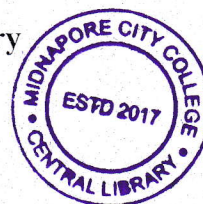


**The West Bengal University of Health Sciences**  
**M.Sc. in Medical Microbiology Part-I November, 2023 Examination**

Subject : Basics of Biochemistry

Time : 3 hrs.



Full Marks : 100

*Attempt all questions*

1. Define Anomerism. Write down the differences between homo and heteropolysaccharide. Write a short note on mutarotation. 2+3+5
2. Define the different levels of protein structure. Write down the differences between fibrous and globular protein. Describe the properties of  $\alpha$ -helix. 2+5+3
3. Define  $K_m$  &  $V_{max}$ . Write a short note allosteric regulation. Write down the diagnostic importance of serum LDH. 2+5+3
4. Discuss the factors promoting calcium absorption. Write down the RDA and functions of calcium. 5+5
5. Discuss the pathway of ketogenesis with hormonal regulation. What is ketoacidosis? 8+2
6. What is nitrogen balance? Discuss the types of nitrogen balance. Discuss in brief about nutritional anaemias. 2+3+5
7. What is the important of serum SGPT & SGOT? Name the clotting factors synthesized in the liver. Write down the clinical importance of A/G ratio in liver function test. Discuss the test which is performed to determine the detoxifying capacity of liver. 4+4+2
8. Which vitamin deficiency leads to Scurvy? Write down the RDA, sources and functions of that vitamin. 1+9
9. What is DNA supercoiling? Describe the cloverleaf model of t-RNA. Write down the functions of different RNAs. 1+5+4
10. What are oxygen derived free radicals? Give two examples of oxygen derived free radicals. Mention the origin of oxygen derived free radicals. Discuss the harmful effects of free radicals on human body. 1+2+3+4