



JX-003-001535

Seat No. _____

B. Sc. (Sem. V) Examination

October - 2019

Zoology : Z-503

(Biochemistry, Cytology, Genetics)

(Old Course)

Faculty Code : 003

Subject Code : 001535

Time : **2:30** Hours]

[Total Marks : **70**

Instructions :

- (1) Illustrate your answers with neat and labeled diagrams.
- (2) Figures to the right indicate full mark of question.

1 Give corrects answer of following question : **30**

- (1) Give the name of any one bond present in secondary structure of protein.
- (2) If the structure of gene the sequence of nucleotide in one chain is TAC ACG CCG TAA, give the sequence of nucleotides in other complementary chain of gene.
- (3) If the nature of solution is basic, what should the PH range of that solution?
- (4) To see human chromosomes by microscope they are normally treated with chemical dyes such as _____.
- (5) Due to lack of which Vitamin night blindness and dry eyes occur?
- (6) Lock and key theory of enzyme was given by _____.
- (7) During formation of dipeptide two amino acid molecules linked with peptide bond and release one molecule of _____.
- (8) What is the most important dietary source of carbohydrate for higher animals?
- (9) Give only 4 names of essential trace elements.
- (10) Which are the sources of vitamin C ?

- (11) Define : Gene
- (12) _____ protein is present in microtubules.
- (13) The enzyme catalyzed the synthesis of a new substance by transferring of Phosphate molecule, are known as _____.
- (14) Define nucleotides.
- (15) What is chromatography?
- (16) Define Cistron.
- (17) If the cells having uncontrolled cell division, they are known as _____.
- (18) In metacentric type of chromosomes have centromere at _____ position.
- (19) Define : prosthetic group
- (20) Which Chromosome is involved in the growth of excess hair on ear?

2 (a) Write any **three** out of six : **6**

- (1) Classification of protein based on their structure.
- (2) Importance of carbohydrate.
- (3) Principle and uses of centrifuge.
- (4) Importance of minerals. (any two)
- (5) Inversion type of chromosomal mutation.
- (6) Temperature as a mutagenic agent.

(b) Write any **three** out of six : **9**

- (1) Deletion type of chromosomal mutation.
- (2) Virus theory of cancer.
- (3) Give the classification of carbohydrates.
- (4) Colorblindness.
- (5) DNA fingerprinting.
- (6) Radiation as a mutagenic agent.

- (c) Write any **one** out of five : **5**
- (1) Explain tertiary and quaternary structure of protein.
 - (2) Describe any two type of enzyme.
 - (3) Give explanation on characteristics of cancerous cells.
 - (4) Physical properties of carbohydrate.
 - (5) Gene affecting man's intelligence.
- 3** (a) Write any **three** out of six : **6**
- (1) Duplication type of chromosomal mutation.
 - (2) Lock and key theory for enzyme.
 - (3) Gene affecting man's health.
 - (4) Ph as a mutagenic agent.
 - (5) Briefly describe polysaccharide.
 - (6) Give only name of type of cancer.
- (b) Write any **three** out of six : **9**
- (1) Discuss Ear pinna.
 - (2) Metabolic theory of cancer.
 - (3) Classification of amino acid based on their nature.
 - (4) Discuss any two vitamins.
 - (5) Concept of gene.
 - (6) Translocation type of chromosomal mutation.

(c) Write any **one** out of five :

5

- (1) Amniocentesis.
 - (2) Study of human chromosomes.
 - (3) pH meter.
 - (4) Explain mitosis type of cell division.
 - (5) Molecular structure of gene.
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