

LMDE/M-24
ENZYME TECHNOLOGY
Paper–BT-205

Time : Three Hours]

[Maximum Marks : 80

Note : Attempt *five* questions in all, selecting *one* question from each unit. Question No. 1 is compulsory. All questions carry equal marks.

Compulsory Question

1. Define/Answer briefly :

- (a) Name one enzyme along with its competitive inhibitor.
- (b) Immobilization.
- (c) Active site.
- (d) Activation energy and its role in enzyme catalyzed reaction.
- (e) Purification fold.
- (f) Significance of determining the turn over number.
- (g) Feed back inhibition.
- (h) What is E.C. number? (2×8=16)

UNIT-I

2. Write short notes on :
- (a) Mode of action of cofactors.
 - (b) What do you understand by trivial and systematic names of enzymes? Illustrate with the help of an example.
 - (c) Mention the contribution of following Scientists in the field of Enzymology.
 - (i) Buchner.
 - (ii) Emil Fischer. (8,4,4)
3. Differentiate between :
- (a) Enzyme activity unit and turn over number.
 - (b) Denaturation and Renaturation.
 - (c) Ligases and Lyases.
 - (d) Isoenzymes and Multienzyme complex. (4×4=16)

UNIT-II

4. (a) Discuss the various factors which contribute towards high catalytic efficiency of enzymic proteins.
- (b) Mention the role of binding energy in enzyme catalysed reactions. (12,4)
5. (a) Discuss the various ways of regulating the enzyme activity in the living system.
- (b) Write short note on :
Enzyme substrate complex. (12,4)

UNIT-III

6. (a) Describe the various factors which affect the velocity of an enzyme catalyzed reaction.
(b) What is the significance of determining the K_m value of a given enzyme? (10,6)
7. (a) Discuss the methods generally used for investigating the kinetics of enzyme catalysed reactions.
(b) Draw only Lineweaver Burk plots in the presence of competitive and non-competitive inhibitors (10, 6)

UNIT-IV

8. (a) Describe briefly the various methods for the immobilization of enzymes. Mention the advantages of immobilized enzymes over free enzymes.
(b) Enlist the applications of enzymes in the field of medicine. (10,6)
9. (a) Discuss briefly the strategies generally adopted for the purification of an enzyme from a microbial source.
(b) Briefly discuss the role of enzymes as Biosensors. (12, 4)
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