





**ENTRANCE TEST 2021
NMDCAT REPEATERS**

TEST # 31

BIOLOGY

- Q.1** _____ genes do not obey Mendel's law of independent assortment:
- A) Autosomal
B) Sex
C) Jumping
D) Linked
- Q.2** Genes for colour blindness, haemophilia, gout etc. form one linkage group on human:
- A) XY chromosomes
B) XX chromosomes
C) Y chromosome
D) X chromosome
- Q.3** The entire genome of _____ has been successfully sequenced as part of human genome project:
- A) Yeast
B) *Drosophila*
C) Pig
D) Grasshopper
- Q.4** The proportion of recombinant types between two gene pairs as compared to the sum of all combinations called:
- A) Crossing over
B) Synapsis
C) Recombination frequency
D) Linkage frequency
- Q.5** It produces genetic variations among offspring and provide raw material for evolution:
- A) Crossing over
B) Synapsis
C) Recombination
D) Gene linkage
- Q.6** Which of the following trait is not X-linked?
- A) Colour blindness
B) Haemophilia
C) Gout
D) Leukemia
- Q.7** _____ % age of patients suffering from haemophilia due to factor _____:
- A) 1, XI
B) 80, VIII
C) 20, XI
D) 1, IX
- Q.8** In drosophila males are _____ as they carry just one allele on their only x-chromosome:
- A) Homozygous
B) Hemizygous
C) Heterozygous
D) Semizygous
- Q.9** A trait that is determined by an X-linked recessive gene is called:
- A) XY-linked recessive trait
B) XX-linked recessive trait
C) Y-linked recessive trait
D) X-linked recessive trait
- Q.10** The _____ together two genes are on a chromosome, the less likely their alleles will be separated by _____:
- A) Link, Crossing over
B) Attach, Crossing over
C) Apart, Crossing over
D) Close, Crossing over
- Q.11** Pick up the very severe form of haemophilia:
- A) A
B) B
C) C
D) D
- Q.12** It is a physical relationship between genes:
- A) Crossing over
B) Synapsis
C) Recombination
D) Gene linkage
- Q.13** It is a serious disease of human in which blood fails clot after starts flowing from an injury site:
- A) Color blindness
B) Haemophilia
C) Diabetes
D) Vitamin D resistant rickets
- Q.14** The allele for haemophilia A and B are located on the:
- A) Y-chromosome
B) X-chromosome
C) Autosomal chromosome
D) Sex chromosome
- Q.15** _____ results in a shifting of genetic material and an important cause of _____ respectively:
- A) Linkage, Evolution
B) Evolution, Crossing over
C) Linkage, Genetic variation
D) Crossing over, Genetic variation

- Q.16** *Drosophila* is perfectly suited for:
 A) Metabolic studies
 B) Genetic studies
 C) Culture studies
 D) Behavioural studies
- Q.17** The cross-over data may also be used to determine:
 A) The location of gene on chromosome
 B) The location of chromosome in nucleus
 C) The location of gene in nuclei
 D) The location of gene in cell
- Q.18** Pick up allelic recessive type of hemophilia in males:
 A) Hemophilia A
 B) Hemophilia B
 C) Hemophilia C
 D) Hemophilia D
- Q.19** _____ provided experimental evidence in support of chromosomal theory of heredity through discovery of sex linkage in fruit fly *Drosophila*:
 A) Independent assortment
 B) Gene linkage
 C) Crossing over
 D) Thomas Hunt Morgan
- Q.20** Which one of the following can never pass direct from father to son?
 A) Hemophilia - A and C
 B) Hemophilia - B and C
 C) Hemophilia - C and D
 D) Hemophilia - A and B
- Q.21** Crossing over is an exchange of segments between _____ during meiotic:
 A) Sister chromatids of homologous chromosome
 B) Non-sister centomere of homologous chromosome
 C) Non-sister chromatids of non-homologous chromosome
 D) Non-sister chromatids of homologous chromosome
- Q.22** Pick up the odd pair:
 A) Hemophilia - B, Factor IX
 B) Hemophilia - C, Factor XI
 C) Hemophilia - A, Factor VIII
 D) Hemophilia - B, Factor XI
- Q.23** If a carrier haemophilic female ($X^{H}X^{h}$) is married to a haemophilic male ($X^{h}Y$). What will be the ratio of presence of haemophilia in the children? Select best answer from given condition:
 $X^{H}X^{h} \times X^{h}Y$
 A) 100% all females and males will be hemophilic
 B) Normal female 25%, hemophilic female 25%, 25% normal male and 25% hemophilic male
 C) Females and males both have 25% and 75% chances of getting hemophilia
 D) Females have 50% chances of getting hemophilia and males will be 100% hemophilic
- Q.24** The number of linkage groups in an individual correspond to the number of:
 A) Homologous pairs of chromosomes
 B) Genes on chromosome
 C) Chromosomes in each cell
 D) Chromosomes in body
- Q.25** _____ is not practically possible in humans:
 A) Experimental mating
 B) Pedigree analysis
 C) Study of inheritance
 D) Outbreeding
- Q.26** Each type of hemophilia involves deficiency of:
 A) Same clotting factor
 B) Different clotting factors
 C) Two clotting factors
 D) All clotting factors
- Q.27** Out of the hemophilic patients, how many suffer from type - A:
 A) 10%
 B) 80%
 C) 20%
 D) 30%
- Q.28** Pick up the one that affects more to men as compared to women:
 A) Hemophilia A and C
 B) Hemophilia B and C
 C) Hemophilia A and B
 D) Hemophilia C and D
- Q.29** It never passes directly from father to son:
 A) Hemophilia - C
 B) Blue blindness
 C) Tntenopia
 D) Hemophilia - A
- Q.30** Hemophilia A and B always pass from:
 A) Father to son
 B) Father to daughter
 C) Maternal grandfather to grandson
 D) Paternal grandfather to grandson
- Q.31** Sex linkage in *Drosophila* was discovered by:
 A) Sutton
 B) Watson
 C) Mendel
 D) Morgan

