

M. Sc. DEGREE EXAMINATION, NOVEMBER 2007  
BIOTECHNOLOGY  
THIRD SEMESTER

COURSE : CORE  
PAPER : ENZYME TECHNOLOGY  
TIME : 3 HOURS

MAX. MARKS: 100

SECTION – A

Answer all questions:

20 x 1 = 20

1. What is ping-pong bi-bi reaction ?
2. Give the type of inhibition in which the slope is unaltered.
3. What is rectangular hyperbolic graph?
4. What is feed back inhibition? Give one example.
5. What is substrate binding site? Mention its features.
6. What is the use of TPCK in active site determination?
7. What is a proenzyme?
8. What are RNA enzymes?
9. What is micro encapsulation with regard to enzyme immobilization?
10. What is CSTR?
11. Furnish any two immobilized enzyme source used in the brewing industry.
12. What is the key enzyme applied in haemodialysis? How is it useful?
13. How is optimum pH of an enzyme altered during immobilization?
14. What is fluidized bed reactor?
15. What are ideal bioreactors?
16. What is a continuous flow bioreactor?
17. What are immobilized cells? Give any two applications of them.
18. How are biosensors useful in food industry?
19. What are whole cell biosensors?
20. What are unnatural substrates?

**SECTION – B**

**Answer any four questions in about 600 words :**

**4 x 10 = 40**

21. Distinguish between competitive and non-competitive inhibitions.
22. Explain the mechanism of pre-steady – state kinetics.
23. What are enzyme activators? Explain by giving suitable examples.
24. Describe the applications of immobilized enzymes.
25. Explain the techniques involved in the ideal plug-flow tubular reactor.
26. Discuss in detail about the use of enzymes in the field of medical diagnosis.

**SECTION – C**

**Answer any two questions each in about 1500 words:**

**2 x 20 = 40**

27. Give an elaborate account on multi substrate enzyme kinetics.
28. Explain the kinetics of allosteric enzymes.
29. Explain the mechanism of enzyme production using enzyme reactors.
30. What are artificial enzymes? With suitable examples explain how they are used in biotechnology industry.

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