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SEAT No. _____

SARDAR PATEL UNIVERSITY

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T.Y.B.Sc. 5TH SEMESTER EXAMINATION OCTOBER 2025

BIOCHEMISTRY: USO5CBCH22 TITLE: ENZYMOLOGY

Date: 06/10/2025 Monday Time: 10:00 PM TO 1:00PM TOTAL MARKS: 70

Q.1 Select proper option from following MCQ. [10]

- 1) Non-Protein part of enzyme is _____.
a) Apoenzyme b) co-enzyme c) holoenzyme d) Isoenzyme
- 2) Beyond the optimum temperature enzyme reaction rate:
a) decrease b) increase c) Reaches maximum and steady d) no change
- 3) Class of enzyme involve in synthetic reaction are _____.
a) Oxidoreductase b) Ligase c) Isomerase d) Hydroxylase
- 4) _____ of the following property is shown by Isoenzyme?
a) Amino acid composition b) electrophoretic mobility c) kinetic properties d) All of these
- 5) Which of the following is Multienzyme complex?
a) Sucrase b) NAD⁺ c) hexokinase d) pyruvate dehydrogenase
- 6) _____ of the following is not forms alkaline phosphatase?
a) bone b) placenta c) intestine d) Muscle
- 7) D-amino oxidase acts only on D-amino acid is the example of _____ specificity
a) Stereochemical b) dual c) Linkage d) group
- 8) _____ is the substrate concentration at which half maximum velocity.
a) 2V_{max} b) K_m c) V_{max} d) V
- 9) _____ is the number of substrate molecule transform per unit time by single enzyme molecule.
a) Turnover number b) specific activity c) Katal d) IU
- 10) high K_m value indicates _____ affinity.
a) Low b) High c) none of these d) no effect

Q2. Answer in short. (Anyten)

[20]

1. Define co-enzyme.
2. Define unit of Enzyme.
3. Example of Co-enzyme and cofactor.
4. Define Isoenzyme.
5. What is endopeptidase?
6. What is alloenzyme?
7. Write significance of K_m value.
8. Define K_m
9. Write types of inhibitors.
10. Give example of competitive inhibitors.
11. What are ribozymes?
12. What is feedback inhibition.



[P. T. O.]

[1]

Q-3 Explain the following:

(A) Explain classification of enzyme in detail.

[6]

(B) Explain: Koshland induced fit theory.

[4]

OR

(A) Explain vitamin B complex as co-enzymes in detail.

(B) Explain different types of specificity in detail.

Q-4 Write a short note on following:

[10]

(A) Write short note on pyruvate dehydrogenase.

(B) Write short note on Endopeptidase.

OR

(A) What is multi enzyme complex? Explain fatty acid synthase.

(B) Write short note on lactate Dehydrogenase.

Q-5 Discuss the following:

[10]

(A) Explain factors affecting rates of enzyme catalysed of reaction.

(B) Explain M.M equation in detail.

OR

(A) Explain competitive inhibition.

(B) Explain un-competitive inhibition.



Q-6 Write a short note on:

[10]

(A) Write short note on allosteric enzymes.

(B) Write short note on phosphofructokinase.

OR

(A) Explain industrial and biomedical application of enzyme.

[10]

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[2]