

BIOLOGY

101. Dominant gene for tallness is T and for yellow colour is Y. A plant heterozygous for both the traits is selfed, then the ratio of pure homozygous dwarf and green offspring would be
- (1) 1/4 (2) 4/16
(3) 3/16 (4) 1/16
102. ABO blood grouping in humans is an example of
- (1) Polygenic inheritance
(2) Multifactor inheritance
(3) Pleiotropic gene
(4) Multiple alleles
103. The ratio of phenotypes in F_2 of a monohybrid cross is
- (1) 3 : 1 (2) 1 : 2 : 1
(3) 9 : 3 : 3 : 1
(4) 1 : 1
104. A man having $R_1R_1R_0R_0$ genotype has 12 feet height, while a man with genotype $r_1r_1r_0r_0$ has 2 feet height. What will be the height of a man having $R_1R_1r_0r_0$ genotype ?
- (1) 7 feet (2) 10 feet
(3) 8 feet (4) 12 feet
105. In genetics the test cross means
- (1) The crossing of F_1 individual with homozygous recessive parents
(2) Crossing an F_1 individual with either of the two parents
(3) Crossing F_1 individual with another F_1 individual
(4) Crossing F_1 individual with that of F_2
106. The Mendelian principle which has always stood true is
- (1) The law of independent assortment
(2) The law of segregation
(3) The law of dominance
(4) All the above
107. A tobacco plant heterozygous for albinism (a recessive character) is self pollinated and 1200 seeds are subsequently germinated. How many seedlings would have the parental genotype
- (1) 900 (2) 600
(3) 1200 (4) 300
108. A dwarf pea plant was treated with GA. The plant became tall. The treated plant was then crossed with a homozygous tall pea. The results in F_2 are expected to be
- (1) All tall
(2) Tall and dwarf in 3 : 1 ratio
(3) 50% tall (4) All dwarf
109. Genes do not occur in pairs in-
- (1) Zygote (2) Somatic cell
(3) Endosperm cell (4) Gametes
110. Blue eye colour in humans is recessive to brown eye colour. The expected children of a marriage between a blue eyed woman and a brown eyed man who had a blue eyed mother will be
- (1) All blue eyed (2) All brown eyed
(3) All black eyed
(4) One blue eyed and one brown eyed
111. The ratio 27 : 9 : 9 : 9 : 3 : 3 : 3 : 1 is
- (1) Phenotypic Trihybrid Ratio
(2) Phenotypic Dihybrid Ratio
(3) Genotypic Trihybrid Ratio
(4) Genotypic Dihybrid Ratio
112. If genes A and B show supplementary gene effect for mice coat colour, such that aa is recessively epistatic to B, what would be the ratio of agouti, black & albino in the cross $aaBB \times AaBb$
- (1) 1 : 2 : 1 (2) 1 : 1 : 2
(3) 2 : 2 (4) 4 : 3 : 1
113. An organism with two identical alleles is
- (1) Dominant (2) Hybrid
(3) Heterozygous (4) Homozygous
114. Female $AaBb$ is crossed to male $AAbb$. The gametes shall be
- (1) Female AB and ab, male AA and bb
(2) Female Aa and Bb, male AA and bb
(3) Female AB, Ab, aB and ab, male Ab
(4) Female AA, bb, AB and ab, male Ab
115. Cob length in maize is an example of
- (1) Pleiotropy (2) Polygeny
(3) Multiple Allelism (4) Supplementary gene
116. If a negro marries a white skin female, the mulattoes are born. If such mulattoes intermarry, progeny will show a gradual gradation of skin colour in ratio of
- (1) 1 : 4 : 6 : 4 : 1 (2) 9 : 3 : 3 : 1
(3) 1 : 6 : 15 : 20 : 15 : 6 : 1
(4) 1 : 4 : 6 : 15 : 20 : 15 : 6 : 4 : 1

