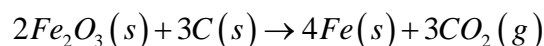


81. The standard reduction potential for  $Cu^{2+} / Cu$  is +0.34 V. The reduction potential at pH = 14 for  $Cu^{+2} + 2e^{-} \longrightarrow Cu$  is  $\left[ K_{sp} [Cu(OH)_2] = 1.0 \times 10^{-20} \right]$
- 1) - 0.25 V                      2) + 0.25 V                      3) -0.34 V                      4) +0.34 V
82. The behavior of a real gas is usually depicted by plotting compressibility factor Z versus P at a constant temperature. At high temperature and high pressure, Z is usually more than one. This fact can be explained by vander Waals equation when
- 1) the constant 'a' is negligible and not 'b'                      2) the constant 'b' is negligible and not 'a'
- 3) both constants 'a' and 'b' are negligible                      4) both the constants 'a' and 'b' are not negligible
83. The  $pK_a$  of a weak acid (HA) is 4.5 . The pOH of an aqueous buffered solution of HA in which 50% of the acid is ionized is
- 1) 4.5                                      2) 2.5                                      3) 9.5                                      4) 7.0
84. An element crystallizes in fcc lattice having edge length 350 pm. Maximum radius of the atom which can be placed in the interstitial site without distorting the structure is
- 1) 58.55 pm                      2) 117 pm                      3) 51.23 pm                      4) 83 pm
85. The tetrahedral voids formed by ccp arrangement of  $Cl^{-}$  ions in rock salt structure are
- 1) occupied by  $Na^{+}$  ions                                      2) occupied by  $Cl^{-}$  ions
- 3) occupied by either  $Na^{+}$  or  $Cl^{-}$  ions                      4) vacant
86. Following data has been given for  $CO_2$  for the concentration in  $H_2O$

Temperature	Henry's constant	Pressure
273K	600atm	0.30 atm
333K	3400atm	$P_2$

If solution of  $CO_2$  in  $H_2O$  is heated from 273 to 333 k, pressure( $p_2$ ) needed to keep  $CO_2$  in the solution is

- 1) 0.108 atm                      2) 1.7 atm                      3) 0.212 atm                      4) 0.468 atm
87. A solution of urea (molar mass 60) boils at  $100.18^{\circ}C$  at atmospheric pressure. If  $K_f$  and  $K_b$  for water are 1.86 and 0.512 K molality $^{-1}$  respectively, the above solution will freeze at
- 1)  $-6.54^{\circ}C$                       2)  $6.54^{\circ}C$                       3)  $-0.654^{\circ}C$                       4)  $0.654^{\circ}C$
88. Which of the following is contributed towards the extra stability of lyophilic colloids?
- 1) Hydration                      2) charge                      3) colour                      4) Tyndall effect
89. If 900 J/g of heat is exchanged at boiling point of water, then what is the increase in entropy
- 1) 43.4 J/mol                      2) 87.2 J/mol                      3) 900 J/mol                      4) zero
90. Smelting of iron ore takes place through this reaction



$\Delta H_f^{\circ}$  of  $Fe_2O_3$  and  $CO_2$  are -8242 kJ/mol and -393.7 kJ/mol

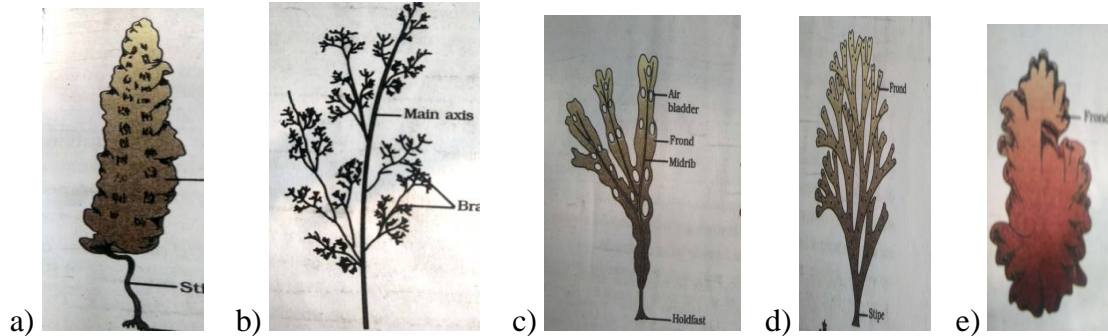
The reaction is

- 1) Endothermic                      2) Exothermic                      3)  $\Delta H = 0$                       4) none of these

