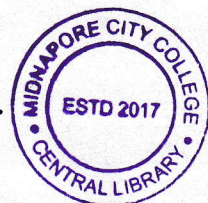


**The West Bengal University of Health Sciences**  
**M.Sc. in Medical Microbiology Part-I February-March, 2023**  
**Examination**



Time : 3 hrs.

Subject : Basics of Biochemistry

Full Marks : 100

*Attempt all questions*

1. Discuss the Glycolysis pathway of carbohydrate metabolism. Why PFK is called rate limiting enzyme of glycolysis? What is gluconeogenesis? 6+2+2
2. What is  $K_m$ ? Discuss the factors affecting enzyme action. Write a short note on Competitive inhibition. 2+5+3
3. Which vitamin deficiency leads to Night blindness? Mention the sources, RDA and functions of that vitamin. 1+9
4. What is nucleotide? Mention three differences between A, B and Z form of DNA. Discuss Chargaff's rule. 1+3+6
5. Mention two differences between saturated and unsaturated fatty acid. Give two examples of both essential fatty acid and non-essential fatty acid. Classify phospholipids. 2+4+4
6. What is BMR? Discuss the factors affecting BMR. Write a short note on SDA. 2+5+3
7. Discuss the  $\beta$ -oxidation pathway of palmitic acid. What is ketosis? Give two examples of ketone bodies. 6+2+2
8. Write a short note on transamination. Discuss the pathway of urea cycle. 4+6
9. Mention two differences between total acidity and free acidity. Discuss the histamine test for gastric acidity. Mention three indications of GFT. 2+5+3
10. What is replicon? Discuss the Meselson-Stahl experiment of DNA replication. Mention the enzymes and proteins of DNA replication. 1+5+4