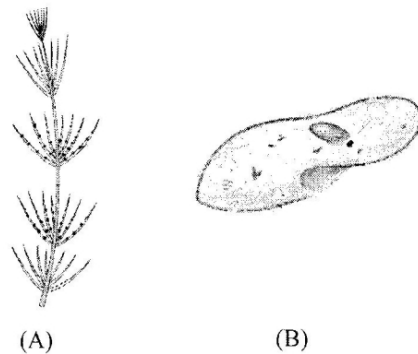
91. In Which of the following plant primary root is short lived and new roots originate from the base of stem:-  
 (1) Wheat (2) Mango  
 (3) Rhizophora (4) Banyan tree
92. Which of the following is not related to solanaceae?  
 (1) Axile placentation  
 (2) Dicot family  
 (3) Racemose inflorescence  
 (4) Solitary Inflorescence
93. The aestivation in petals of lady finger and calotropis plants are respectively.



**Options:**

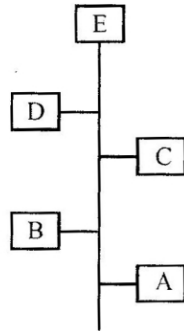
- (1) (iv) and (i) (2) (iv) and (ii)  
 (3) (i) and (iv) (4) (ii) and (i)
94. Which of following is a living mechanical tissue?  
 (1) Collenchyma  
 (2) Sclerenchyma  
 (3) Both Collenchyma and Sclerenchyma  
 (4) Xylem
95. Position of heart wood is :-  
 (1) Centre of stem (2) Centre of wood  
 (3) Centre of bark (4) Centre of pericycle
96. Choose the **correct** statements from the following :-  
 (A) Living organisms are self replicating, evolving and self regulating  
 (B) Cellular organisation, metabolism and consciousness are defining characters of living  
 (c) Growth, reproduction, ability to sense environment and respond are features of living organisms  
 (D) Growth and reproduction are defining characteristics of living organisms  
 (1) A and B (2) B and D  
 (3) A, B and C (4) A, B, C and D

97. Choose the **incorrect** statements of following :-  
 (1) Dinoflagellates have stiff cellulose plates on the outer surface.  
 (2) Euglenoids have two flagella, one lies longitudinally and the other transversely.  
 (3) Slime mould's spores are dispersed by air current  
 (4) In diatoms the cell wall form two thin overlapping shell.
98. Choose **incorrect** match out of following :-  
 (1) *Albugo* - Parasitic fungi on mustard  
 (2) *Nerospora* - Used in genetics works  
 (3) *Penicillium* - Source of antibiotics  
 (4) *Ustilago* - Rust on wheat
99. Identify the following figures and choose the option which gives **correct** description about them :-



- (1) A-**chara** → Sexual organs are multicellular and jacketed.  
 (2) A-**cycas** → Male and female cones are born on same tree.  
 (3) B-TMV → Genetic material is ds DNA.  
 (4) B-**Euglena** → shows myxotrophic nutrition.
100. How many plants given below are heterosporous pteridophytes ?  
*Selaginella, Riccia, Salvinia, Marchantia, Azolla, Lycopodium, Funaria, Psilotum*  
 (1) Three (2) Four (3) Five (4) Two
101. Some characters or structures are given below. How many of them are found in both bryophyta and Pteridophyta :-  
 (A) Archegonium (B) Protonema  
 (C) Rhizoids (D) Ovule  
 (E) Vascular tissue (F) Antheridium  
 (1) Two (2) Three (3) Four (4) Five

102. Evolutionary relationship of three major group of organisms is shown in the diagram where A, B, C, D, E are liverworts, moss, fern, cycadales and gnetales respectively. In this diagram *Funaria*, *Adiantum*, *Cycas* and *Ephedra* will be placed respectively :-



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

103. Agricultural practice of breeding and raising livestock is known as ?

- (1) Aquaculture                      (2) Pisciculture  
 (3) Horticulture                      (4) Animal husbandry

104. At the junction of midgut and hind gut about 100-150, yellow coloured thin filamentous structure is present known as ?

- (1) Hepatic caecae                      (2) Cuticular teeth  
 (3) Spines                              (4) Malpighian tubule

105. A jawless fish which lays eggs in fresh water and whose larvae ammocoetes comes back to marine water is ?

- (1) Petromyzon                      (2) Neomyxine  
 (3) Hagfish                              (4) Myxine

106. An organism having radial symmetry Diploblastic, having 8-ciliary comb plates, performing only sexual reproduction most probably organism is ?

