

[BIOLOGY]

101. An example for symbiotic bacteria

- | | |
|-----------------------------------|--------------------------------------|
| (1) <i>Erwinia amylovora</i> | (2) <i>Rhizobium leguminosarum</i> |
| (3) <i>Xanthomonas campestris</i> | (4) <i>Agrobacterium tumefaciens</i> |

Answer (2)

102. In which plant the fruit is a drupe, seed coat is thin, embryo is inconspicuous, and endosperm is edible ?

- | | |
|---------------|-------------|
| (1) Groundnut | (2) Wheat |
| (3) Apple | (4) Coconut |

Answer (4)

103. Somaclonal variation appears in plants

- | | |
|---------------------------------------|---|
| (1) Growing in polluted soil or water | (2) Exposed to gamma rays |
| (3) Raised in tissue culture | (4) Transformed by recombinant DNA technology |

Answer (3)

104. In a monoecious plant

- (1) Male and female sex organs are on different individuals
- (2) Male and female gametes are of two morphologically distinct types
- (3) Male and female sex organs are on the same individual
- (4) All the stamens are fused to form one unit

Answer (3)

105. Which one of the following are intracellular obligate parasites?

- | | |
|------------------|----------------------|
| (1) Bacteria | (2) Viruses |
| (3) Slime moulds | (4) Blue-green algae |

Answer (2)

106. Pineapple fruit develops from

- (1) An unilocular polycarpellary flower
- (2) Multipistillate syncarpus flower
- (3) Multilocular monocarpellary flower
- (4) A cluster of compactly born flowers on an axis

Answer (4)

107. A sewage treatment process in which a part of decomposer bacteria present in the wastes is recycled into the starting of the process is called

- | | |
|-----------------------|--------------------------------|
| (1) Cyclic treatment | (2) Activated sludge treatment |
| (3) Primary treatment | (4) Tertiary treatment |

Answer (2)

108. Which of following mineral-nutrients plays an important role in biological nitrogen fixation ?

- (1) Zinc (2) Iron
(3) Molybdenum (4) Magnesium

Answer (3)

109. Which of the following is true ?

- (1) Vessels are unicellular and with narrow lumen (2) Vessels are multicellular and with wide lumen
(3) Tracheids are unicellular and with wide lumen (4) Tracheids are multicellular and with narrow lumen

Answer (2)

110. In C_4 plants, the bundle sheath cells

- (1) Have thin walls to facilitate gaseous exchange (2) Have large intercellular spaces
(3) Are rich in PEP carboxylase (4) Have a high density of chloroplasts

Answer (4)

111. Potato spindle tuber disease is caused by

- (1) A nematode (2) A virus
(3) A bacterium (4) A viroid

Answer (4)

112. In which of the following, all listed genera belong to the same class of algae

- (1) *Chara, Fucus, Polysiphonia* (2) *Volvox, Spirogyra, Chlamydomonas*
(3) *Porphyra, Ectocarpus, Ulothrix* (4) *Sargassum, Laminaria, Gracillaria*

Answer (2)

113. In root nodules of legumes, leg-haemoglobin is important because

- (1) It transports oxygen to the root nodule
(2) It acts as an oxygen scavenger
(3) It provides energy to the nitrogen fixing bacterium
(4) It acts as a catalyst in transamination

Answer (2)

114. Darwin judged the fitness of an individual by

- (1) Ability to defend itself (2) Strategy to obtain food
(3) Number of offspring (4) Dominance over other individuals

Answer (3)

115. Etiolation in plants is caused when

- (1) They are grown in dark (2) They have mineral deficiency
(3) They are grown in intense light (4) They are grown in blue light

Answer (1)

116. Calorie is the unit of

- | | |
|-----------|-----------------|
| (1) Sound | (2) Temperature |
| (3) Light | (4) Heat |

Answer (4)

117. In an annual ring, the light coloured part is known as

- | | |
|----------------|---------------|
| (1) Early wood | (2) Late wood |
| (3) Heartwood | (4) Sapwood |

Answer (1)

118. The chief component of the middle lamella in plant cell is

- | | |
|---------------|----------------|
| (1) Potassium | (2) Calcium |
| (3) Magnesium | (4) Phosphorus |

