

Sample Questions

T.Y.B.Sc.Zoology/Sem.VI

Zoology Paper-3 Genetics and Bioinformatics

UNIT-I MOLECULAR BIOLOGY

- 1) Mutation is _____change in the DNA.
 - A) permanent
 - B) slight
 - C) reversible
 - D) temporary

- 2) Mutations caused in _____do not cause the heredity disease.
 - A)sperm cell,
 - B)egg cell,
 - C)somatic cell,
 - D)neural cell

- 3) _____is nonpolar amino acid.
 - A)Isolucine,
 - B)asparagine,
 - C)glutamine,
 - D)histidine

- 4) _____ is known as termination codon.
 - A)AAA,
 - B)UCA,
 - C)UAA,
 - D)CGA

- 5) In fragile X syndrome _____ tandem repeats of sequence CGG is found.
 - A)150-3000,
 - B)1458-5000,
 - C)250-4000,
 - D)100-1200

- 6) Fragile X syndrome incidence is _____.
 - A)2:325,
 - B)1:1550,
 - C)3:4000,
 - D)6:2000

- 7) _____ male IQ stands between 20-60.
A)Turner,
B)Klinefelter,
C)Edward,
D)Fragile X syndrome
- 8) In Fragile X syndrome _____ are is defected.
A)Xp32.1
B)Yq12.14
C)Xq27.3,
D)Yp11.22
- 9) Huntington disease is _____ disease.
A)Y linked,
B)X linked,
C)autosomal dominant,
D)autosomal recessive,
- 10) HD gene of Huntigton disease encodes huntigton protein of _____kDa molecular mass.
A)267
B)348
C)552
D)129
- 11) HD gene of Huntigton disease disease contains 11-34 repeat of _____base pairs.
A)A-T,
B)C-C,
C)C-G,
D)T-A
- 12) In _____ mutation the change in 5-methylcytosine(5MeC) is observed.
A)Point
B)transition
C)spontaneous,
D)tanseverse
- 13) Py-Pu orientation is called a _____ mutation.
A)transeverse,
B)point,
C)sense,

D)transition

14) Alpha rays have density of _____

- A)100-1000,
- B)200-3000,
- C)500-5000,
- D)400-6000

20) _____ is changed to Xanthin is known as mutagenic effect.

- A)Guanine
- B)Cytosine,
- C)Thymine,
- D)Adenine

21) Hydroxalamine reacts with_____

- A)Cytosine
- B)Thymine
- C)Guanine
- D) adenine

22) _____ is used in chemotherapy.

- A)Histidine
- B)proline,
- C)mustin,
- D)mytheonine

23) Aflatoxin causes_____ cancer.

- A)renal.
- B)Hepatic
- C)neural
- D)intestinal

24) _____ is known as suicide enzyme.

- A)zymase,
- B)isomerase,
- C)methyltransferase,
- D)lipase

25) In Zinc finger _____ amino acids residues forms a loop held together by zinc ion.

- A)30
- B)40

C)34

D)5

UNIT- II GENETIC ENGINEERING

- 1) Lederberg and Meselson in 1964 discovered _____ from bacterial cells.
 - A)Lipase
 - B)Polymerase,
 - C)nuclease
 - D)restriction enzymes

- 2) _____ enzymes are also termed as molecular scissors.
 - A)Polymerase
 - B)nuclease
 - C)restriction
 - D)Lipase

- 3) Restrictions sites are _____ long and are usually palindromes.
 - A)5-8bp,
 - B)4-8bp,
 - C)3-10bp,
 - D)9-25bp

- 4) Exonucleases _____ the terminal nucleotides from the end of the DNA.
 - A)oxidise
 - B)hydrolyse
 - C)photolyse
 - D)exonucleases

- 5) _____ causes the blunt ends after the process of cutting the DNA.
 - A)Sal I
 - B)Bam
 - C)Hind III
 - D)Bal I

- 6) E-coli DNA ligase catalyses the formation of a _____ bond between 5 prime phosphate and 3 prime hydroxyl of two adjacent DNA strands.
 - A)ionic,
 - B)phosphodiester,
 - C)hydrogen,
 - D)van der wals

- 7) T4 DNA ligase has molecular weight of _____ daltons.
 - A)6900

- B)6800
- C)7251
- D)9541

- 8) Molecular weight of PNK is _____ dalton.
- A)50000
 - B)34000
 - C)31000
 - D)29000
- 9) Alkaline phosphatase has the MW of_____ daltons.
- A)120000
 - B)140000
 - C)150000
 - D)190000
- 10) _____ is used to remove 5 prime phosphate group from linearises vector DNA.
- A)Esterase,
 - B)ligase,
 - C)ptyline,
 - D)Alkaline phosphatase
- 11) Arthur Kornberg in 1956 discovered DNA polymerase in _____
- A)E-Coli
 - B),Clostridium,
 - C)amoeba,
 - D)S.typhi
- 12) Malcolm Gefter discovered DNA _____ in 1970.
- A)Isomerase
 - B)polymerase II,
 - C)Hind III,
 - D)RE I
- 13) DNA_____ help in DNA repair and replication.
- A)Photolyase
 - B)Ketolase
 - C)Polymerase
 - D)enolase
- 14) Packaging of_____ fails when the distance of base pairing exceeds 54kpbs or less than 38kpbs.

- A)RNA
- B)tRNA,
- C)DNA,
- D)mRNA

15) ____ is the technique of gene amplification.

- A)Electrophoresis
- B)chromatography
- C)PCR
- D)CITI-Scan

16) ____degree celcisu denatures the DNA.

