D.K.M.COLLEGE FOR WOMEN (AUTONOMOUS) VELLORE-1.

ENZYME TECHNOLOGY

SECTION-A 2 Marks

1. Enzymes
2. Active site
3. Salting out
4. Immobilization
5. Electrophoresis
6. Entrapment
7. Feed back inhibition
8. Ping-pong modil
9. Proteases
10. Detergents
11. Catalases
12. Enzyme degradation
13. Turnover number
14. Enzyme electrode
15. Isozymes
16. Inhibition
17. Competitive inhibition
18. Chymotrypsin
19. Decarboxylation
20. Deamination
21. Transition state

22. Km

23. Inhibitors

24. Activation energy

25. Allosteric inhibition

26. Thrombolytic agents

27. Streptokinase

28. Encapsulation

29. Chromatogram

30. Anti-inflammatory agents

31. Biodegradation

32. Free energy

33. Steroisomers

34. Amylase

35. Prosthetic group

36. Apoenzyme

SECTION-B 5 MARKS

1. Explain effect of substrate concentration on enzyme activity.
2. Write concept of activation energy.
3. Explain Lineweaver Burk equation
4. Explain competitive inhibition with example.
5. Explain feedback inhibition with example.
6. What is meant by allosteric inhibition? Explain with example.
7. Derive Haldane equation.
8. Explain effect of temperature on enzyme activity.
9. Give mathematical derivation of Michaelis Menton equation.
10. Give difference between synthase and synthetase.
11. What is meant by noncompetitive inhibition?
12. Explain isoenzymes and give its applications.

13. Define International Unit of Enzyme.How the enzyme activity of any enzyme can be estimated?
14. Discuss the mechanism and action of chymotrypsin
15. What is action of glyceraldehydes phosphate dehydrogenase.
16. What are essential requirement for its action?
17. How the intracellular enzyme can be extracted from the cells?
18. Discuss on importance and methods for isolation and purification of enzymes.
19. Explain the use of enzymes in diagnosis of blood glucose and urea.
20. Write a note on enzyme nanoparticle interaction in bioremediation.
21. Discuss about endo and exo enzyme.
22. Define multienzyme complex. Explain evolutionary relationship between serine protease.
23. What are proteolytic enzymes? Explain their in digestive tract.
24. Explain in detail about the IUBMB classification of enzymes.
25. State the importance of enzymes in medical diagnosis.
26. How enzymes are preliminarily purified from a crude enzyme extract?
27. Give an account of various factors that affect enzyme catalyzed reaction.
28. Explain the kinetics of competitive inhibition. Add a note on its importance.
29. What are the different types of transducer used in biosensors?
30. Write short notes on enzymes in leather industry.
31. Write about the applications of enzymes in Detergent industry.
32. Give an account of different types of immobilized enzyme reactors.
33. State the importance of coenzymes and cofactors in enzyme catalysis.
34. Describe the procedures of enzyme isolation from natural source.
35. Write short notes on enzyme covalent cross linking.
36. Write short notes on applications of enzyme in chemical industry.
37. Distinguish between the lock & key and induced fit models for binding of a substrate to enzyme.
38. Enumerate the kinetics of immobilized enzymes.
39. Enumerate the application of enzymes in analysis.
40. What are enzymes? Justify its role as biocatalysts.
41. Discuss the kinetics for reversible reactions.
42. Discuss about adsorption and entrapment of enzymes.

SECTION-C 10 MARKS

1. Write in detail about the different sources of enzymes.

2. Discuss enzyme applications in medical industry.

3. Briefly explain the nomenclature and classification of enzyme.

4. Explain the different methods of immobilization of enzymes, discussing the advantages and disadvantages.

5. Discuss the effect of temperature on enzyme activity. How the Arhenius activation and deactivation energy can be determined.

6. Discuss the behaviour of Line-Weaver Burk plot for substrate inhibitory enzymatic reaction.

7. Explain the diagnostic importance of SGOT, SGPT and ALP in hepatic diseases?

8. Explain the specificity, salient features and mechanism of action of active sites.

9. Derive Michaelis-Menten equation. Explain the effect of substrate, temperature, pH and product concentration on the regulation of enzyme activity.

10. Write the merits and demerits of enzyme immobilization techniques.

11. Discuss the methods employed for isolating enzymes soluble in cytoplasm and subcellular organelles from animal, plant and microbial sources.

12. Discuss about enzyme nanoparticle interaction and applications of enzymes in medical diagnostics.

13. Discuss and explain in detail about the present and future prospects of Biosensor technology.

14. Discuss about the role of enzymes and its applications in chemical, Food, Dairy and Pharmaceutical applications.

15. Write in detail about enzyme-nanoparticle interactions and applications of enzymes in biodegradation and bioremediation.

16. Explain the isolation and purification of commercially industrial enzymes.

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