Answer (2)

119. Tonoplast is a membrane surrounding the

- | | |
|---------------|------------------|
| (1) Cytoplasm | (2) Vacuole |
| (3) Nucleus | (4) Mitochondria |

Answer (2)

120. Polyploidy can be produced artificially by

- | | |
|-------------------|----------------------|
| (1) Colchicine | (2) Inbreeding |
| (3) Line breeding | (4) Self pollination |

Answer (1)

121. Recombination is involved in the process of

- | | |
|-------------------|----------------------------|
| (1) Cytokinesis | (2) Spindle formation |
| (3) Crossing over | (4) Chromosome duplication |

Answer (3)

122. A fibrous root system is excellent for

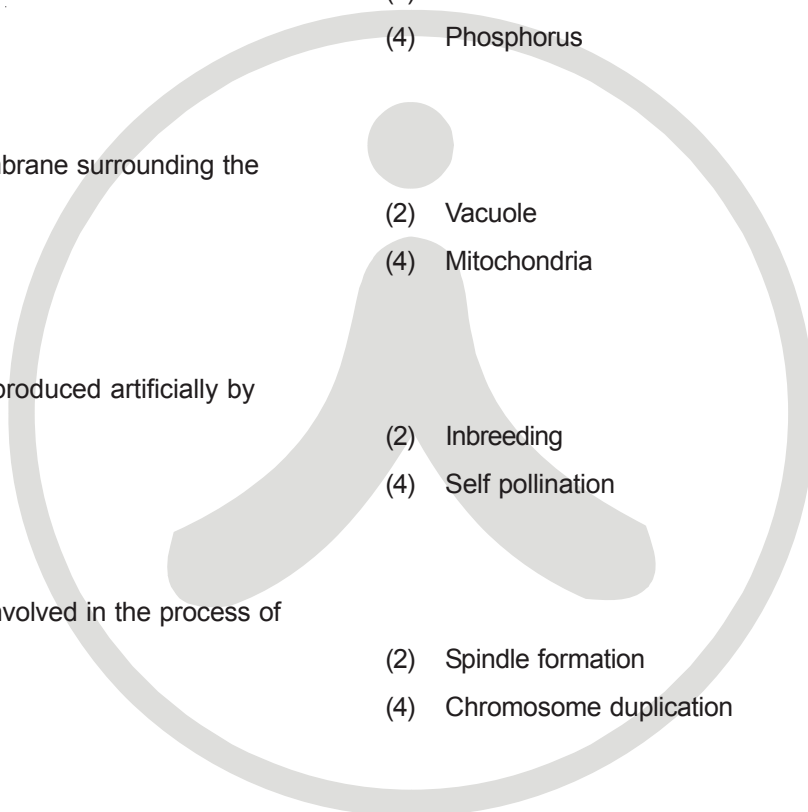
- (1) Food storage
- (2) Nitrogen fixation
- (3) Absorbing water from deeper layer of soil
- (4) Providing good anchorage for the plant

Answer (4)

123. If a primary root continues to grow, the type of root system will be known as

- | | |
|---------------|-------------|
| (1) Secondary | (2) Fibrous |
| (3) Tap | (4) Stilt |

Answer (3)



124. A horizontal underground stem is a

- | | |
|-------------|-----------------|
| (1) Corm | (2) Phylloclade |
| (3) Rhizome | (4) Rhizoid |

Answer (3)

125. If global warming continues, the organism which may face more severe threat is

- | | |
|------------------|-------------|
| (1) Cow | (2) Banana |
| (3) Snow leopard | (4) Dolphin |

Answer (3)

126. One advantage of cleistogamy is

- (1) It leads to greater genetic diversity
- (2) Seed dispersal is more efficient and widespread
- (3) Seed set is not dependent on pollinators
- (4) Each visit of a pollinator results in transfer of hundreds of pollen grains

Answer (3)

127. Jute fibres are obtained from the

- | | |
|----------------------|----------------|
| (1) Secondary phloem | (2) Pith |
| (3) Xylem | (4) Endodermis |

Answer (1)

128. A chromosome in which the centromere is situated close to its end so that one arm is very short and the other very long is

