Code No. 9211

FACULTY OF SCIENCE

M. Sc. II – Semester Examination, April / May 2014

Subject : Microbiology

Paper – IV: Enzymology and Biochemical Techniques

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 Classification of enzymes
2 Effect of Temperature on enzyme activity
3 Pyridoxyl phosphate (PLP)
4 Ribonuclease
5 Optical rotation
6 Ion exchange chromatography
7 Counter current distribution
8 Stable isotopes

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

9 (a) Describe various steps involved in the isolation and purification of an enzyme. Add a note on the test to check the purity of enzymes.

OR

(b) What is enzyme inhibition? Discuss any two methods of reversible enzyme inhibitions. How are they kinetically distinguished?

10 (a) Discuss various mechanisms involved in the regulation of enzyme activity. Discuss the allosteric nature of an enzyme with a suitable example.

OR

(b) Discuss the mechanism of action of chymotrypsin.

11 (a) Discuss the principle, construction and applications of a spectrophotometer.

OR

(b) What is affinity chromatography ? How is it useful in purification of enzymes?

12 (a) Discuss the different methods employed to study the metabolism. Add a note on the SDS-PAGE electrophoresis.

OR

(b) What are radioactive isotopes? Discuss any one of the methods used for detection and measurement of radioactivity. Write a note on autoradiography.

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