



**JX-003-1015019**

Seat No. \_\_\_\_\_

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

**October – 2019**

**Zoology : Paper - Z - 503**

*(Biochemistry, Cytology, Instrumentation Biology, Genetics,  
Fundamental Processes)*

**Faculty Code : 003**

**Subject Code : 1015019**

Time : 2½ Hours]

[Total Marks : 70

**Instructions :**

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

- 1** (a) Give answers of following questions : **4**
1. Define : Active site.
  2. Write about the role of Vitamin A.
  3. What is general formula for monosaccharide?
  4. Which mineral takes a part in synthesis of Hemoglobin?
- (b) Write any one out of two : **2**
1. Write about the importance of carbohydrates.
  2. Discuss the biochemical function of vitamin C and vitamin D.
- (c) Write any one out of two : **3**
1. Write a note on importance of minerals.( any three)
  2. Discuss glycogenesis.
- (d) Write any one out of two : **5**
1. Explain factors affecting enzyme activity.
  2. Discuss biochemical reactions of urea cycle.
- 2** (a) Give answers of following questions : **4**
1. \_\_\_\_\_ has suggested that mutation cause genetic disorder in normal cell.
  2. Give the name of cell cycle phase.

3. Microfilament is made up of \_\_\_\_\_ molecule.
4. Define cancer.
- (b) Write any one out of two : 2
1. Explain hormonal disturbance theory of cancer.
  2. Write a brief note on intermediate filament.
- (c) Write any one out of two : 3
1. Give details on characteristic of cancerous cell.
  2. Write a note on Structure and function of microtubules.
- (d) Write any one out of two : 5
1. Explain in detail about cell cycle.
  2. Describe any two types of cancer.
- 3** (a) Give answers of following questions : 4
1. Which stains are used to detect protein in electrophoresis ?
  2. Write the formula for the Rf value.
  3. Give the full name of BAC.
  4. Write function of EcoRI.
- (b) Write any one out of two : 2
1. Restriction Endonuclease.
  2. Write a note on plasmid.
- (c) Write any one out of two : 3
1. Write the basic principle for the rDNA technology.
  2. Explain YAC.
- (d) Write any one out of two : 5
1. Give a detailed account on SDS-PAGE electrophoresis.
  2. Write the procedure of paper chromatography for the identification of amino acid.
- 4** (a) Give answers of following questions : 4
1. \_\_\_\_\_ nitrogen base are absent in DNA.
  2. In the structure of gene the sequence of nucleotide in one chain is GGA TTC TAC TAA give the sequence of nucleotide in other complementary chain of gene.
  3. Define muton.
  4. For pedigree analysis ○ sign is used for \_\_\_\_\_.

- (b) Write any one out of two : **2**
1. Give a brief note on concept of gene.
  2. Deletion as a chromosomal mutation.
- (c) Write any one out of two : **3**
1. Explain color blindness as an X- link inheritance.
  2. Explain amniocentesis.
- (d) Write any one out of two : **5**
1. Define mutagens and discuss different types of mutagenic agent.
  2. Discuss molecular structure of gene.
- 5** (a) Give answers of following questions : **4**
1. What is genetic Code?
  2. Give the function of RNA polymerase.
  3. Define lagging Strand.
  4. Give name of DNA polymerase in eukaryotes.
- (b) Write any one out of two : **2**
1. Describe initiation process of transcription.
  2. DNA topoisomerases.
- (c) Write any one out of two : **3**
1. List out the factors involved in translation.
  2. Describe termination process of transcription.
- (d) Write any one out of two : **5**
1. Describe DNA replication.
  2. Discuss initiation and termination process of translation.
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