- Q.32** A carrier woman can have a hemophilic son if married to:
 A) A normal man
 B) A hemophilic man
 C) Either a normal or a hemophilic man
 D) Either a hemophilic or a carrier man
- Q.33** Pick up the sign denoting carrier daughters:
 A)  B) 
 C)  D) 
- Q.34** Pick up the antagonistic pair:
 A) Meiosis – crossing over
 B) Crossing over – recombination
 C) Recombination – variation
 D) Gene linkage – Independent assortment
- Q.35** A female can be hemophilic, if her parents have following genotype:
 A) $X^H X^H \times X^H Y$
 B) $X^H X^H \times X^h Y$
 C) $X^H X^h \times X^h Y$
 D) $X^H X^h \times X^H Y$
- Q.36** Hemophilia is a:
 A) X – linked dominant trait
 B) Y – linked dominant trait
 C) X – linked recessive trait
 D) Y – linked recessive trait
- Q.37** Minor cuts or bruises may result in death of a person when he/she suffers from:
 A) Hypophosphatemia
 B) Protanopia
 C) Hemophilia
 D) Immunodeficiency
- Q.38** The percentage of hemophiliacs suffering from type – B is:
 A) 10%
 B) 80%
 C) 20%
 D) 30%
- Q.39** Just one recessive allele will display the trait of _____ in man:
 A) Hemophilia – A and C
 B) Hemophilia – B and C
 C) Hemophilia – C and tritanopia
 D) Hemophilia – A and B
- Q.40** A hemophilic man receives X chromosome indirectly from his:
 A) Father's father
 B) Mother's father
 C) Grandfather's father
 D) Grandmother's father
- Q.41** Queen Victoria's hemophilic son was prince:
 A) Prince Nicholas
 B) Leopold
 C) Rupert
 D) Charles
- Q.42** Mode of inheritance of human traits can be traced through:
 A) Experimental mating
 B) Pedigree
 C) Inbreeding
 D) Out breeding
- Q.43** Testicular feminization is an example of:
 A) X-linked dominant trait
 B) Y- linked dominant trait
 C) Autosomal inheritance
 D) X-linked recessive trait
- Q.44** Strength of gene linkage is inversely proportion to the following, EXCEPT:
 A) Distance between gene loci
 B) Probability of crossing over
 C) Probability of independent assortment
 D) Probability of retaining parental traits
- Q.45** Morgan and his colleagues studied more than _____ traits in *Drosophila*:
 A) 85
 B) 60
 C) 90
 D) 8
- Q.46** Pick up the most common type of haemophilia:
 A) A
 B) B
 C) C
 D) D
- Q.47** Which one of the following also called royal disease?
 A) Diabetes
 B) Hypophosphatemia
 C) Colour blindness
 D) Haemophilia

- Q.48 _____ traits inherit as zigzag from maternal grandfather through a carrier daughter to a grandson:
 A) X-linked
 B) Y-linked
 C) Autosomal
 D) Sex influenced
- Q.49 Linkage group of X-chromosome is:
 A) Color blindness, leukemia and albinism
 B) Haemophilia, sickle cell anemia and albinism
 C) Gout, albinism and leukemia
 D) Color blindness, haemophilia and gout
- Q.50 _____ reduces the chances of _____ respectively:
 A) Crossing over, Recombination
 B) Linkage, Meiosis
 C) Crossing over, Recombination
 D) Crossing over, Gene linkage

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MCQ RESPONSE FORM

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