



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

**HAL-003-2015019**

**B. Sc. (Sem. V) (W.E.F. 2019) Examination**

**June - 2023**

**Zoology**

**Z-503 : Biochem. Cyto. Genetic & Fund. Proce.**

**Faculty Code : 003**

**Subject Code : 2015019**

Time :  $2\frac{1}{2}$  / Total Marks : 70

**Instructions :**

- (1) Illustrate your answers with neat and labelled diagram.
- (2) Figures to right side indicate full marks.

- 1 (a) Give answers of following questions : 4
  - (1) Write a name of bond present in secondary structure of protein.
  - (2) Write any two examples of aldose sugar.
  - (3) Thiamine chemical name is used for \_\_\_\_\_ vitamin.
  - (4) Define glycoprotein.
- (b) Write any one out of two : 2
  - (1) Write a note on importance of vitamin A and vitamin C.
  - (2) Make a note on essential amino acid.
- (c) Write any one out of two : 3
  - (1) Give description of glycogenesis.
  - (2) Write the importance of protein.
- (d) Write any one out of two : 5
  - (1) Discuss Secondary structure of protein.
  - (2) Describe urea cycle in detail.
- 2 (a) Give answers of following questions : 4
  - (1) Define hydrolases enzyme
  - (2) Ligases catalysing \_\_\_\_\_ reaction.
  - (3) What is prosthetic group ?
  - (4) Lock and key theory for enzyme action was proposed by \_\_\_\_\_.

- (b) Write any one out of two : 2
- (1) Write a short note on importance of chloride.
  - (2) Write a short note on importance of iodine.
  - (3) Give description of importance of lipid.
  - (4) Describe pH as an affecting factor of enzyme activity.
- (c) Write any one out of two : 3
- (1) Describe lock and key model of enzyme action.
  - (2) Describe induce fit model of an enzyme action.
  - (3) Write a biological role of calcium.
  - (4) Write the importance of minerals (any three)
  - (5) Discuss classification of lipid.
- (d) Write any one out of two : 5
- (1) What is enzyme ? Describe their classification and nomenclature.
  - (2) Describe beta oxidation.
  - (3) Make a description of affecting factor of enzyme activity.
  - (4) Describe lock and key model of enzyme action.
- 3** (a) Give answers of following questions : 4
- (1) Define Cancer.
  - (2) Write a function of Micro tubules.
  - (3) Define interphase.
  - (4) Class IV intermediate filament found in \_\_\_\_\_ cells.
- (b) Write any one out of two : 2
- (1) Describe only interphase of cell cycle.
  - (2) What is cytokines ?
- (c) Write any one out of two : 3
- (1) Describe characteristics of cancerous cells.
  - (2) Describe mutation theory of carcinogenesis.
- (d) Write any one out of two : 5
- (1) Describe structure and function of microfilament.
  - (2) Describe cell cycle.
- 4** (a) Give answers of following questions : 4
- (1) Define Muton.
  - (2) What is promoter gene ?
  - (3) Write an application of amniocentesis.
  - (4) Write the name of disorder that cause poor blood clotting/bleeding.
- (b) Write any one out of two : 2
- (1) Discuss intron and exons.
  - (2) Explain Y linked inheritance.

- (c) Write any one out of two : 3  
(1) Describe red-green color blindness.  
(2) Describe type of inversion.
- (d) Write any one out of two : 5  
(1) Describe molecular structure of gene.  
(2) Describe different types of mutagens.
- 5** (a) Give answers of following questions : 4  
(1) What is Poly-A tail ?  
(2) Write the function of DNA polymerase alpha.  
(3) Write the code of start codon.  
(4) What is RNA primer ?
- (b) Write any one out of two : 2  
(1) Make a note on activation of amino acid.  
(2) Brief note on elongation of transcription in eukaryotic.
- (c) Write any one out of two : 3  
(1) Describe DNA topoisomerases.  
(2) Describe types of replication.
- (d) Write any one out of two : 5  
(1) Explain the mechanism of DNA replication.  
(2) Explain types of RNA.
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