

Bachelor of Science (B.Sc.) Semester—IV (C.B.S.) Examination

BIO-CHEMISTRY (Enzymology)

Paper—I

Time : Three Hours]

[Maximum Marks : 50

N.B. :— (1) **ALL** questions are compulsory and carry equal marks.

(2) Draw diagrams wherever necessary.

1. Describe in detail covalent and Acid-base mechanism of enzyme catalysis. 10

OR

Give detailed account of any one regulatory enzyme. 10

2. Describe in detail any two vitamins as coenzyme precursors. 10

OR

Describe in detail the mechanism of action of chymotrypsin. 10

3. Give an account of steady-state assumptions. Derive Michaelis Menton equation. 10

OR

Write notes on :

(a) Lineweaver Burke plots. 5

(b) Bisubstrate reactions. 5

4. Describe in detail enzyme fractionation methods based on electric charge. 10

OR

Write notes on :

(a) Effect of pH on enzyme activity. 5

(b) Spectrophotometric methods of Enzyme assay. 5

5. Answer any **ten** of the following :

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|---|---|
| (i) What is active site ? | 1 |
| (ii) What is a holoenzyme ? | 1 |
| (iii) Isomerases catalyses which type of reaction ? | 1 |
| (iv) Define temperature quotient. | 1 |
| (v) Biofin is used as _____ in carboxylation reactions. | 1 |
| (vi) Name the amino acids present at the active site of Ribonuclease. | 1 |
| (vii) Single reciprocal plot is also known is _____ . | 1 |
| (viii) Write significance of K_m . | 1 |
| (ix) What is enzyme inhibition ? | 1 |
| (x) Name the scientist who crystallized urease. | 1 |
| (xi) What is Katal ? | 1 |
| (xii) What is specific activity ? | 1 |