- | | |
|---------------------|-----------------|
| (1) Acrocentric | (2) Metacentric |
| (3) Sub-metacentric | (4) Telocentric |

Answer (1)

129. Resin and turpentine are products of

- | | |
|--------------|----------|
| (1) Teak | (2) Oak |
| (3) Eucalypt | (4) Pine |

Answer (4)

Note: Choice No. 3 should be *Eucalyptus*

130. An inexhaustible non-conventional universal source of energy is

- | | |
|-------------------------|------------------|
| (1) Wind energy | (2) Solar energy |
| (3) Hydrothermal energy | (4) Tidal energy |

Answer (2)

131. Which one of the following periods is largely associated with extinction of dinosaurs and the increase in flowering plants and reptiles?

- | | |
|----------------|--------------|
| (1) Jurassic | (2) Triassic |
| (3) Cretaceous | (4) Permian |

Answer (3)

132. Lime is added to the soil which is too

- | | |
|--------------|------------|
| (1) Sandy | (2) Salty |
| (3) Alkaline | (4) Acidic |

Answer (4)

133. Percentage of precipitation that can be stored in dams of India

- | | |
|--------|--------|
| (1) 55 | (2) 18 |
| (3) 10 | (4) 43 |

Answer (3)

134. Electroporation involves

- (1) Promotion of seed germination by induced imbibition of water with electric current
- (2) Making transient pores in cell membrane to facilitate entry of gene constructs
- (3) Purification of saline water with the help of an artificial membrane
- (4) Passage of sucrose through sieve pores by electro-osmosis

Answer (2)

135. One of the following acts as secondary pollutant

- | | |
|---------------------|----------------------|
| (1) Br ₂ | (2) Cl ₂ |
| (3) NO ₂ | (4) HNO ₃ |

Answer (4)

136. Cuticle is absent in

- | | |
|------------------|-----------------|
| (1) Mesophytes | (2) Young roots |
| (3) Mature stems | (4) Leaves |

Answer (2)

137. Sunflower belongs to the family

- | | |
|----------------|----------------|
| (1) Liliaceae | (2) Asteraceae |
| (3) Cruciferae | (4) Fabaceae |

Answer (2)

138. The least porous soil among the following is a

- | | |
|-----------------|----------------|
| (1) Loamy soil | (2) Silty soil |
| (3) Clayey soil | (4) Peaty soil |

Answer (3)

139. In higher plants the shape of the chloroplast is

- | | |
|-------------------|----------------|
| (1) Discoid | (2) Cup-shaped |
| (3) Girdle-shaped | (4) Reticulate |

Answer (1)

140. Which of the following statements is **false** ?

- (1) TMV has a double-stranded RNA molecule
- (2) Most plant viruses are RNA viruses
- (3) The bacteriophage has a double-stranded DNA molecule
- (4) Most animal viruses are DNA viruses

Answer (1)

141. A phylum common to unicellular animals and plants is

- (1) Monera
- (2) Plantae
- (3) Fungi
- (4) Protista

Answer (4)

Note: In the question statement it should be kingdom instead of phylum as the given choices are all kingdoms

142. Which of the following is a rootless aquatic plant in which a portion of the leaf forms a tiny sac for trapping insects?

- (1) *Nepenthes*
- (2) *Drosera*
- (3) *Urticularia*
- (4) *Dionaea*

Answer (3)

143. The greatest problem of water conservation is to reduce the amount of

- (1) Precipitation
- (2) Runoff water
- (3) Groundwater
- (4) Evaporation

Answer (2)

144. Enzymes that catalyse inter-conversion of optical, geometrical or positional isomers are

- (1) Ligases
- (2) Lyases
- (3) Hydrolases
- (4) Isomerases

Answer (4)

145. According to abiogenesis life originate from

- (1) Non-living
- (2) Pre-existing life
- (3) Chemicals
- (4) Extra-terrestrial matter

Answer (1)

146. External fertilization occurs in majority of

- (1) Algae
- (2) Fungi
- (3) Liverworts
- (4) Mosses

Answer (1)

147. The final stable community in ecological succession is

- (1) Pioneers
- (2) Sere
- (3) Climax
- (4) Carnivores

Answer (3)