### BIOLOGY

91. Organisms that fix nitrogen in aquatic habitats are
- 1) Brown algae                      2) Green algae                      3) Cyanobacteria                      4) All of these
92. Which of one following events do not take place during normal inspiration in human?
- 1) Upward and outward movement of ribs and sternum
- 2) Contraction of phrenic muscles
- 3) Increased intra pulmonary pressure
- 4) Decreased intra pulmonary pressure

93. The number of NADH molecules per glucose molecules taken electrons to the ETS is  
 1) 2                                      2) 4                                      3) 6                                      4) 10
94. Incorrect statement from the following regarding conducting part of human respiratory system is  
 1) Transports the atmospheric air to alveoli  
 2) Clears the air from foreign particles  
 3) Humidifies and also brings the air to body temperature  
 4) Initial bronchioles are not supported by C- shaped cartilaginous rings
95. Identify the correct order of below pictures



- a) 1) *Fucus, Porphyra, Dictyota, Laminaria, Polysiphonia*  
 2) *Polysiphonia, Fucus, Laminaria, Porphyra, Dictyota*  
 3) *Laminaria, Polysiphonia, Fucus, Dictyota, Porphyra*  
 4) *Porphyra, Fucus, Laminaria, Dictyota, Polysiphonia*
96. Chronic respiratory disorder that reduces the respiratory surface is  
 1) Asthma                                      2) Bronchitis                                      3) Emphysema                                      4) Pneumonia
97. Stirred-tank bioreactors have been designed for  
 1) Addition of preservatives to the product  
 2) Purification of product  
 3) Ensuring anaerobic conditions in the culture vessel  
 4) Availability of oxygen throughout the process
98. Statement – I :- Atria and ventricles never contract together  
 Statement- II :- Myocardium of atria and ventricles is separated by fibrous skeleton  
 1) Both S –I and S –II are correct                                      2) S- I is incorrect and S- II are correct  
 3) If S- I is correct but S- II is incorrect                                      4) If both the S- I and S- II are incorrect
99. Which cross yields red, white and pink flowers variety of dog flower  
 1) RR x Rr                                      2) Rr x RR                                      3) Rr x Rr                                      4) Rr x rr
100. Which of the following activity is not related to stomach in adults?  
 I. Digestion of carbohydrates                                      II. Formation of chyme  
 III. Formation of chyle                                      IV. Presence of Rennin in the gastric juice  
 1) I, II only                                      2) I, III only                                      3) I, III, IV                                      4) I, II, III
101. At the metaphase plate during metaphase II of meiosis there are  
 1) Bivalents                                      2) Single chromosomes  
 3) Unpaired duplicated chromosomes                                      4) Always 23 chromosomes
102. Match the following and find out the correct combination
- |                      |  |  |  |                       |  |  |  |
|----------------------|--|--|--|-----------------------|--|--|--|
| <u>Column – I</u>    |  |  |  | <u>Column- II</u>     |  |  |  |
| A. Duodenum          |  |  |  | I. Outer layer of GIT |  |  |  |
| B. Stomach           |  |  |  | II. Hepatic lobule    |  |  |  |
| C. Serosa            |  |  |  | III. C. Shaped        |  |  |  |
| D. Glisson’s capsule |  |  |  | IV. J. Shaped         |  |  |  |
- |    |     |    |     |    |    |     |     |   |    |
|----|-----|----|-----|----|----|-----|-----|---|----|
|    | A   | B  | C   | D  |    | A   | B   | C | D  |
| 1) | I   | II | III | IV | 2) | III | IV  | I | II |
| 3) | III | IV | II  | I  | 4) | IV  | III | I | II |

103. Match the following

Choose the correct pair.

