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18BT53

## Fifth Semester B.E. Degree Examination, Feb./Mar. 2022 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. Quoting an example, explain the 3 stages of Covalent Catalysis. (10 Marks)  
b. Based on charges, explain any 2 strategies for determination of purity of enzymes. (10 Marks)

OR

- 2 a. Differentiate between Enzymes and Chemical Catalysts. (10 Marks)  
b. Compare the isolated enzyme and whole cell system of biotransformation. (10 Marks)

### Module-2

- 3 a. In detail, explain Fixed Incubation method of enzyme measurement. Add a note on direct and indirect mode of product concentration measurement. (10 Marks)  
b. Write a detailed note on parameters that are considered for standardization and optimization of enzyme assays. (10 Marks)

OR

- 4 a. What are Coenzymes? Explain the mechanism and significance of TPP and biotin. (12 Marks)  
b. With reference to kinetics of enzyme catalyzed reaction, explain Initial Velocity studies. (08 Marks)

### Module-3

- 5 a. Outline the technique of enzyme immobilization by entrapment in polymerized gel. (10 Marks)  
b. Write a critical note on effect of solute diffusion on kinetics of immobilized enzyme. (10 Marks)

OR

- 6 a. In detail explain the applications of immobilized enzyme. (10 Marks)  
b. Explain any two chemical reactions used in immobilization of enzymes of covalent binding. (10 Marks)

### Module-4

- 7 a. Describe the method involved in the construction of novel enzyme. (10 Marks)  
b. Explain the biological importance of HMG. Co. A reductase inhibitors. Add a note on its clinical significance. (10 Marks)

OR

- 8 a. Write a critical note on Acetyl cholinesterase. (08 Marks)  
b. Write short notes on :  
i) Angiotensin Converting enzyme. (12 Marks)  
ii) Immuno Reactive Trypsinogen.

### Module-5

- 9 a. What is the importance of enzymes in the diagnosis of cancer? (10 Marks)  
b. Discuss the role of enzymes in detergent preparation. (10 Marks)

OR

- 10 a. Write short notes on : i) SGOT ii) Glucose Oxidase. (10 Marks)  
b. Explain the application of protease in Food and Leather Industry. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.