

BSCenzCC5010
B.Sc. Semester - 5 (CBCS) Examination
Oct/Nov. - 2018
ENZYMOLOGY (CORE)

Seat No: _____

Time: 2:30 Hours**Marks: 70****Instructions:**

1. All questions are compulsory.
 2. Figures to the right indicate marks.
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Que-1 (A) Answer the following. (Any one) (07)

1. Explain hydrolases, ligases and transferases with suitable examples.
2. Write a note on iso enzyme with example in detail.

(B) Attempt any one. (Out of two) (04)

1. Explain colloidal nature of enzyme.
2. Write a note on IUB scheme of enzyme classification.

(C) Attempt any three. (Out of five) (03)

1. Define cofactors.
2. Explain the term: Activation energy.
3. What is Specific Activity of an enzyme?
4. Write any two significance of Multimeric enzyme.
5. Write any one biochemical reaction which is catalyzed by oxido-reductase enzyme.

Que-2 (A) Answer the following. (Any one) (07)

1. Explain general acid base catalysis.
2. Write a note on Covalent catalysis with suitable example.

(B) Attempt any one. (Out of two) (04)

1. Write the significance of proximity and orientation in enzyme catalysis.
2. Write a note on any two co factors with their biochemical significance.

(C) Attempt any three. (Out of five) (03)

1. In which catalytic mechanism enzyme form transient covalent bond with substrate?
2. The enzyme which catalyze involves the transfer of electrons are named _____.
3. Define the term: Proximity.
4. What is the role of an Active site in enzyme function?
5. Write two examples of vitamins which serves the source for co factors.

Que-3 (A) Answer the following. (Any one) (07)

1. Describe various methods based on change in solubility of enzymes for its purification.
2. Explain in detail about the various methods used for enzyme immobilization.

(B) Attempt any one. (Out of two) (04)

1. Write any three differences between differential and density gradient centrifugation used for enzyme purification.
2. Explain: principle and significance of Iso-electric focusing in protein purification.

(C) Attempt any three. (Out of five) (03)

1. How will you prepare homogenate of the mammalian tissue for enzyme extraction?
2. Write two names of dyes help in enzyme purification.
3. Write the full form of SDS.
4. Define acidic protein and basic protein.
5. Define the use of dialysis in protein purification.

Que-4 (A) Answer the following. (Any one) (07)

1. Explain the effect of temperature and pH on the enzyme activity with graphical illustration.
2. Write a note on competitive and non-competitive inhibition.

(B) Attempt any one. (Out of two) (04)

1. Derive Michaelis-Menten equation for single substrate reaction.
2. Briefly explain allosteric enzymes.

(C) Attempt any three. (Out of five) (03)

1. Define K_m .
2. Write the significance of Q_{10} .
3. Write the application of Lineweaver-Burk plot.
4. What will be the effect of uncompetitive inhibition on K_m and V_{max} of an enzyme?
5. Define Ping-Pong reaction.

Que-5 (A) Answer the following. (Any one) (07)

1. Describe in detail about the liver function test.
2. Explain the applications of enzymes in dairy and food industries.

(B) Attempt any one. (Out of two) (04)

1. Write in brief about the enzyme creatine kinase and its significance in diagnosis.
2. Explain the significance of immobilized enzymes in medical diagnosis.

(C) Attempt any three. (Out of five) (03)

1. Define Abzyme.
2. Enlist various body fluids used for diagnosis and mention their locations in our body.
3. Write the full form of ELISA.
4. Write the use of lipase in detergent.
5. Write the use of invertase enzyme in food industry.