Plant	Type of Parasite	Haustorial Connection
I. <i>Viscum</i>	Partial	with only xylem of host stem
II. <i>Santalum</i>	Partial	with phloem of the host root
III. <i>Orabanche</i>	Complete	with xylem and phloem of host root
IV. <i>Cuscuta</i>	Complete	with xylem and phloem of host root

- 1) only II & III      2) only I & III      3) only I & IV      4) only III & IV

104. How many of the following statements are not correct regarding bile salts?

- A. Emulsification of lipids  
 B. activation of lipases  
 C. Synthesized in the gall bladder  
 D. Activation of amylases

- 1) 4      2) 3      3) 2      4) 1

105. Which one of the following pairs are wrongly matched

- I) Water hyacinth— runner  
 II) *Penicillium* --- conidia  
 III) *Bryophyllum* --- sucker  
 IV) *Agave* --- bulbils

- 1) only II & III      2) only I & III      3) only I & IV      4) only III & IV

106. Which of the following matches correctly?

- 1) Factor II – Hageman Factor      2) Factor III – Prothrombin  
 3) Factor VIII – Antihaemophilic factor      4) Factor XII – Thromboplastin

107. List-I

- A. *Hydrilla*  
 B. *Eichhornia*  
 C. *Nymphaea*  
 D. *Jussiaea*

List-II

- I. Astrosclereids  
 II. Spongy respiratory roots  
 III. Poorly developed roots  
 IV. Runner  
 V. Spongy stem

The correct match is

- |    | A   | B  | C   | D   |
|----|-----|----|-----|-----|
| 1) | II  | IV | I   | III |
| 2) | III | IV | I   | II  |
| 3) | V   | II | III | IV  |
| 4) | III | V  | I   | II  |

108. Congestion of the lungs is one of the main symptoms in

- 1) Myocardeal infarction      2) Cardiac arrest  
 3) Hypotension      4) Heart failure

109. Black (stem) rust of wheat is caused by

- 1) *Alternaria solani*      2) *Ustilago nuda*      3) *Puccinia graminis*      4) *Xanthomonas oryzae*

110. High threshold substances of renal fluid are absorbed

- 1) Passively by PCT      2) Actively by PCT      3) Passively by DCT      4) Actively by DCT

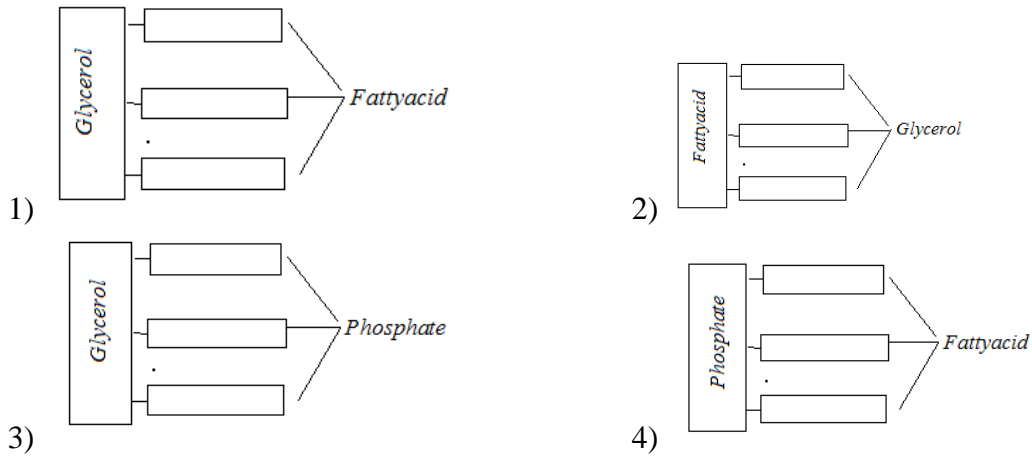
111. One of the important evolutionary features of alternation of generation from thallophyta to Spermatophyta is:

- 1) Gradual elaboration of gametophyte  
 2) Gradual elaboration of sporophyte  
 3) Gradual reduction of gametophyte and sporophyte  
 4) Gradual reduction of sporophyte and elaboration of gametophyte

