

**B.TECH. DEGREE EXAMINATIONS: NOV / DEC 2010**

Fifth Semester

**BIOTECHNOLOGY**

U07BT501: Enzyme Engineering and Technology

**Time: Three Hours**

**Maximum Marks: 100**

**Answer ALL Questions:-**

**PART A (10 x 1 = 10 Marks)**

1. A substance which digested dietary protein was extracted from gastric juice called \_\_\_\_\_  
A) Enzyme      B) Trypsin      C) Pepsin      D) Ferments
2. Increase in entropy of the surroundings is \_\_\_\_\_  
A)  $\Delta H/T$       B)  $\Delta H/T H$       C)  $\Delta Ht/t$       D)  $\Delta HT.HT$
3. The Michaelis-Menton assumption was that an equilibrium between \_\_\_\_\_  
A) Substrate      B) Enzyme and Substrate      C) Substrate and enzyme      D) Enzyme
4. The King and Altman procedure requires the reaction is \_\_\_\_\_  
A) Cyclic process      B) Non cyclic process      C) Enzyme process      D) Concentration
5. The immobilized enzymes systems are \_\_\_\_\_ under the conditions in which they are to be used.  
A) Stable      B) Unstable      C) Product      D) Immobilize
6. What is meant by RIA?  
A) Radio Immuno assay      B) Radio immunity assay  
C) Radial immune system      D) Autoradiography
7. The total activity of the enzyme will be changed as a result of \_\_\_\_\_  
A) Purification      B) Activity      C) Immobilization      D) Purity
8. What is CE  
A) Chemico electrophoresis      B) Capillary Electrophoresis  
C) Chemically modified electrophoresis      D) Isoelectric focusing.
9. Rennet is used in the manufacture of \_\_\_\_\_  
A) Cellulose      B) protein      C) Cheese      D) lipids
10. The major components of oils and fats are \_\_\_\_\_  
A) Triglycerides      B) Sphingolipids      C) Glucose      D) Amino acids

**PART B (10 x 2 = 20 Marks)**

11. Write short notes on cofactor.

12. Write brief notes on Lock and Key hypothesis.
13. What is bi-bi reactions?
14. How the King and Altman procedures useful in labs?
15. Write brief notes on entrapment and micro –encapsulation.
16. What is Synzymes?
17. What is deforming buffer?
18. How to purify the enzymes by hydrophobic interaction chromatography?
19. Write short notes on Alanine Transaminase.
20. Write notes on Acid phosphatase.

**PART C (5 x 14 = 70 Marks)**

21. a) Give an account on general properties and classification of enzymes.  
(OR)  
b) Explain the mechanism of enzyme catalysis in detail and give examples.
22. a) Explain in detail about the kinetics of effect of pH and temperature on enzyme action.  
(OR)  
b).Write an essay on Michaelis-Menten kinetics and its significance.
23. a) Give an account on immobilized enzymes.  
(OR)  
b) Explain the active site structure and the factors inhibit the enzyme action.
24. a) Write an elaborate essay on extraction and purification of enzymes in industrial level.  
(OR)  
b) Write an essay on characteristics of enzymes.
25. a) Explain the types of Biosensors and its applications.  
(OR)  
b) Write an essay on applications of enzymes in industry.

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