



CBCS SCHEME

18BT53

Fifth Semester B.E. Degree Examination, Dec.2023/Jan.2024 Enzyme Technology and Biotransformation

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Summarize the general protocol and strategies selecting source and homogenization method for enzyme isolation. (10 Marks)
- b. Describe the classification of enzymes based on EC recommendations. (10 Marks)

OR

- 2 a. Discuss acid-base and covalent catalysis with suitable example. (10 Marks)
- b. How will you establish the purity of an isolated enzyme? Explain in detail. (10 Marks)

Module-2

- 3 a. With suitable example, explain fixed incubation method of enzyme assay. Add a note on their advantages and disadvantages. (10 Marks)
- b. Describe rapid-reaction techniques used for study of kinetics of enzyme catalyzed reaction. (10 Marks)

OR

- 4 a. Explain the mechanism of action of Thiamine Pyrophosphate with suitable reaction. (10 Marks)
- b. Write a critical note on the factors which affect activity of enzymes. (10 Marks)

Module-3

- 5 a. Brief about the methods used for enzyme immobilization. (12 Marks)
- b. Give an account of the industrial applications of immobilized enzymes. (08 Marks)

OR

- 6 a. What are thermozymes? Discuss their applications with suitable examples. (10 Marks)
- b. Explain the design and working of PBR and FBR. (10 Marks)

Module-4

- 7 a. Explain briefly directed evolution method used for design of novel enzyme. (10 Marks)
- b. List out different therapeutic enzymes and their uses. (10 Marks)

OR

- 8 a. What is the function of angiotensin converting enzyme? Describe types of ACE inhibitors and their uses. (10 Marks)
- b. Write a brief note on types of artificial enzymes and their applications. (10 Marks)

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Module-5

- 9 a. Discuss the role of proteases in food and wool industries. (10 Marks)
b. With a neat outline, explain the production of glucose syrup from starch. (10 Marks)

OR

- 10 a. Define isoenzymes. Explain the importance of LDH isoenzymes in diagnosis. (10 Marks)
b. Which enzymes are used in the production of glucose from cellulose? Explain the problems associated with production of glucose from cellulose using these enzymes. (10 Marks)
