

**FACULTY OF SCIENCE**

**M. Sc. I – Semester (CBCS) Examination, December 2016**

**Subject : Microbiology**

**Paper – IV : Microbial Biochemistry**

**Time : 3 Hours**

**Max. Marks: 80**

**Note : Answer all questions from Part–A and Part–B. Each question carries 4 marks in Part–A and 12 marks in Part – B.**

**PART – A (8 x 4 = 32 Marks)  
(Short Answer Type)**

- 1 Explain on the preparation of  $PO_4^-$  buffer.
- 2 Write an cytochrome oxidase.
- 3 Write on the structure and chemical properties of glucose.
- 4 Explain the properties of amino sugars.
- 5 Define peptide bond. Add a note on its properties.
- 6 Write on  $K_M$  and  $V_{max}$  principles of derivates.
- 7 LDH is an isoenzyme. Explain.
- 8 What are secondary metabolites ? Explain their significance?

**PART – B (4 x 12 = 48 Marks)  
(Essay Answer Type)**

- 9 (a) What are high energy rich compounds? Explain their features.  
**OR**  
(b) Define respiration. How does glucose convert into energy and gases during this process?
- 10 (a) Write with suitable examples on classification of lipids.  
**OR**  
(b) Discuss the mechanisms involved in degradation of purines.
- 11 (a) Write the structure and properties of Arginine and Histidine.  
**OR**  
(b) Write an essay on purification profile of proteins.
- 12 (a) What is meant by enzyme inhibition? Explain various mechanisms of enzyme inhibitors.  
**OR**  
(b) Discuss on enzyme production and its induction using microbes and substrates.

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