

E 6742

(Pages : 2)

Reg. No.....

Name.....

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, MARCH 2019

Fourth Semester

Core Course 13—ENZYMOLGY

(For B.Sc. Biotechnology)

[2013–2016 Admissions]

Time : Three Hours

Maximum Marks : 80

Part A

Answer all questions.

Each question carries 1 mark.

1. Name the enzyme used in soft drink industry.
2. What is dialafiltration ?
3. What is non-competitive inhibition ?
4. What are Ribozymes ?
5. What is K_{cat} ?
6. What a catalyst does in the reaction ?
7. What is the principal behind enzyme purification using affinity chromatography ?
8. What is the effect of substrate concentration on reaction velocity ?
9. What is Lineweaves-Burke plot ?
10. Name the different techniques for immobiliztion.

(10 × 1 = 10)

Part B

Answer any eight of the following.

Each question carries 2 marks.

11. List three types of reversible enzyme inhibition.
12. Write a brief description on enzyme engineering.
13. State the role of EDTA and detergents in enzyme extraction.
14. Mention three controlled conditions under which enzyme isolation is carried out.
15. What are coenzymes ? Give two examples.
16. Describe competitive enzyme inhibition.
17. Mention four mechanisms of enzyme catalysis.
18. State the shortcomings of Lineweaver-Burke plot in the estimation of kinetic constants.

Turn over

19. Differentiate lock and key model and induced fit model of enzyme substrate binding.
20. Write down the structure of NAD.
21. Why are enzymes characterized ?
22. What happens in the first order reaction ?

(8 × 2 = 16)

Part C

*Answer any six of the following.
Each question carries 4 marks.*

23. What is competitive inhibition ? Explain.
24. What is dialysis ? How is it used in enzyme purification ?
25. Describe four examples of enzymes requiring cofactors for activity.
26. What is the effect of inhibitors on enzyme activity ?
27. What are biosensors ? Give example of common types of biosensors.
28. Explain the types of reversible enzyme inhibition.
29. Describe the structure and biochemical role of ATP, pyridoxal phosphate.
30. Explain how electrophoresis is used in enzyme purification.
31. What is allosteric inhibition ?

(6 × 4 = 24)

Part D

*Answer any two of the following.
Each question carries 15 marks.*

32. Write an essay on factors affecting enzyme activity.
33. Elaborate and discuss various enzyme inhibitions.
34. Write an essay on immobilization techniques.
35. Write an essay on coenzymes.

(2 × 15 = 30)