- (1) Pleurobrachia                      (2) Schistosoma  
 (3) Pheretima                              (4) Carcherodon

107. Ornithine cycle performs

- (1) ATP synthesis  
 (2) Urea formation in spleen  
 (3) Urea formation in liver  
 (4) Urine formation in liver

108. Among the following which is a vasodilator ?  
 (1) Histamine                      (2) Serotonin  
 (3) Heparin                              (4) All of the above

109. Cell had a thin outer layer which is known as "Plasma membrane" who reported this ?

- (1) Schleiden                              (2) Schwann  
 (3) Virchow                              (4) Robert Hooke

110. What is the length of mycoplasma cell ?

- (1) 300 mm                              (2) 0.3 μm  
 (3) 3000 cm                              (4) 30 cm

111. Resistance to antibiotics is conferred by :-

- (1) Plasmid DNA                      (2) Plastid  
 (3) Mitochondria                      (4) Lysosome

112. Sequence or positional information of amino acid is given by the :-

- (1) 2° structure                      (2) 1° structure  
 (3) 3° structure                      (4) 4° structure

113. In primary structure of protein :-

- (1) Left end represent → 1<sup>st</sup> amino acid (C – terminal)  
 (2) Right end represent → Last amino acid (N-terminal)  
 (3) Left end represent → 1<sup>st</sup> amino acid (N – terminal)  
 (4) Right end represent → 1<sup>st</sup> amino acid (C – terminal)

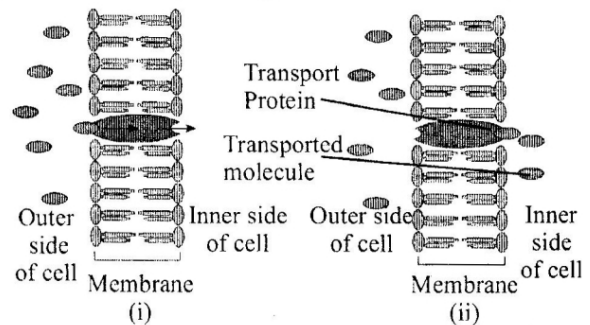
114. Synaptonemal complex is formed in :-

- (1) Zygotene                              (2) Pachytene  
 (3) Diplotene                              (4) Dikinesis

115. Prophase I is divided into how many phases based on chromosomal behaviour ?

- (1) 1                              (2) 2                              (3) 4                              (4) 5

116. Refer the given figure. What does it represent?



- (1) Simple diffusion  
 (2) Facilitated diffusion  
 (3) Osmosis  
 (4) Active transport

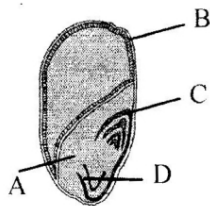
117. How many of the following purpose carried transpiration ?  
 (i) Creates transpirational pull for absorption of water  
 (ii) Supplies water for photosynthesis  
 (iii) Transport minerals in every direction with in a plant  
 (iv) Cools leaf surface  
 (v) Maintains the shape and structure of the plant  
 (1) Four (2) Five (3) Three (4) Two
118. Activation for alcohol dehydrogenase and nitrogenase are respectively :-  
 (1) Zn, Mn (2) Zn, Mo  
 (3) Mo, Zn (4) Mn, Zn
119. Find the **incorrect** match :-

(1)	N <sub>2</sub> Fixation	N <sub>2</sub> → NH <sub>3</sub>	Biological as well as abiological
(2)	Ammonification	NO <sub>3</sub> <sup>-</sup> → NH <sub>3</sub>	Biological only
(3)	Nitrification	NH <sub>3</sub> → NO <sub>3</sub> <sup>-</sup>	Biological only
(4)	Denitrification	NO <sub>3</sub> <sup>-</sup> → N <sub>2</sub>	Biological

120. Low temperature treatment to speed up the process of flowering is referred to as :-  
 (1) photoperiodism (2) vernalization  
 (3) thermoperiodism (4) hydroponics
121. (A) PGRs are complex, organic and inter cellular factors.  
 (B) PGRs are nongenetic factors  
 (1) Both (A) and (B) are correct  
 (2) Both (A) and (B) are incorrect  
 (3) Only (A) is correct  
 (4) Only (B) is correct
122. Which one of the following hormone play important role in seed development, maturation and dormancy :-  
 (1) ABA (2) IAA (3) GA (4) CK
123. Which one of the following is **not** a source of natural CK ?  
 (1) Herring sperm DNA  
 (2) *Cercospora*  
 (3) Yeast  
 (4) Coconut milk

