

E 1456

(Pages : 2)

Reg. No.....

Name.....

**B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, MARCH 2015**

**Fourth Semester**

**Core Course 13 – ENZYMOLOGY**

(For B.Sc. Biotechnology)

[2013 Admissions]

Time : Three Hours

Maximum : 80 Marks

**Part A (Short Answer Questions)**

*Answer all questions.*

*1 mark each.*

1. What are isozymes?
2. Define  $K_m$ .
3. What is reversible inhibition?
4. What is an active site?
5. What is a coenzyme?
6. What is the role of Lyases?
7. Name the vitamin responsible for the production of Coenzyme A.
8. List four industrial application of enzymes.
9. What is immobilization?
10. Name the coenzymes involved in oxidation-reduction reaction.

(10 × 1 = 10)

**Part B (Brief Answer Questions)**

*Answer any eight of the following.*

*2 marks each.*

11. State Michaelis-Menten equation.
12. Write notes on precipitation method used in enzymology.
13. Write notes on adsorption chromatographic application in enzyme purification.
14. Write notes on active site of enzymes.
15. Name some reagents used to immobilize enzymes by cross linking.
16. What is enzyme precursor?

**Turn over**

17. Write notes on Transferases.
18. Enumerate the properties of enzymes.
19. How do enzymes work?
20. What is a zymogen? Give two examples.
21. Enumerate the uses of Amylases.
22. What are biosensors?

(8 × 2 = 16)

**Part C (Short Essay Questions)**

*Answer any six of the following.*

*4 marks each.*

23. What is co-operativity? Explain.
24. What is uncompetitive inhibition? Explain.
25. Highlight five features possessed by enzymes that enhance their catalytic action.
26. What are synthetic enzymes? Give examples.
27. Define and explain specificity of enzymes.
28. Differentiate soluble and membrane bound enzymes with examples.
29. Explain activation energy of an enzymatic reaction.
30. With the aid of a diagram, discuss how temperature affects the rate of enzyme catalysed reactions.
31. Discuss the practical significance of  $U_{\max}$  and  $K_m$  in analysing kinetic data.

(6 × 4 = 24)

**Part D (Essay Questions)**

*Answer any two of the following.*

*15 marks each.*

32. Write an essay on application of immunological enzymes.
33. Explain how the Lineweaver-Burk plot can be used to differentiate between Sequential reaction and a Ping-pong reaction.
34. Write an account on classification of enzymes.
35. Write an essay on enzyme nomenclature.

(2 × 15 = 30)