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QP CODE: 25022401

Reg No :

Name :

M.Sc DEGREE (CSS) SPECIAL REAPPEARANCE EXAMINATION, APRIL 2025

Third Semester

M.Sc BIOCHEMISTRY

CORE - BC010301 - ENZYMOLOGY

2019 ADMISSION ONWARDS

9CE64740

Time: 3 Hours

Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

*Weight **1** each.*

1. How do enzymes speed up the rate of a reaction?
2. Write down the structure of NAD⁺.
3. List the salient features of a zero-order reaction.
4. Illustrate Michaleis Menten Curve.
5. Describe competitive inhibition and cite an example with reaction.
6. Describe the third and fourth major classes of enzymes with example.
7. List the various types of conformational changes in chymotrypsinogen activation.
8. Briefly explain multi enzyme complex - fatty acid synthase and its functions.
9. Write short notes on the role of enzymes in industry.
10. Outline the scope of site-directed mutagenesis in enzyme engineering.

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

*Weight **2** each.*

11. Summarize the features of induced fit and lock and key theories of enzyme catalysis.
12. Distinguish between the turnover number and specific activity of enzyme.
13. Outline the different methods involved in assessing the purity of an enzyme.





14. Describe the factors which affect the oxygen binding with hemoglobin and also discuss the effect of 2,3-BPG in its binding.
15. Compare and contrast the inhibition of enzyme by two mutually exclusive and non-exclusive inhibitors.
16. Explain the covalent modification of glycogen phosphorylase.
17. Explain the term isoenzymes.
18. Role of enzymes in diagnosis.

(6×2=12 weightage)

Part C (Essay Type Questions)

*Answer any **two** questions.*

Weight 5 each.

19. Discuss in detail King Altman procedure to determine reaction velocity.
20. Define dose response curve. Add notes on the features, types and application of Drug Response Curve.
21. Discuss Aspartate Transcarbamoylase and its importance in nucleotide metabolism. Explain the effect of allosteric inhibitor and allosteric activator on ATCase activity.
22. Write an essay on the applications and of lactase in dairy industry and its significance in the treatment of lactose intolerance.

(2×5=10 weightage)