148. Which of the following combination of characters is true for slime moulds ?

- (1) Parasitic, plasmodium with true walls, spores dispersed by air currents
- (2) Saprophytic, plasmodium without walls, spores dispersed by water
- (3) Parasitic, plasmodium without walls, spores dispersed by water
- (4) Saprophytic, plasmodium without walls, spores dispersed by air currents

Answer (4)

149. Which is an organic compound found in most cells ?

- (1) Glucose
- (2) Water
- (3) Sodium chloride
- (4) Oxygen

Answer (1)

150. Taxonomic hierarchy refers to

- (1) Stepwise arrangement of all categories for classification of plants and animals
- (2) A group of senior taxonomists who decide the nomenclature of plants and animals
- (3) A list of botanists or zoologists who have worked on taxonomy of a species or group
- (4) Classification of a species based on fossil record

Answer (1)

151. Reproductive isolation between segments of a single population is termed

- (1) Sympatry
- (2) Allopatry
- (3) Population divergence
- (4) Disruptive divergence

Answer (1)

152. Steroid hormones easily pass through the plasma membrane by simple diffusion because they

- (1) Are water soluble
- (2) Contain carbon and hydrogen
- (3) Enter through pores
- (4) Are lipid soluble

Answer (4)

153. Industrial melanism is an example of

- (1) Defensive adaptation of skin against UV radiations
- (2) Drug resistance
- (3) Protective resemblance with the surrounding
- (4) Darkening of skin due to industries

Answer (3)

154. The larva of *Bombyx mori* is known as

- (1) Nymph
- (2) Trochophore
- (3) Cocoon
- (4) Caterpillar

Answer (4)

155. Ampullae of Lorenzini are present in

- | | |
|----------|------------|
| (1) Fish | (2) Lizard |
| (3) Frog | (4) Rabbit |

Answer (1)

156. Which of the following is a viviparous fish?

- | | |
|----------------------|---------------------|
| (1) <i>Exocoetus</i> | (2) <i>Gambusia</i> |
| (3) <i>Clarias</i> | (4) <i>Labeo</i> |

Answer (2)

157. Fluidity of bio-membranes can be shown by

- | | |
|-------------------------------|-----------------------------|
| (1) Electron microscope | (2) Tissue culture |
| (3) Phase-contrast microscope | (4) Fluorescence microscope |

Answer (4)

158. The cutaneous plexus and the papillary plexus consist of

- (1) A network of nerves to provide dermal sensation
- (2) A network of arteries to provide dermal supply
- (3) Specialized cells for cutaneous sensations
- (4) Gland cells that release cutaneous secretions

Answer (1)

159. The function of vagus nerve innervating the heart is to

- | | |
|-------------------------------|----------------------------------|
| (1) Initiate the heart beat | (2) Reduce the heart beat |
| (3) Accelerate the heart beat | (4) Maintain constant heart beat |

Answer (2)

160. The size of pupil is controlled by the

- | | |
|---------------------|--------------------------|
| (1) Ciliary muscles | (2) Suspensory ligaments |
| (3) Cornea | (4) Iris muscles |

Answer (4)

161. Largest single mass of lymphatic tissue in the body is

- | | |
|-----------|------------|
| (1) Lung | (2) Spleen |
| (3) Liver | (4) Kidney |

Answer (2)

162. HIV is classified as a retrovirus because its genetic information is carried in

- | | |
|------------------------|------------------|
| (1) DNA instead of RNA | (2) DNA |
| (3) RNA instead of DNA | (4) Protein coat |

Answer (3)

163. Lung tuberculosis is caused by

- | | |
|-------------------------------------|---------------------------------------|
| (1) <i>Pseudomonas aeruginosa</i> | (2) <i>Mycobacterium tuberculosis</i> |
| (3) <i>Streptococcus pneumoniae</i> | (4) <i>Escherichia coli</i> |

Answer (2)

164. Vomiting centre is located in the

- | | |
|---------------------------------------|-----------------------------|
| (1) Stomach and sometimes in duodenum | (2) Gastro-intestinal tract |
| (3) Hypothalamus | (4) Pons varolli |

Answer (4)

Note: The correct choice should be Medulla oblongate since the choice is not given, Pons Varolli being the part of hind brain can be considered as correct choice.

