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Total No. of Pages : 02

Total No. of Questions : 09

M.Sc.(BT) (2011 & Onwards) (Sem.-2)

ENZYME TECHNOLOGY

Subject Code : MSBT-108

Paper ID : [F0259]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTION-A** is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students has to attempt any **FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students has to attempt any **TWO** questions.

SECTION-A**1. Answer briefly :**

- a) What is primary, secondary, tertiary and quaternary structure of proteins?
- b) What is enzyme assay?
- c) What is K_m and V_{max} ?
- d) What is Lineweaver-Burk plot?
- e) What are enzyme inhibitors?
- f) Nucleophilic vs. electrophilic attack. Explain.
- g) What are catalytic antibodies?
- h) What are membrane bound enzymes?
- i) What is enzyme immobilization?
- j) What are lipoproteins?

SECTION-B

2. Describe the effect of pH and temperature on enzyme activity.
3. What are steady state kinetics of enzymes? Describe the pre-steady state kinetics.
4. Describe the mechanism of action of lysozyme and chymotrypsin.
5. Describe lipoprotein interaction and effect of fluidity on enzyme activity.
6. Describe briefly enzyme nomenclature and classification.

SECTION-C

7. Describe the applications of enzymes in food and pharmaceutical industries.
8. What is enzyme specificity? Describe the evidences for enzyme substrate complex. Also highlight the role of metal ions in enzyme catalysis.
9. Derive Michaelis-Menton and Hanes-Woolf equation for determination of K_m and V_{max} value of enzymes.