- 112. Which of the following nitrogenous waste plays a role in osmotic gradient of medullary fluid?**  
 1) Ammonia                      2) Urea                              3) Uric acid                      4) All the above
- 113. Which of the following plant hormones stimulates the synthesis of alpha amylase ?**  
 1) ABA                              2) IAA                              3) Ethylene                      4) GA<sub>3</sub>
- 114. The organ of corti is a structure located on the: -**  
 1) Reissner's membrane                      2) Basilar membrane  
 3) Tectorial membrane                      4) Scala vestibuli
- 115. Choose the correct statements**  
 1) The separated DNA fragments can be visualized only after staining DNA with Ethidium bromide.  
 2) Retrovirus in animals have the ability to transform normal cell into cancerous cell.  
 3) Plasmids that carry genes to provide resistance to antibiotics are R- plasmids.  
 4) cDNA- mRNA hybrids are made by using reverse transcriptase  
 1) only 1&2                      2) only 2&3                      3) only 1, 2 &4                      4) 1,2,3&4
- 116. Large area of cerebral cortex which neither sensory nor motor is**  
 1) Broca's area                      2) Wernike's area                      3) Association area                      4) Somaesthetic area
- 117. An organism with two copies of the same allele is**  
 1) Heterologous for the allele                      2) Homologous for the trait  
 3) Heterozygous for the trait                      4) Homologous for the allele
- 118. Arthritis is inflammation in**  
 1) Bones                              2) Muscles                              3) Joints                              4) Cartilages
- 119. Endomembrane system includes**  
 1) ER, Golgi body , Chloroplast                      2) ER, Lysosomes, Mitochondria  
 3) Golgi body, Vacuole, Nucleosome                      4) ER, Golgi body, Lysosomes and Vacuole
- 120. In the center of A is an elastic fibre called B. The thin filaments are firmly attached to the C. Find out A, B,C respectively.**  
 1) I band, Z line, Z line                      2) A band, Z line, M line  
 3) a band, M line, Z line                      4) I band, M line, Z line
- 121. Select the correct statement from the following**  
 1) Biogas is produced by the activity of aerobic bacteria on animal waste.  
 2) Methanobacterium is an aerobic bacterium found in rumen of cattle.  
 3) Biogas, commonly called gobar gas is pure methane  
 4) Activated sludge-sediment in settlement tanks of sewage treatment plant is a rich source of aerobic bacteria
- 122. Hyposecretion of thyroxine in adults can lead to**  
 1) Grave's disease                      2) Tetany                              3) Cretinism                      4) Myxoedema
- 123. In the cross RrTt x rrtt**  
 1) 25% will be tall with round seeds                      2) All the offsprings will be tall with round seeds  
 3) 50% will be tall with round seeds                      4) 75% will be tall with round seeds
- 124. Choose the incorrect statement**  
 a) all mammals are monocondylic  
 b) all cyclostomes do not possess jaws and paired fins  
 c) all reptiles have three chambered heart  
 d) all pisces do not have gills covered by operculum  
 1) a and b                      2) b and c                      3) a and c                      4) c and d
- 125. Which of the following RNA has the highest molecular weight ?**  
 1) t RNA                              2) m RNA  
 3) r RNA                              4) All RNAs have the same molecular weight

- 126. One example of animals having a single opening to the outside that serves both mouth as well as anus is**  
 1) Octopus                      2) Asterias                      3) Ascidia                      4) Fasciola
- 127. Endosperm may completely be consumed by the developing embryo before in maturation in**  
 1) Coconut                      2) Datura  
 3) Pea & Groundnut                      4) Castor, Pea and Groundnut
- 128. Which of the following statements about all the four of spongilla, leech, dolphin and penguin is correct?**  
 1) Penguin is homeothermic while the remaining are poikilothermic  
 2) All leeches is a fresh water form while the remaining marine  
 3) Spongilla has special collared cells called Choanocytes not found in the remaining three  
 4) All are bilaterally symmetrical
- 129. If 30% of an organism's DNA is thymine, then**  
 1) 20% is guanine                      2) 30% is adenine  
 3) Both 1 & 2 are correct                      4) 70% is purine
- 130. Find out the incorrect statement from the following**  
 1) Epithelia consists of three types of cell junction i.e tight junctions, adhering junction gap junction  
 2) In all the connective tissues the cells secrete collagen or elastic fibres except blood  
 3) Most of the cartilages in vertebrate embryos are replaced by bones in adults  
 4) Neuroglia make up less than one half the volume of neural tissue in our body
- 131. Substrate level phosphorylation takes place in**  
 1) Electron transport system and transition reaction  
 2) Krebs cycle and transition reaction  
 3) Glycolysis and Krebs cycle  
 4) Glycolysis and ETS
- 132. Bronchioles and fallopian tubes are lined by**  
 1) Stratified keratinized squamous epithelium  
 2) Stratified non keratinized squamous epithelium  
 3) Simple squamous epithelium  
 4) Ciliated epithelium
- 133. Hydrophyte with ribbon shaped leaves shows which type of contrivance for cross pollination among the following ?**  
 1) Dichogamy                      2) Dicliny                      3) Herkogamy                      4) Diheterostyly
- 134. The basal podomere present in the leg of cockroach is**  
 1) Cardo                      2) Coxa                      3) Tarsus                      4) Scape
- 135. Which of the following combinations are correct for wheat ?**  
 1) Genus: *Triticum*, Family: Anacardiaceae, Order: Poales, Class: Monocotyledonae  
 2) Genus: *Triticum*, Family: Poaceae, Order: Poales, Class: Dicotyledonae  
 3) Genus: *Triticum*, Family: Poaceae, Order: Sapindales, Class: Monocotyledonae  
 4) Genus: *Triticum*, Family: Poaceae, Order: Poales, Class: Monocotyledonae
- 136. Fertilization in humans is practically feasible only if**  
 1) the ovum and sperms are transported simultaneously to of the fallopian tube  
 2) the ovum and sperms are transported simultaneously to ampullary-isthmic junction of the cervix  
 3) the sperms are transported into cervix within 48 hours of release of ovum in the uterus  
 4) the sperms are transported into vagina just after the release of ovum in fallopian tube