165. Pellagra is caused by deficiency of

- | | |
|----------------|------------|
| (1) Pyridoxine | (2) Niacin |
| (3) Folic acid | (4) Biotin |

Answer (2)

166. Sickle cell anemia is

- | | |
|-------------------------------------|------------------------------------|
| (1) Autosomal dominant inheritance | (2) X-linked recessive inheritance |
| (3) Autosomal recessive inheritance | (4) X-linked dominant inheritance |

Answer (3)

167. Skeletal muscles are controlled by

- | | |
|------------------------|----------------------------|
| (1) Sympathetic nerves | (2) Parasympathetic nerves |
| (3) Somatic nerves | (4) Autonomic nerves |

Answer (3)

168. Niche is defined as the

- (1) Position of species in a community in relation to other species
- (2) Place where organism lives
- (3) Place where organism lives and performs its duty
- (4) Place where population perform their duties

Answer (3)

169. Erythropoiesis starts in

- | | |
|------------|---------------------|
| (1) Kidney | (2) Liver |
| (3) Spleen | (4) Red bone marrow |

Answer (2)

170. In an aquatic ecosystem, the trophic level equivalent to cows in grasslands is

- | | |
|-------------------|-----------------|
| (1) Phytoplankton | (2) Zooplankton |
| (3) Nekton | (4) Benthos |

Answer (2)

171. Oxidative phosphorylation refers to

- | | |
|---------------------------------------|---|
| (1) Anaerobic production of ATP | (2) The citric acid cycle production of ATP |
| (3) Production of ATP by chemiosmosis | (4) Alcoholic fermentation |

Answer (3)

172. Centrum of 8th vertebra of frog is

- | | |
|------------------|------------------|
| (1) Procoelous | (2) Acoelous |
| (3) Amphicoelous | (4) Amphiplatyan |

Answer (3)

173. Down's syndrome is due to

- | | |
|-------------------|-----------------------------------|
| (1) Linkage | (2) Sex-linked inheritance |
| (3) Crossing over | (4) Non-disjunction of chromosome |

Answer (4)

174. Which one of the following mammals is NOT an odd-toed ungulate?

- | | |
|----------------|-----------|
| (1) Rhinoceros | (2) Camel |
| (3) Zebra | (4) Horse |

Answer (2)

175. All flat worms differ from all round worms in having

- (1) Triploblastic body
- (2) Solid mesoderm
- (3) Bilateral symmetry
- (4) Metamorphosis in the life history

Answer (2)

176. Deserts, grasslands, forests and tundra are the examples of

- | | |
|----------------|-----------------------------|
| (1) Biomes | (2) Biogeographical regions |
| (3) Ecosystems | (4) Biospheres |

Answer (1)

177. Standing on tip toe is an example of

- | | |
|---------------|----------------|
| (1) Elevation | (2) Flexion |
| (3) Extension | (4) Retraction |

Answer (1)

178. Which of the following is a free living nitrogen fixing bacterium present in the soil?

- | | |
|-------------------------|------------------------|
| (1) <i>Nitrosomonas</i> | (2) <i>Rhizobium</i> |
| (3) <i>Azotobacter</i> | (4) <i>Pseudomonas</i> |

Answer (3)

179. *Aedes aegypti* is a vector for

- | | |
|----------------------------------|---------------------------|
| (1) Both dengue and yellow fever | (2) Dengue fever |
| (3) Yellow fever | (4) Japanese encephalitis |

Answer (1)

180. Inadequate protein intake leads to Kwashiorkor. The subsequent edema is most closely related to inadequate synthesis of which protein?

- | | |
|--------------------|--------------|
| (1) Gamma globulin | (2) Glucagon |
| (3) Insulin | (4) Albumin |

Answer (4)

181. The “lock and key” model of enzyme action illustrates that a particular enzyme molecule

- (1) May be destroyed and resynthesised several times
- (2) Interacts with a specific type of substrate molecule
- (3) Reacts at identical rates under all conditions
- (4) Forms a permanent enzyme-substrate complex

Answer (2)

182. If the pituitary gland of an adult rat is surgically removed, which of the following endocrine glands will be less affected?

