

# CBCS Scheme

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15BT63

## Sixth Semester B.E. Degree Examination, June/July 2018 Enzyme Technology and Biotransformation

Time: 3 hrs.

Max. Marks: 80

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

### Module-1

- 1 a. Discuss the various procedures for purification of enzymes. (10 Marks)  
b. "Enzymes can serve as catalysts better than chemicals" – Justify the statement. (06 Marks)

OR

- 2 a. Write about the advantages and disadvantages of using whole cell systems as catalysts when compared to isolated enzymes. (08 Marks)  
b. Explain the mechanism of Acid – base catalysis, with an example. (08 Marks)

### Module-2

- 3 a. Give a brief account on : i) ACE inhibitors ii) Immuno reactive trypsinogen. (08 Marks)  
b. Write about the role of Nicotinamide nucleotides as co – enzymes. (08 Marks)

OR

- 4 a. Give a brief account on : i) Glucose – 6 phosphate dehydrogenase ii) Chymotrypsin. (08 Marks)  
b. Write about the role of Flavin nucleotides as co – enzymes. (08 Marks)

### Module-3

- 5 a. Discuss about the Fixed incubation method to measure enzyme activity. (08 Marks)  
b. Brief about the methods used for investigating the kinetics of enzyme – catalyzed reactions. (08 Marks)

OR

- 6 a. Write about the techniques for enzyme immobilization along with their pros and cons. (08 Marks)  
b. Explain the effect of solute partition on the kinetics of immobilized enzymes. (08 Marks)

### Module-4

- 7 a. Define the term : Biotransformation. With any two examples, explain the enzyme – catalyzed biotransformation. (08 Marks)  
b. Discuss about the characteristics and applications of Biocatalysts from Hyper and extreme thermophilic microorganism. (08 Marks)

OR

- 8 a. What are Artificial enzymes? Discuss about their advantages and disadvantages. (08 Marks)  
b. Explain the process of biotransformation of drugs with steroid as an example. (08 Marks)

### Module-5

- 9 a. Write about Myocardial infraction and highlight the pattern of LDH enzyme. (08 Marks)  
b. Discuss about Creatine phosphokinase (CK) isoenzymes. (08 Marks)

OR

- 10 a. Write a short note on : i) Therapeutic enzymes ii) Enzymes and Inborn errors of metabolism. (08 Marks)  
b. Comment on the following and highlight their applications : (08 Marks)  
i) Hydrolysis of cellulose to glucose ii) Glucose Oxidation and Catalase action.

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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.