117. In sickle cell syndrome the amino acid substituted is
- (1) Glutamic acid by valine in α -chain
 - (2) Valine by glutamic acid in α -chain
 - (3) Glutamic acid by valine in β -chain
 - (4) Valine by glutamic in β -chain
118. When chicken on F₁ generation are mated among themselves, they produce an F₂ generation of four kind of birds, as far as comb type and plumage colour are concerned in the following proportion 9 rose comb blacks, 1 single comb white, 3 rose comb whites, 3 single comb blacks. Based on this find out which two are the recessive characters in these birds
- (1) Black plumage and white plumage
 - (2) Single comb and white plumage
 - (3) Rose comb and single comb
 - (4) Rose comb and black plumage
119. Normal man without widow peak marries to a woman having widow peak (dominant character) produce a boy child with widow peak which marries to a normal female what is the probability to have a widow peak child in next generation
- (1) 100%
 - (2) 50%
 - (3) 25%
 - (4) 0%
120. Which of the following statement is incorrect ?
- (1) Polygenic character is controlled by multiple genes
 - (2) Numerous intermediates are found in between the two extremes in polygenic inheritance
 - (3) Height, weight and skin colour are polygenic
 - (4) Polygenic trait is controlled by multiple alleles
121. Which one shows codominance?
- (1) Alleles of blood groups A and B
 - (2) Alleles of normal blood and sickle cell
 - (3) Alleles for dots and bands in Ladybird Beetle
 - (4) All the above
122. Phenotypic and genotypic ratio are similar in
- (1) Incomplete dominance
 - (2) Segregation
 - (3) Independent assortment
 - (4) Epistasis
123. 9 : 3 : 3 : 1 ratio is due to
- (1) Incomplete dominance
 - (2) Complete dominance
 - (3) Epistatic genes
 - (4) Polygenic inheritance
124. A person meet with an accident and great loss of blood has occurred. There is not time to analyse his blood groups. It is safe to transfuse blood of
- (1) AB, Rh⁺
 - (2) AB, Rh⁻
 - (3) O, Rh⁻
 - (4) O, Rh⁺
125. A mother of blood group O has a group O child. The father could be?
- (1) A or B or O
 - (2) O only
 - (3) A or B
 - (4) AB only

126. In Spallanzani's experiment, one set of flasks had access to air through holes in the corks and the other set did not. In the set which had access to air, the contents showed abundant growth of micro-organisms. What inference can be drawn from this experiment?
- (1) Spontaneous generation needs contact with air
 - (2) Spontaneous generation does not need air
 - (3) In the set of jars which were closed with corks, the contents had not been boiled thoroughly
 - (4) Air must have got into the jars through the holes in the corks and must have carried the micro-organisms along with it
127. Pasteur succeeded in disproving the spontaneous generation theory, because
- (1) He was lucky
 - (2) He was ingenious in drawing out the necks of the glass flasks so as to provide access to air, but not to the micro-organisms
 - (3) Of the fact that the sample of yeast taken by him was dead
 - (4) Of the clean surroundings of his laboratory
128. Stanley Miller conducted experiments on prebiotic earth environment using a special apparatus. The primary products formed in this experiment were
- (1) Nucleotides
 - (2) Peptides
 - (3) Simple sugars
 - (4) Amino acids
129. *Periatus* is a connecting link between
- (1) Reptiles and mammals
 - (2) Molluscs and arthropods
 - (3) Annelids and arthropods
 - (4) Annelids and helminths
130. A vestigial organ of man is
- (1) Adrenal glands
 - (2) Sebaceous glands
 - (3) Ear pinnae
 - (4) Wisdom teeth
131. The Theory of Recapitulation means that
- (1) All animals start as an egg
 - (2) Life history of an animal reflects its evolutionary history
 - (3) Body parts once lost are regenerated
 - (4) Progeny of an organisms resembles its parents
132. Presence of temporary gill pouches in embryos of snakes, birds and mammals indicates that
- (1) These embryos need the pouches for breathing
 - (2) Common ancestor of these animals had gill pouches
 - (3) Lungs evolved from gills
 - (4) Fluid medium in which these embryos develop has abundant O₂
133. Geology and Zoology are intimately connected in
- (1) Archaeology
 - (2) Palaeontology
 - (3) Sociology
 - (4) Zoogeography
134. Which location is most suitable for fossil hunters?
- (1) Inside an old active volcano site
 - (2) Inside a dead volcano site
 - (3) Sedimentary rocks that had once been lake
 - (4) Hot sulphur springs
135. In its most widely accepted sense, organic evolution mean, *i.e.*, the "Doctrine of evolution" is particularly concerned with
- (1) Descent with modification
 - (2) Special Creation
 - (3) Spontaneous growth
 - (4) Environmental conditions
136. After examining the evidence related to the evolution of haemoglobin, you might conclude that
- (1) bird haemoglobin evolved prior to lamprey haemoglobin
 - (2) frogs are more closely related to lampreys than to birds
 - (3) evolutionary changes occur at the molecular level
 - (4) only DNA can be examined for establishing evolutionary differences
137. Which structures provide strong evidence of organic evolution?
- (1) Gill clefts in invertebrate embryos
 - (2) Wings in birds and bats
 - (3) Jointed legs in arthropods and mammals
 - (4) Excretory organs in earthworms and frogs
138. Most important evidences of organic evolution are provided by
- (1) Occurrence of homologous and vestigial organs in different animals
 - (2) Occurrence of analogous and vestigial organs in different animals
 - (3) Occurrence of homologous and analogous organs in different animals
 - (4) All of these

