

QB365 Question Bank Software Study Materials

Zoology - Principles of Inheritance and Variation 50 Important 1 Marks Questions With Answers (Book Back and Creative)

12th Standard

Biology

Total Marks : 50

Multiple Choice Question

50 x 1 = 50

- 1) Haemophilia is more common in males because it is a _____.
(a) Recessive character carried by Y-chromosome (b) Dominant character carried by Y-chromosome
(c) Dominant trait carried by X-chromosome **(d) Recessive trait carried by X-chromosome**
- 2) ABO blood group in man is controlled by _____.
(a) Multiple alleles (b) Lethal genes (c) Sex linked genes (d) Y-linked genes
- 3) Three children of a family have blood groups A, AB and B. What could be the genotypes of their parents?
(a) $I^A I^B$ and $I^O I^O$ **(b) $I^A I^O$ and $I^B I^O$** (c) $I^B I^B$ and $I^A I^A$ (d) $I^A I^A$ and $I^O I^O$
- 4) Which of the following is not correct?
(a) Three or more alleles of a trait in the population are called multiple alleles
(b) A normal gene undergoes mutations to form many alleles **(c) Multiple alleles map at different loci of a chromosome**
(d) A diploid organism has only two alleles out of many in the population
- 5) Which of the following phenotypes in the progeny are possible from the parental combination AxB?
(a) A and B only (b) A,B and AB only (c) AB only **(d) A, B, AB and O**
- 6) Which of the following phenotypes is not possible in the progeny of the parental genotypic combination $I^A I^O \times I^A I^B$?
(a) AB **(b) O** (c) A (d) B
- 7) Which of the following is true about Rh factor in the offspring of a parental combination DdxDd (both Rh positive)?
(a) All will be Rh-positive (b) Half will be Rh positive (c) About $\frac{3}{4}$ will be Rh negative
(d) About one fourth will be Rh negative
- 8) What can be the blood group of offspring when both parents have AB blood group?
(a) AB only **(b) A, B and AB** (c) A, B, AB and O (d) A and B only
- 9) If the child's blood group is 'O' and father's blood group is 'A' and mother's blood group is 'B' the genotype of the parents will be _____.
(a) $I^A I^A$ and $I^B I^O$ **(b) $I^A I^O$ and $I^B I^O$** (c) $I^A I^O$ and $I^O I^O$ (d) $I^O I^O$ and $I^B I^B$
- 10) XO type of sex determination and XY type of sex determination are examples of _____.
(a) Male heterogamety (b) Female heterogamety (c) Male homogamety (d) Both (b) and (c)
- 11) In an accident there is great loss of blood and there is no time to analyse the blood group which blood can be safely transferred?
(a) O and Rh negative (b) O and Rh positive (c) B and Rh negative (d) AB and Rh positive
- 12) Father of a child is colourblind and mother is carrier for colourblindness, the probability of the child being colourblind is _____.
(a) 25% **(b) 50%** (c) 100% (d) 75%
- 13) A marriage between a colourblind man and a normal woman produces _____.

- (a) **All carrier daughters and normal sons** (b) 50% carrier daughters, 50% normal daughters
(c) 50% colourblind sons, 50% normal sons (d) All carrier offsprings
- 14) Down's syndrome is a genetic disorder which is caused by the presence of an extra chromosome number ____.
(a) 20 (b) **21** (c) 4 (d) 23
- 15) Klinefelters syndrome is characterized by a karyotype of ____.
(a) XYY (b) XO (c) XXX (d) **XXY**
- 16) Females with Turners syndrome have _____.
(a) Small uterus (b) Rudimentary ovaries (c) Underdeveloped breasts (d) **All of these**
- 17) Pataus syndrome is also referred to as _____.
(a) **13-Trisomy** (b) 18-Trisomy (c) 21-Trisomy (d) None of these
- 18) "Universal Donor" and "Universal Recipients" blood group are ____ and ____ respectively
(a) AB, O (b) **O, AB** (c) A, B (d) B, A
- 19) ZW-ZZ system of sex determination occurs in _____.
(a) Fishes (b) Reptiles (c) Birds (d) **All of these**
- 20) Co-dominant blood group is _____.
(a) A (b) **AB** (c) B (d) O
- 21) Which of the following is incorrect regarding ZW-ZZ type of sex determination?
(a) It occurs in birds and some reptiles (b) **Females are homogametic and males are heterogametic**
(c) Male produce one type of gamete (d) It occurs in gypsy moth
- 22) The _____ deals with the control of several inherited human diseases especially inborn errors of metabolism
(a) **Euphenics** (b) Eugenics (c) Euthenics (d) All of these
- 23) The _____ is called null allele.
(a) I^A (b) $I^O I^B$ (c) **I^O** (d) $I^B I^B$
- 24) The secretors have the I allele in _____.
(a) tears (b) Gastric juice (c) Saliva (d) **All of these**
- 25) XX - XO type of sex determination is in _____.
(a) **Cockroaches** (b) Drosophila (c) Humans (d) Moths
- 26) The ZO - ZZ type of sex determination is seen in _____.
(a) **moths** (b) Reptiles (c) Human beings (d) Bugs
- 27) The ZW - ZZ type of sex determination is seen _____.
(a) Butterflies (b) Drosophila (c) **Gypsy moth** (d) Human being
- 28) Sex index is applicable to _____.
(a) Homogenetic condition (b) Heterogametic condition (c) **Genic balance** (d) Gynandromorphs
- 29) X chromosomes was discovered by _____.
(a) Landsteiner (b) **Henking** (c) Stevens (d) Bridges
- 30) _____ are examples of mendelian disorders.

