0302E1350

Candidate's Seat No :_____

MSc Sem.-1 Examination

402

Bio-Informatics

Time : 2-30 Hours] **February-2025** [Max. Marks : 70

Q 1 (A) Explain secondary, super-secondary and tertiary levels of Protein structure. [7]
(B) Write a detailed note on Types of RNA. [7]

OR

Q1 (A) Describe the structure and classification of amino acids. [7]
(B) Discuss A, Z and H forms of DNA and elucidate their significance. [7]

Q2(A) Derived Michaelis–Menten Km equation. [7]
(B) Define inhibitors. Explain reversible inhibitions and its non-competitive inhibition type. [7]

OR

Q2 (A) What is enzyme Substrate complex? Explain Lock & Key Model of Enzyme Action.[7]
(B) Explain. Allosteric enzymes with an example. [7]

Q 3 (A) Give brief account of gastric emptying. [7]
(B) Explain glomerular filtration, Renal Plasma flow and Renal blood flow. [7]

OR

Q3 (A) Briefly describe about neurotransmitters. Add a note on Inhibitory and Excitating Post Synaptic Potential. [7]
(B) Give an account of Gastro-intestinal hormones. [7]

Q 4 (A) What are cytokines? Explain action, function, and role of cytokines in immune system. [7]
(B) Write a note: Innate and Acquired immunity. [7]

OR

Q4 (A) What is B cell? Write down its maturation, activation, differentiation, function and clinical significance. [7]
(B) Which are the different types of vaccines? Write down the properties of each type of vaccine with example. [7]

Q5 Answer the following questions. (Any Seven) [14]

1. Explain absorption properties of DNA.
2. What are Cardiac glycosides? Write basic steroid nucleus structure.
3. Mention Types and importance of Phospholipids.
4. What is chloride shift
5. Write a short note an any two protein digesting hormones
6. What is hyperpolarization ?
7. Define Allosteric site.
8. Difference between co-enzyme and Co-factor.
9. Difference between competitive and Non-competitive inhibitor with examples.
10. What is APC? Write down its role in immunity.
11. What is opsonization and how it helps in immune response?
12. Write down differences between class-I and class-II MHC molecules.