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RN-3847

M. Sc. (Sem. VII) (Integrated Biotechnology) Examination

May / June – 2010

IBT 702 : Enzyme Technology

Time : **3** Hours] [Total Marks : **70**

Instruction :

(1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ **M. Sc. (Sem. 7) (Integrated Biotechnology)**

Name of the Subject :

☛ **IBT 702 : Enzyme Technology**

☛Subject Code No. : **3 8 4 7** ☛Section No. (1, 2,.....) : **1&2**

Seat No. :

Student's Signature

(2) Figures to the **right** indicate full marks of the question.

(3) Draw neat and labelled diagrams whenever necessary.

(4) Both sections must be written in **separate** answer books.

SECTION - I

1 Define Enzymes and mention its potential sources. Explain in detail various stages of screening procedure. What should be done if an enzyme with suitable properties has been located? **10**

OR

1 Explain in detail various methods for the determination of molecular weights of enzymes. **10**

2 Define Immobilization. Classify various types of support matrices used for immobilization of enzymes. Explain entrapment method for immobilization in detail. **10**

OR

2 What are biosensors? Draw schematic diagram showing main components of Biosensor. Explain in detail Potentiometric biosensor. **10**

3 Attempt any **three** out of following : **15**

(a) Media for enzyme production

(b) Applications of Immobilized enzymes

(c) Whole cell and microbial tissue based probes

(d) Immuno electrode probes

(e) SDS-Gel electrophoresis-a method to determine molecular weight of enzymes.

SECTION - II

4 Explain in detail the role of enzymes during fruit juice processing. **10**

OR

4 Write a detail note on use of lactases in dairy industry. **10**

5 Write a detail note on Co-enzyme regeneration system. **10**

OR

5 Write a note on use of unnatural substrates as one of the most recent advances in enzyme technology. **10**

6 Answer any **three** : **15**

(a) Microbial Keratinases

(b) Interesterification of lipids

(c) Applications of glucose oxidase and catalse in food industry

(d) Artificial enzymes

(e) Production of Maltose syrup.