- (a) Thalassaemia (b) Albinism (c) Phenylketonuria **(d) Haemophilia**
- 31) Trisomy 21 refers to _____.
- (a) Patau's syndrome **(b) Down's syndrome** (c) Kline filters syndrome (d) Turners syndrome
- 32) ABO blood groups in humans are controlled by the gene I, It has three alleles - IA, IB and i. Since there are three different alleles) six different genotypes are possible. How many phenotypes can occur?
- (a) Three (b) One **(c) Four** (d) Two
- 33) Which one of the following symbols and its representation, used in human pedigree analysis is correct?
- (a) $\square = O$ Mating between relatives** (b) $O =$ Unaffected male (c) $\square =$ Unaffected female (d) $\diamond =$ Male affected
- 34) A normal-visioned man whose father was blind marries a woman whose father was also colour blind. They have their first child as a daughter. What are the chances that this child would be colour blind?
- (a) 100% **(b) 0%** (c) 25% (d) 50%
- 35) A pleiotropic gene:
- (a) Is a gene evolved during Pliocene (b) Controls a trait only in combination with another gene
(c) Controls multiple traits in an individual (d) Is expressed only in primitive plants
- 36) A gene showing codominance has:
- (a) Alleles tightly linked on the same chromosome. (b) Alleles that are recessive to each other
(c) Both alleles independently expressed in the heterozygote (d) One allele dominant on the other
- 37) Pick out the odd one out regarding Mendelian disorder.
- (a) Thalassaemia (b) phenylketonuria (c) Albinism **(d) Huntington's chorea**
- 38) DOPA stands for _____
- (a) 3,4 - dihydroxy phenyl acetate **(b) 3,4 - dihydroxy phenyl alanine** (c) 3,4 - dihydroxy phenyl aspartate
(d) 3,4 - dihydroxy phenyl aldehyde
- 39) The type of antibody generated against Rh antigen is _____
- (a) IgE **(b) IgG** (c) A (d) IgB
- 40) Human blood groups are determined by
- (a) single gene (b) two genes (c) alleles **(d) multiple genes**
- 41) An important example of pleiotropy is
- (a) bleeder's disease (b) small pox **(c) sickle cell anaemia** (d) none of the above
- 42) When an individual possesses both alleles of contrasting characters it is called
- (a) Dioecious (b) Linked genes **(c) Heterozygous** (d) Homozygous
- 43) The inheritance of two recessive alleles for the sickle cell trait is commonly
- (a) Lethal** (b) Epistatic (c) Heterozygous (d) Homozygous
- 44) The number of chromosomes in drosophila melanogaster is
- (a) 6 **(b) 8** (c) 10 (d) 12
- 45) The prokaryotic chromosomes are founds in
- (a) Bacillus (b) Nostoc (c) Escherichia **(d) All of the above**
- 46) Mutation is

(a) **a change that inherited** (b) a change, but not inherited (c) a factor responsible for plant growth

(d) a change affecting F₂ generation only

47) Limnaea peregra is a

(a) **freshwater snail** (b) marine water snail (c) both a & b (d) none of the above

48) Cytoplasmic inheritance differs from nuclear inheritance in the absence of

(a) Similarity of reciprocal crosses (b) Biparental contribution (c) Effect on back crossing (d) **All the above**

49) Find out the incorrect pair

(a) Cheese - Lactococcus (b) Curd - Saccharomyces cerevisiae (c) **Idli - Leuconostoc mesenteroids** (d) Bread - Yeast

50) Height in humans is

(a) Somatogenic variation (b) Discontinuous variation (c) **Continuous variation** (d) Both B and C