

FACULTY OF SCIENCE

M.Sc. II-Semester Examination, May / June 2015

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 Enzyme Nomenclature
- 2 Competitive enzyme inhibition
- 3 Role of TPP
- 4 Feedback mechanism
- 5 Optical rotation
- 6 Affinity chromatography
- 7 Counter current distribution
- 8 Stable isotopes

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

- 9 a) Describe the different methods available for determination of enzyme activity.
OR
b) Discuss the various strategies employed in the isolation and purification of an enzyme with a suitable example.
- 10 a) Discuss the mechanism of action of Ribonuclease. Add a note on zymogen activation.
OR
b) What are allosteric enzymes? Discuss the different mechanisms involved in the regulation of enzyme activity with an example.
- 11 a) Discuss the principle, construction and applications of spectrophotometer.
OR
b) Describe the principle and applications of gel filtration chromatography.
- 12 a) Describe the different methods used in the elucidation of intermediary metabolic pathways.
OR
b) Discuss the use of liquid scintillation counter in the detection and measurement of radioactivity. Add a note on autoradiography.

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