124. Glucose, galactose and fructose all have the same molecular size and composition and their absorption through the mucosal cells takes place :-  
 (1) At the same rate  
 (2) Glucose is absorbed most rapidly  
 (3) Fructose is absorbed most rapidly  
 (4) Galactose is absorbed most rapidly
125. Surgical removal of gall bladder in human beings would lead to  
 (1) Impairment of digestion of fat  
 (2) Increase acidity in the intestine  
 (3) Jaundice  
 (4) Decrease acidity of stomach
126. Maximum absorption of digested food takes place in :-  
 (1) Stomach (2) Duodenum  
 (3) Jejunum (4) Ileum
127. Bulk of carbon dioxide (CO<sub>2</sub>) released from body tissues into the blood is present as :  
 (1) Carbamino-haemoglobin in RBCs  
 (2) Bicarbonate in blood plasma and RBCs  
 (3) Free CO<sub>2</sub> in blood plasma  
 (4) 70% carbamino-haemoglobin and 30% as bicarbonate
128. Which one of the following is the correct match of digestive enzyme and substrate.  
 (1) Lactose-Renin (2) Starch-Maltose  
 (3) Fat-Steapsin (4) Casein-Trypsin
129. In human being, the second cervical vertebral helps in rotatory movements of head through knob-like process called :-  
 (1) Metapophysis (2) Prezygapophysis  
 (3) Postzygapophysis (4) Odontoid process
130. Which statement is wrong ?  
 (1) Postzygapophysis is present in ATLAS  
 (2) Coronoid fossa is found in humerus  
 (3) Centrum is absent in ATLAS  
 (4) Prezygapophysis is absent in 2nd cervical vertebrae
131. The type of muscles present in our :  
 (1) upper arm are smooth muscle fibres fusiform in shape.  
 (2) heart are involuntary and unstriated smooth muscles.  
 (3) intestine are striated and involuntary.  
 (4) thigh are striated and voluntary.
132. The Tympanic membrane is connected to  
 (1) Stapes (2) Incus  
 (3) Malleus (4) Cornea

133. The cavity of mid ear is connected to the cavities of mouth by a tube called  
 (1) Nasal cavity (2) Eustachian canal  
 (3) Perilymph (4) Basilar membrane
134. Injury to adrenal cortex is not likely to affect the secretion of which one of the following hormone  
 (1) Aldosterone  
 (2) Cortisol  
 (3) Adrenaline  
 (4) both Aldosterone and Cortisol
135. Thyroxine is a.  
 (1) Proteinaceous hormone  
 (2) Steroidal hormone  
 (3) Long Peptides  
 (4) both 1 & 3
136. Sensory neurons are found in the dorsal root of spinal cord. Which is.  
 (1) Bipolar (2) Multipolar  
 (3) Pseudounipolar (4) Unipolar
137. Given below is the diagrammatic sketch of a structure of maize seed. Identify the parts labelled A, B, C and D and select the right option about them:-



	A	B	C	D
1	Aleurone Layer	Scutellum	Coleorhiza	Coleoptile
2	Scutellum	Aleurone Layer	Coleoptile	Coleorhiza
3	Scutellum	Aleurone Layer	Coleorhiza	Coleoptile
4	Aleurone Layer	Scutellum	Coleoptile	Coleorhiza

138. Which of the following type of ovule is also called resupinate ovule ?  
 (1) orthotropous ovule  
 (2) Anatropous ovule  
 (3) Hemianatropous ovule  
 (4) Campylotropous ovule

139. Identify the **correct** match from the Column I, II and III.

	Column-I		Column-II		Column-III
A	Epigeal germination	a	Elongation of hypocotyl	i	Castor
B	Hypogeal germination	b	Elongation of epicotyl	ii	Maize
C	Vivipary	c	In-Situ germination	iii	Rhizophora

**Option -**

- (1) A - a - i, B - b - ii, C - c - iii  
 (2) B - a - i, A - b - ii, C - b - iii  
 (3) C - a - i, C - b - ii, C - b - iii  
 (4) A - c - i, B - b - iii, C - a - ii
140. Which one the **correct** match from the following ?

