

S.No. 65

12PBT08

(For the candidates admitted from 2012–2013 onwards)

M.Sc. DEGREE EXAMINATION, NOVEMBER 2017.

Third Semester

Biotechnology

ENZYMOLGY AND BIOPROCESS TECHNOLOGY

Time : Three hours

Maximum : 75 marks

SECTION A — (5 × 5 = 25 marks)

Answer ALL the questions.

1. (a) Explain Oxidoreductases class of enzymes and their role?

Or

- (b) What is a Active Site? Explain the role of the Active Site in enzyme binding?

2. (a) What are Allosteric enzymes? Explain their role?

Or

- (b) Explain non-competitive inhibition with example.

3. (a) Explain Culture preservation techniques and their advantages.

Or

- (b) Explain the process of Continuous Sterilization and its Advantage and disadvantages.

4. (a) Describe Off-line analysis methods in fermentation industry.

Or

- (b) What is an Impeller? Explain its role in a fermenter.

5. (a) Explain the Principle, types and applications of Centrifuge.

Or

- (b) Explain the process of Electrodialysis and its advantages.

SECTION B — (5 × 10 = 50 marks)

Answer ALL the questions.

6. (a) Describe the classification of enzymes and comment on the generation of EC numbers.

Or

- (b) Explain Induced-Fit Model of Enzyme-Substrate Binding.

7. (a) What is Reversible inhibition? Explain competitive inhibition and noncompetitive inhibition with example?

Or

- (b) Explain the phenomena of Acid —base catalysis with example.

8. (a) What is Media formulation? Explain the sources and role of Nutrient in industrial fermentation?

Or

- (b) Explain the salient features, advantages and disadvantages of enzyme immobilization.

9. (a) Describe the Systematic Approach for Developing Dynamic Models of fermentation systems.

Or

- (b) Describe the ideal features, Design and fabrication of a fermenter.

10. (a) Explain Principle, Types and Advantages of Ion exchange chromatography.

Or

- (b) Explain basic principles and applications of Ultrafiltration.