139. Which set of organs is best to support evolutionary theory
- (1) Wings of locusts, pigeon and bat
 - (2) Wings of bat and birds and forelimbs of horse
 - (3) Forelimbs of horse, tentacles of hydra and prostomium of earthworm
 - (4) Wings of pigeon and forelimbs of horse and cockroach
140. Most primitive living mammals which provide an evidence of organic evolution from geographical distribution are found in
- (1) China
 - (2) India
 - (3) Australia
 - (4) Africa
141. Which one represents a connecting link as an evidence from comparative anatomy in favour of organic evolution
- (1) Whale between fishes and mammals
 - (2) *Archaeopteryx* between birds and mammals
 - (3) Duckbill platypus between reptiles and mammals
 - (4) Java ape-man between modern man and Peking man
142. Galapagos islands are associated with the name of
- (1) Wallace
 - (2) Malthus
 - (3) Darwin
 - (4) Lamarck
143. According to the theory of evolution, all of the different kinds of homologies-namely, anatomical, molecular, and embryological should
- (1) be completely independent of each other
 - (2) produce similar patterns of evolutionary relatedness
 - (3) yield very different hierarchical patterns
 - (4) link all of the species currently present on earth
144. Evolutionary convergence is characterized by
- (1) Development of dissimilar characteristics in closely related groups
 - (2) Development of common set of characteristics in groups of different ancestry
 - (3) Development of characteristics by random mating
 - (4) Replacement of common characteristics in different groups
145. Which one is a pair of homologous organs
- (1) Wings of grasshopper and crow
 - (2) Wings of bats and butterflies
 - (3) Lungs of rabbit and gills of rohu
 - (4) Arm of monkey and arm of human
146. Most evident evidence of organic evolution is obtained from
- (1) Embryos
 - (2) Fossils
 - (3) Vestigial organs
 - (4) Morphological variations
147. Animals that possess homologous structures probably
- (1) are headed for extinction
 - (2) evolved from the same ancestor
 - (3) have increased genetic diversity
 - (4) by chance had similar mutations independently in the past
148. Two geographical regions separated by high mountain ranges
- (1) Palaearctic and Oriental
 - (2) Oriental and Australian
 - (3) Nearctic and Palaearctic
 - (4) Neotropical and Ethiopian
149. Which type of evolution exemplified by wings of mosquito, bat and pigeon?
- (1) Convergent
 - (2) Divergent
 - (3) Parallel
 - (4) Co-evolution
150. The flightless bird, Kiwi is found in
- (1) Mauritius
 - (2) Indonesia
 - (3) New Zealand
 - (4) New Guinea