137. Which of the following diagram represents a molecule of simple lipid ?



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

column-I	column-II
I. Fertilization	a. Isthmus of oviduct
II. Cleavage	b. Later part of oviduct
III. Morula	c. Cervix
IV. Blastocyst	d. Ampulla of oviduct
V. Parturition	e. Uterine wall

- 1) I-d,II-a,III-b,IV-c,V-e  
 2) I-b,II-a,III-d,IV-c,V-e  
 3) I-b,II-a,III-e,IV-d,V-c  
 4) I-d,II-a,III-b,IV-e,V-c

139. In a type of apomixes known as adventives embryony, embryos develop directly from the

- 1) Nucellus or integuments  
 2) Synergids or antipodals in an embryosac  
 3) Accessory embryosacs in the ovule  
 4) Zygote

140. The family planning programmers to attain total reproductive health were initiated in the year

- 1) 1971  
 2) 1951  
 3) 1981  
 4) 1941

141.  $C_4$  acid, formed in the metophycel of  $C_4$  plants leaf during photosynthesis is .

- 1) OOA Malic acid  
 2) Pyruvic acid  
 3) Succinic acid  
 4) Fumeric acid

142. The transfer of zygote or early embryos upto 8 blastomeres into fallopian tube is

- 1) GIFT  
 2) IUT  
 3) ZIFT  
 4) ICSI

143. If a Nerium plant consists of 33 leaves on its stem ( three leaves at each node) how many nodes and internodes are presents respectively

- 1) 10, 11  
 2) 11, 10  
 3) 11, 11  
 4) 33, 32

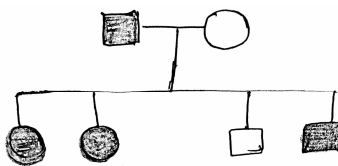
144. If a colourblind man marries a woman who is homozygous for normal colour vision, the probability of their son being colour blind is

- 1) 0  
 2) 0.5  
 3) 0.75  
 4) 1

145. The basis for the preparation of Chromosomal maps

- 1) Dominant and recessive characters  
 2) Mutations  
 3) Homozygosity  
 4) Linkage & Recombinations

146. Study the pedigree chart of a certain family given below and select the correct conclusion which can be drawn for the character



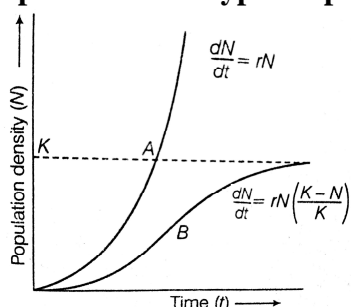
- 1) the female parent is heterozygous  
 2) The parents could not have had a normal daughter for this character  
 3) The trait understudy could not be colour blindness  
 4) The male parent is homozygous dominant