	Lever Mechanism	Trap Door mechanism	Fly trap mechanism
1	Salvia	Yucca	Blastophaga insect
2	Salvia	Aristolochia	Fig
3	Salvia	Fig	Aristolochia
4	Salvia	Aristolochia	Rafflesia

141. Consider the following statements-  
 (i) In angiosperm a typical embryo sac at maturity is 7 nucleated, 8 celled.  
 (ii) Fertilization in angiosperm is called double fertilization because two polar nuclei and one male gamete fused.  
 (iii) Formation of endosperm always precedes development of the embryo.  
 Which of the above statements is/are **correct**?  
 (1) ii only (2) iii only  
 (3) i and ii both (4) i and iii both
142. Unitegmic ovule is found in  
 (1) Gamopetalae and Gymnosperm  
 (2) Polypetalae and Monocot  
 (3) Olax & Liriosma  
 (4) Loranthus and Santalum

- 143.** Correct sequence for milk ejection are :
- (1) Mammary tubule - Mammary duct - Lactiferous duct - Ampulla - Nipple
  - (2) Mammary duct - Mammary tubule - Ampulla - Lactiferous duct - Nipple
  - (3) Mammary tubule - Mammary duct - Ampulla - Lactiferous duct - Nipple
  - (4) Lactiferous duct - Mammary tubule - Mammary duct - Ampulla - Nipple
- 144.** At the time of parturition oxytocin release from.
- (1) Foetal Pituitary gland
  - (2) Maternal Pituitary gland
  - (3) Placenta
  - (4) Ovary
- 145.** Menstrual cycle is initiated by :-
- (1) A sudden fall of FSH from anterior pituitary
  - (2) A increase the level of oestrogen and decrease the level of progesteron.
  - (3) Low level of oestrogen and progesteron due to degeneration of corpus luteum.
  - (4) Low level of HCG due to degeneration of graafian follicle
- 146.** When there is a sudden loss of blood from the body the organ which supplies blood is :-
- (1) Spleen
  - (2) Heart
  - (3) Liver
  - (4) Lung
- 147.** How many of the following hormones are secreted by placenta during pregnancy HPL, estrogen, progesterone, FSH, Thyroxin, Cortisol, LH, Prolactin, relaxin.
- (1) 4
  - (2) 5
  - (3) 6
  - (4) 3
- 148.** Tobacco plant resistant to a nematode have been developed by introduction of DNA that produced (in host cells).
- (1) a toxic protein
  - (2) both sense and anti-sense RNA
  - (3) a particular hormone
  - (4) an antifeedant
- 149.** A test cross is carried out to :-
- (1) Determine whether two species or varieties will breed successfully
  - (2) Assess the number of alleles of a gene
  - (3) Predict whether two traits are linked
  - (4) Determine the genotype of a plant at  $F_2$
- 150.** Which of the following statements is true of two genes that show 50% recombination frequency?
- (1) The genes are tightly linked
  - (2) If the genes are present on same chromosome and shows very low crossing over
  - (3) The genes may be on different chromosome
  - (4) The genes do not show independent assortment
- 151.** The tendency of population to remain in genetic equilibrium may be disturbed by :-
- (1) Random mating
  - (2) Lack of migration
  - (3) Lack of mutation
  - (4) Natural selection
- 152.** Inulin is :-
- (1) Nitrogen containing polysaccheride
  - (2) Phosphorus containing polysaccheride
  - (3) Sulphur containing polysaccheride
  - (4) Polymer of fructose
- 153.** Which enzyme/s will be produced in a cell in which there is a mis-sense mutation in the lac Y gene ?
- (1)  $\beta$ -galactosidase
  - (2) Non-functional lactose permease
  - (3) Transacetylase
  - (4) All of these
- 154.** The colonies of non-recombinant bacteria appears blue in contrast to white colonies of recombinant bacteria because of :-
- (1) Non-recombinant bacteria containing beta-galactosidase
  - (2) Insertional inactivation of alpha-galactosidase in non-recombinant bacteria
  - (3) Insertional inactivation of alpha-galactosidase in recombinant bacteria
  - (4) Inactivation of glycosidase enzyme in recombinant bacteria
- 155.** A good producer of butyric acid is :-
- (1) Aspergillus
  - (2) Pseudomonas
  - (3) Clostridium
  - (4) Sacchromyces
- 156.** Which of the following is not a Bt crop ?
- (1) Cotton
  - (2) Brinjal
  - (3) Soybean
  - (4) Musturd

