



MAL-003-001535

Seat No. _____

B. Sc. (Sem. V) (CBCS) Examination

October / November – 2016

Zoology : Paper - Z - 503

(Biochem, Cytology, Genetics) (New Course)

Faculty Code : 003

Subject Code : 001535

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

- Instructions :** (1) Illustrate your answer with neat and labelled diagram.
(2) Figures to the right side indicates full marks of questions.

1 Answer the following questions : 20

- (1) In a structure of disaccharide, which type of bond is present between two molecules of monosaccharide ?
- (2) Give any one example of quaternary protein.
- (3) Which vitamin is rapidly destroyed by heat ?
- (4) The non-protein substance united with simple protein is known as “_____”.
- (5) Give any five examples of micro elements.
- (6) A solution having pH = 4, the nature of solution is _____.
- (7) Give the name of filter paper which is used in paper chromatography ?
- (8) Which centrifuge is used to separate organelles by their density ?
- (9) In which type cancer tumors are made up principally of connective tissue cells, which are mesodermal origin ?
- (10) In the structure of gene, _____ is the smallest distance within which recombination can occur.
- (11) In the structure of gene pentose sugar + Nitrogen base = _____.
- (12) In the structure of gene, the sequence of nucleotide in one chain in GCA, TAC, CAG, TAA. Give the sequence of nucleotides in other complementary chain.

- (13) Which fixative is widely used in cytological techniques ?
- (14) Prenatal screening of babies for gross chromosomal aberration and sex prediction is possible by which techniques ?
- (15) Which types of chromosomes having satellite that correspond to nucleolar organizers ?
- (16) In human chromosome, which type of chromosomes are included in group 'A' ?
- (17) Ultra violet and visible light are which type of mutagenic agents.
- (18) The technique DNA finger printing was discovered by _____.
- (19) Lack of erythrolable pigment in the retinal cones results in an inability to discriminate red colour, this defect is known as _____.
- (20) The shifting or transfer of a part of a chromosome or a set of genes to a non-homologous one is called _____ type of chromosomal mutation.

- 2 (a) Write any three out of six : 6
- (1) Secondary protein
 - (2) Define - cistron and muton
 - (3) Duplication type chromosomal mutation
 - (4) Single staining technique
 - (5) Lock and key theory of enzymes
 - (6) Temperature as mutagenic agent.
- (b) Write any three out of six : 9
- (1) Importance of minerals
 - (2) Colourblindness
 - (3) Double staining technique
 - (4) Physical and chemical properties of carbohydrates
 - (5) Principle, working mechanism and uses of pH meter
 - (6) Gene affecting man's intelligency.
- (c) Write any two out of five : 10
- (1) Give classification and importance of carbohydrates
 - (2) Human chromosomes
 - (3) Chemicals as a mutagenic agent
 - (4) Paper chromatography
 - (5) Amniocentesis.

- 3 (a) Write any three out of six : 6
- (1) Primary proteins
 - (2) Gene affecting man's health.
 - (3) Amino acids
 - (4) Deletion type chromosomal mutation
 - (5) Any one theory for possible causes of cancerous growth of carcinogenesis
 - (6) Excessive development of hair on pinna of ear as hereditary trait.
- (b) Write any three out of six : 9
- (1) Importance of vitamins
 - (2) Haemophilia as hereditary trait
 - (3) Radiation as mutagenic agent
 - (4) Translocation
 - (5) Types of cancer
 - (6) Inversion type chromosomal mutation.
- (c) Write any two out of five : 10
- (1) Describe classification of protein
 - (2) Principle, working mechanism and use of centrifuge
 - (3) Describe DNA finger printing technique
 - (4) Molecular structure of gene
 - (5) Types of enzymes and factors affecting on it.
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