- A)95
- B)94
- C)92
- D)90

17) Primer annealing in PCR is done at ____degree celcius.

- A)52
- B)55
- C)59
- D)67

18) _____ in 1977 developed the method for sequencing the nucleotides of the DNA.

- A)Darwin,
- B)Maxam and Gilbert,
- C)W.Harvey,
- D)Edman

19) The sequence of _____ can be identified by edman degradation technique.

- A) amino acid,
- B) carbohydrates
- C) fats,
- D)vitamin

UNIT-III HUMAN GENETICS

1) In karyogram chromosome number 2 is _____

- A) Metacentric
- B) sub metacentric
- C) telocentric
- D) acrocentric

2) Rate of incidence of aneuploidy in new borns is _____

- A) 0.6%
- B) 0.8%
- C) 0.7%
- D) 0.4%

3) Deletion is loss of _____

- A) somatic cell
- B) chromosome
- C) DNA
- D) gene

4) Robertsonian translocation involves chromosome _____

- A) 14 & 21
- B) 1&3
- C) 5&6
- D) 7&8

5) Aneuploid organisms have _____ sets of chromosomes

- A) Normal
- B) Unbalanced
- C) transferable
- D) acidic

6) Down's syndrome is associated with trisomy of chromosome _____

- A) 5
- B) 7
- C) 18
- D) 21

7) _____ explained that "inborn errors of metabolism are controlled by the genes"

- A) T. Morgan
- B) Mendel
- C) Garrod
- D) W. Wright

8) Proteins are _____ containing macromolecules.

- A) Nitrogen
- B) carbon
- C) sulphur
- D) methyl

9) Incidence of phenylketonuria is _____

A) 2:50000

B) 1:20000

C) 2:60000

D) 1:25000

10) Phenylketonuria is associated with defect in enzyme _____

A) phenylalanine hydroxylase

B) ligase

C) fumerase

D) aconitase

11) Increased level of phenylalanine inhibit the synthesis of _____ from tryptophan.

A) adrenalin

B) serotonin

C) inhibin

D) tyrosine

12) G6PD is _____ recessive trait

A) Y linked

B) X linked

C) autosomal dominant

D) autosomal recessive

13) Low level of G6PD causes breakdown of _____

- A) Basophils
- B) Neutrophils
- C) RBCs
- D) NK cells

20) In G banding the chromosomes are treated with _____

- A) Quinacrine hydrochloride
- B) trypsin
- C) methylene blue
- D) Niger black

21) Genetic counseling is advisable for planning a pregnancy but if the maternal age is more than _____ years.

- A) 35
- B) 17
- C) 28
- D) 55

22) The incidence of pericentric inversion is _____ births.

- A) 2:65000
- B) 1:75000
- C) 9:85000
- D) 2:23000

23) Deletion of the long arm of chromosome 11,13,18 is mostly seen in_____

- A) infants
- B) adults
- C) adolescence
- D) children

24) According to the Denver classification the autosomes are serially numbered from _____in descending order of length.

- A) 1-5
- B)1-22
- C)21-23
- D) 1-16

25) _____is known as father of Human genetics.

- A) G.Mendel
- B) Garrod
- C) C.linneus
- D) S.G Wright

UNIT-IV-BIOINFORMATICS

1)NCBI was established in the year _____

A)1988

B)1945

C)1983

D)1954

2)Mendelian Inheritance in Man is published in_____print editions since 1966

A) 12

B) 13

C)15

D)18

3)MIM was started by _____

A) John Abelson

B) Bruce Ames

C) William Allan

D) Dr Victor A Mckusick.

4)PubMed contains more than _____ million bibliographical records of biomedical publications.

A) 30

B)20

C)50

D)60

5)Docking helps to design an_____ that binds with high affinity to a target protein.

A)antigen

B)antibody

C)serum

D)blood

6)DB ____base is nothing but the collection of data.

- A) data
- B) protein
- C) nucleotide
- D) amino acid

7)SWISS-Prot is the database used to find sequence of ____

- A) nucleotides
- B) vitamins
- C) proteins
- D) monosaccharides

8)Metabolism is the study of_____

- A) genome
- B) protein.
- C)metabolites
- D)vitamins

9)Metabolic profiling of the urine or blood for the assessment includes in _____

- A) biomarker discovery
- B)toxicology
- C) functional genomics
- D) personalise medicine

10)The best known nucleotide sequence database is called _____

- A)Genbank
- B)SWISS-Prot
- C)MIM
- D)Pub-Med

11)PDB stands for _____

- A)Polymer data bank
- B)Protein data bank
- C)Protein data base
- D) Proline data bank

12) A database of nucleotide sequences was launched at NCBI in_____

- A) 1990
- B)1960
- C)1992
- D)1932

13)Nucleotide Sequence Data Library was established in _____

- A)1978
- B)1980
- C)1994
- D)1999

14)UniProt is annotated _____ sequence database.

- A)nucleotide
- B)carbohydrates
- C)amino acid

D)fats

21) Ancestor in phylogenetic tree is known as _____

A)leaf

B)branch

C)root

D)trunk

22) Node in phylogenetic tree diagrams means terminating end of _____

A) flower

B) branch

C) root

D)leaflet

23) Pharmacogenomics is how the genes affect persons response to _____

A) drug

B) food

C) dyes

D) oil

24) Full form of SNP is _____

A) simple nuclear pricess

B) single nucleotide programme

C) single nucleotide polymorphism

D) serum nuclear protein

25) A_____ is the entire set of protein produced by a cell type.

A) mitochondria

B) proteome

C) nucleosome

D) cell