- | | |
|--------------------|---------------------|
| (1) Adrenal cortex | (2) Adrenal medulla |
| (3) Thyroid | (4) Gonads |

Answer (2)

183. If one litre of water is introduced in human blood, then

- | | |
|--|--|
| (1) BMR increases | (2) RBC collapses and urine production increases |
| (3) RBC collapses and urine production decreases | (4) BMR decreases |

Answer (2)

184. Beadle and Tatum showed that each kind of mutant bread mould they studied lacked a specific enzyme. Their experiments demonstrated that

- (1) Cells need specific enzymes in order to function
- (2) Genes are made of DNA
- (3) Enzymes are required to repair damage
- (4) Genes carry information for making proteins

Answer (4)

185. mRNA directs the building of proteins through a sequence of

- | | |
|------------|----------------|
| (1) Exons | (2) Introns |
| (3) Codons | (4) Anticodons |

Answer (3)

186. Carbon dioxide is called green-house gas because it is

- (1) Used in green-house to increase plant growth (2) Transparent to heat but traps sunlight
(3) Transparent to sunlight but traps heat (4) Transparent to both sunlight and heat

Answer (3)

187. The hormone that increases the blood calcium level and decreases its excretion by kidney is

- (1) Parathormone (2) Calcitonin
(3) Thyroxine (4) Insulin

Answer (1)

188. Signaling between cells usually results in the activation of protein

- (1) Lipases (2) Kinases
(3) Proteases (4) Nucleases

Answer (2)

189. Estrogen and testosterone are steroid hormones, and are most likely bind to

- (1) Membrane ions channels (2) Enzyme-linked membrane receptors
(3) G-protein linked membrane receptors (4) Cytoplasmic receptors

Answer (4)

190. Which of the following is unique to mitosis and *not* a part of meiosis?

- (1) Homologous chromosomes behave independently
(2) Chromatids are separated during anaphase
(3) Homologous chromosomes pair and form bivalents
(4) Homologous chromosomes crossover

Answer (1)

191. Heating milk at 65°C followed by sudden cooling is known as

- (1) Sterilization (2) Preservation
(3) Pasteurization (4) Fermentation

Answer (3)

192. Osteomalacia is due to deficiency of

- (1) Vitamin A (2) Vitamin C
(3) Vitamin E (4) Vitamin D

Answer (4)

193. Which of the following hormones regulates growth and metamorphosis in insect?

- (1) Juvenile hormone (2) Brain hormone
(3) Ecdyson (4) Prothoracicotropic hormone

Answer (1)

194. Glycosuria is the condition, where a man

- | | |
|--------------------------------|----------------------------------|
| (1) Eats more sugar | (2) Excretes sugar in urine |
| (3) Sugar is excreted in feces | (4) Has low sugar level in blood |

Answer (2)

195. Diploid cells have

- | | |
|---|-----------------------------|
| (1) Two chromosomes | (2) One set of chromosomes |
| (3) Two pairs of homologous chromosomes | (4) Two sets of chromosomes |

Answer (4)

196. The anti-parallel nature of DNA refers to

- (1) Its charged phosphate groups
- (2) The formation of hydrogen bonds between bases from opposite strands
- (3) The opposite direction of the two strands
- (4) The pairing of bases on one strand with bases on the other strand

Answer (3)

197. Mass extinction at the end of Mesozoic era was probably due to

- | | |
|-------------------------|--|
| (1) Continental drift | (2) The collision of earth with large meteorites |
| (3) Massive glaciations | (4) Change in earth's orbit |

Answer (2)

198. In hurdle race, what is the major energy source of the leg muscle?

- | | |
|--------------------------|--------------------------|
| (1) Performed ATP | (2) Glycolysis |
| (3) Pyruvate and lactate | (4) Oxidative metabolism |

Answer (1)

199. *Tachyglossus* is a connecting link between

- | | |
|------------------------|-----------------------------|
| (1) Reptiles and Birds | (2) Amphibians and Reptiles |
| (3) Birds and Mammals | (4) Reptiles and Mammals |

Answer (4)

200. The effectiveness of an enzyme is affected least by

- | | |
|--|------------------------------------|
| (1) Temperature | (2) Concentration of the substrate |
| (3) Original activation energy of the system | (4) Concentration of the enzyme |

Answer (3)