147. Consider the following statements.  
 A) All enzymes require an additional chemical component called cofactor or co enzyme for their catalytic function  
 B) The CO factor for RUBISCO is  $Mg^{2+}$   
 Which of the statements given above is/are correct.  
 1) A only                      2) B only                      3) Both A and B                      4) Neither A nor B
148. Sugar glider doesn't show adaptive radiation with  
 1) Kangaroo                      2) Tiger cat                      3) Flying squirrel                      4) Both 1 and 2
149. S-I :- Selective markers in plasmids are used to identify recombination from non-recombinants.  
 S-II :- In genetic engineering, the antibiotics are used as selectable markers.  
 1) S-I & S-II are correct                      2) S-I & S-II are incorrect  
 3) S-I is correct, S-II is incorrect                      4) S-I is correct, S-II is correct
150. Which of the following was not explained by Darwin?  
 1) Arrival of the fittest                      2) Survival of the fittest  
 3) Struggle for existence                      4) Over reproduction
151. What feature in prokaryotes substitutes for the spindle action in eukaryotes ?  
 1) Looped DNA                      2) Elongation of plasma membrane  
 3) Centrioles with asters                      4) Fission instead of cytokinesis
152. Mark the Incorrect combination regarding origin of various stages of human evolution  
 1) Dryopithecus – 15 mya                      2) Home erectus – in 1891  
 3) Homo sapiens – 75000 ya                      4) Australopithecus – 2 mya
153. Myxotrophic nutrition occurs in  
 1) *Paramecium*                      2) *Euglena*                      3) *Plasmodium*                      4) *Amoeba*
154. Which of the following sets of disease is caused by bacteria?  
 1) Tuberculosis and Tetanus                      2) Typhoid and typhus fever  
 3) Herpes and Influenza                      4) kala azar and small pox
155. Bacteria that get their energy by fermentation and from whom oxygen is lethal are called  
 1) Obligate aerobes                      2) Obligate anaerobes  
 3) Facultative anaerobes                      4) Facultative aerobes
156. Match the following
- | Column – I            | Column- II        |
|-----------------------|-------------------|
| A. Benign tumor       | I. Metastasis     |
| B. Contact inhibition | II. Non- invading |
| C. Malignant tumor    | III. Normal cells |
- |    | A   | B   | C   |
|----|-----|-----|-----|
| 1) | III | I   | II  |
| 2) | II  | III | I   |
| 3) | I   | II  | III |
| 4) | II  | I   | III |
157. Identify the set which has all organisms. Used in biological control of pests.  
 1) Trichoderma, Nucleo polyhedrovirus, Bacillus thuringiensis, ladybird  
 2) Dragon fly, Bacillus thuringiensis, ladybird, Aphids  
 3) Lady bird, Penicillium, Baculoviruses, Aspergillus  
 4) Trichoderma, Aspergillus, Bacillus thuringiensis, Nucleopolyhedrovirus
158. Hisardale is developed by a cross between  
 1) Jack and Mare                      2) Stallion and Jennet  
 3) Sahiwal and Nageri                      4) Bikaneri ewe & Marino ram
159. Select the mismatch.  
 1) Cycas –Dioecious                      2) Salvinia –Heterosporous  
 3) Equisetum –Homosporous                      4) Pinus –Dioecious
160. Which of the following statements is incorrect with regards to MOET  
 1) It has been demonstrated for cow, sheep, mare buffaloes etc  
 2) It is used to increase herd size in short time  
 3) The fertilized eggs are recovered non surgically and transferred to genetic mother  
 4) In this method a cow is administered hormones with FSH like activity