- 157.** Which one of the following represents a pallindromic sequence in DNA :-  
(1) GATACC                      (2) GATATC  
    CCTAAG                      CTATAG  
(3) CCAATG                      (4) CATTAG  
    GGTTAC                      GTAATC
- 158.** Which of the following is required as inducer for the expression of lac operon ?  
(1) Glucose  
(2) Galactose  
(3) Lactose  
(4) Lactose & galactose
- 159.** Functional unit of gene is :-  
(1) Operon                      (2) Recon  
(3) Muton                      (4) Cistron
- 160.** Which of the following r-RNA acts as ribozyme in bacteria ?  
(1) 23s r-RNA  
(2) 5.8s r-RNA  
(3) 5s r-RNA  
(4) 18s r-RNA
- 161.** Green revolution in India occured during :-  
(1) 1960                      (2) 1950  
(3) 1970                      (4) 1980
- 162.** Somatic embryogenesis is technique of :-  
(1) Micropropagation  
(2) Clonal propagation  
(3) Somatic hybridization  
(4) (1) & (2) both
- 163.** Consider the following four statements (a-d) and select the option which includes all the correct ones only :  
(a) Huge clusters of galaxies comprise the universe  
(b) Galaxies contain stars and clouds of gas and dust  
(c) Considering the size of universe, earth is indeed a speck  
(d) The gases condensed under gravitation and formed the galaxies of the present day universe.
- Options :**  
(1) Statements (b) and (c) only  
(2) Statement (a), (c) only  
(3) Statment (a), (d) only  
(4) All statements (a), (b), (c) and (d)
- 164.** In 1953 S.L. Miller created electric discharge in a closed flask containing the gaseous mixture  
(1) CH<sub>4</sub>, H<sub>2</sub>, NH<sub>3</sub> and water vapour at 300°C temperature  
(2) CH<sub>4</sub>, N<sub>2</sub>, CO<sub>2</sub> and water vapour at 300°C temperature  
(3) CH<sub>4</sub>, H<sub>2</sub>, CO<sub>2</sub> and water vapour at 800°C temperature  
(4) CH<sub>4</sub>, H<sub>2</sub>, NH<sub>3</sub> and water vapour at 800°C temperature
- 165.** Analogous organs are :  
(1) Similar in origin      (2) Similar in structure  
(3) Non functional      (4) Similar in function
- 166.** Change with desent is the basis of which theory  
(1) Recapitulation theory  
(2) Oparin's theory  
(3) Theory of organic evolution  
(4) Cell theory
- 167.** Fill in the blanks respectively  
.....acts as an antigen presenting cell which activates.....which in turn secrete lymphokine to activate both.....&..... .  
Now these cells perform specific cloning known as..... .  
(1) Macrophage, T-helper, T-killer, B-cell, Clonal selection  
(2) Dendritic cell, T-killer, T-helper, B-cell, clonal reaction  
(3) B-cell, Macrophage, T-killer, T-helper, clonal selection  
(4) T-helper, Macrophage, T-killer, B-cell, clonal reaction
- 168.** Pyrogenic toxin secreted in human body during life cycle of plasmodium ?  
(1) Tetanospasmine  
(2) Haemotoxin  
(3) Haemozoin  
(4) Aureus toxin
- 169.** Most addictive drug and most potent hallucinogen respectively ?  
(1) Heroine, Bhang  
(2) Cocaine, hashish  
(3) Smack, Amphetamine  
(4) Heroine, L.S.D.

170. Which of the following condition **not** associated with 'Alcoholic liver disease' ?  
(1) Liver cirrhosis  
(2) Liver fibrosis  
(3) Fatty liver  
(4) Hyperglycemia
171. Which of the following is an energy source in ecosystem ?  
(1) ATP  
(2) Sunlight  
(3) DNA  
(4) RNA
172. In which ecosystem pyramid of number is inverted :-  
(1) Pond ecosystem  
(2) Desert ecosystem  
(3) Grassland ecosystem  
(4) Tree ecosystem
173. Overlapping zone between two ecosystem is known as :-  
(1) Niche  
(2) Microhabitat  
(3) Ecotone  
(4) Limnetic Zone
174. Storage of energy at consumer level known as :-  
(1) Gross primary production  
(2) Secondary productivity  
(3) Net primary productivity  
(4) Net community productivity
175. In which biome clear stratification present :-  
(1) Tundra Biome  
(2) Temperate Biome  
(3) Tropical Biome  
(4) Savana Biome
176. Veldts in Africa and Pampas in South America is an example of which Biome :-  
(1) Tropical Biome  
(2) Grassland Biome  
(3) Tundra Biome  
(4) Temperate Biome
177. Which of the following is an example of Sedimentary bio-geo-chemical cycle ?  
(1) Nitrogen cycle  
(2) Carbon cycle  
(3) Phosphorus cycle  
(4) Hydrogen cycle
178. Phytotron is a device in which :-  
(1) Measurement of electron flow  
(2) Measurement of velocity of light  
(3) Mutation induced in plant  
(4) Plant grow in controlled environment
179. In "Rivet popper hypothesis" "Rivet" indicates :-  
(1) Community  
(2) Species  
(3) Ecosystem  
(4) Biome
180. Water prevention and control of pollution act apply in India :-  
(1) 1974  
(2) 1972  
(3) 1976  
(4) 1986