- 161. Which of the following should not be associated with electron transport system ?**  
 1) Movement of protons into the thylakoid space  
 2) Absorption of solar energy  
 3) Cytochromes  
 4) Formation of ATP
- 162. Human insulin is being commercially produced from a transgenic species of**  
 1) *Escherichia coli*  
 2) *Micobacterium tuberculosis*  
 3) *Rhizobium*  
 4) *Aspergillus niger*
- 163. Which one is correct about Atlas 66 ?**  
 1) It has high protein content  
 2) It has been used as a donor for improving cultivated wheat  
 3) Both 1 and 2  
 4) None
- 164. Sabin vaccine is**  
 1) IPV  
 2) MMR  
 3) BCG  
 4) OPV
- 165. The Polymerase Chain Reaction**  
 1) Quickly amplifies the small samples of DNA  
 2) Is involved in the production of transgenic organisms  
 3) Is used to make literally billions of copies in only a few hours  
 4) Starts with one gene sized piece of RNA  
 1) only 1,2 and 3 are correct  
 2) only 1 and 2 are correct  
 3) only 2 and 4 are correct  
 4) only 1 and 3 are correct
- 166. Some species regulate but only over a limited range of environmental conditions are example of**  
 1) Regulation  
 2) Conformers  
 3) Partial regulators  
 4) Partial conformers
- 167. Read the following four statements and select the right option having both correct statements**  
**I) Z scheme of light reaction takes place in presence of PSI only**  
**II) Only PSI is functional in cyclic photophosphorylation**  
**III) Cyclic photophosphorylation results in synthesis of ATP and NADPH**  
**IV) Stroma lamellae lack PSII as well as NADP reductase**  
 1) only II & IV  
 2) only I & II  
 3) only II & III  
 4) only III & IV
- 168. Standing crop is measured as the**  
 1) Mass of living organisms in a unit area  
 2) Number of organisms in a unit area  
 3) Energy of organism in a unit area  
 4) Both 1 & 2
- 169. Find out the False statements from the following.**  
**I. Breeding of crops with high levels of minerals, vitamins and proteins called a biofortification.**  
**II. The antibiotic Penicillin was discovered by Waksman.**  
**III. Germplasm collection is the entire collection having all the diverse alleles for all genes in a given crop.**  
**IV. The fungi which caused diseases in insects are known as insecticidal fungi.**  
**V. Heterotrophic bacteria helpful to human in making curd from milk.**  
**VI. Another name for ectomycorrhizal fungi is vesicular arbuscular mycorrhizal fungus.**  
**VII. Free living anaerobic nitrogen fix ing bacteria is Rhizobium.**  
 1) III VI IV VII  
 2) II IV VI VII  
 3) I II III IV  
 4) III V VI VII
- 170. For many taxonomic groups, species inventories are more complete in**  
 1) Tropical region  
 2) Temperate region  
 3) Arctic region  
 4) Antarctic region
- 171. Casparian strips affect**  
 1) Minerals but not water movement  
 2) Water and minerals movement into vascular cylinder  
 3) Water but not minerals movement  
 4) Neither the flow of water nor the flow of minerals into plant



172. Large ecosystem is called  
 1) Biome                                      2) Ecotone                                      3) Community                                      4) Ecosphere
173. Which statements are correct?  
 a. Degenracy of code is related to third member of codon  
 b . Single codon, codes for more than one amino acid  
 c. In codon, first two bases are more specific  
 d. In codons, third base is wobble                                      e. Code is universal  
 1) a, b, c, d, e                                      2) Only a, b, d                                      3) Only a, c, d                                      4) Only a, c, d, e
174. An example of sexual deceit is  
 1) Barnacle & Whale                                      2) Clown fish & Sea anaemone  
 3) Hermit crab & Sea anaemone                                      4) Bees & Orchid flowers
175. Vascular bundels in monocotyledons are considered closed because.  
 1) There are no vessels with perforations                                      2) Xylem is surrounded all around by phloem  
 3) A Bundle sheath surrounds each bundle                                      4) Cambium is absent
176. The correct unit of productivity is  
 1) Cal  $m^{-2}$                                       2) J  $m^{-2}$                                       3)  $(Kcal m^{-2}) yr^{-1}$                                       4)  $g m^{-2}$
177. Slipping of chiasmata towards the ends of bivalent is called  
 1) Terminalisation                                      2) Diakinesis                                      3) Interkinesis                                      4) Heteropycnosis
178. The graph shows two types of population growth curves. A is exponential and B is logistic.



Which one of the following growth model considered as more realistic one?

- 1) A                                      2) B                                      3) Both A & B                                      4) none of the above
179. Identify the parts correctly in the picture



- | A            | B         | C         | D         |
|--------------|-----------|-----------|-----------|
| 1) Endosperm | plumule   | Radicle   | pericarp  |
| 2) Radicle   | pericarp  | Endosperm | plumule   |
| 3) plumule   | Radicle   | pericarp  | Endosperm |
| 4) pericarp  | Endosperm | plumule   | Radicle   |
180. The Indian rhinoceros is a natural inhabitant of which one of the Indian states  
 1) Uttarakhand                                      2) Uttar pradesh                                      3) Himachal pradesh                                      4) Assam