

1059

B.E. (Biotechnology) Eighth Semester  
BIO-812: Enzyme Catalyzed Organic Synthesis

Time allowed: 3 Hours

Max. Marks: 50

**NOTE:** Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Section.

x-x-x

Q.1. Answer the following briefly:-

(10x1)

- a) Define enzyme activity and specific enzyme activity?
- b) List two advantages and disadvantages of immobilization.
- c) Write down the formula for the calculation of lipase activity.
- d) What are the functions of protease and lipase enzyme?
- e) Name three starch hydrolyzing enzyme.
- f) Define enzyme inhibition and substrate inhibition.
- g) Define extracellular enzyme? Give two examples.
- h) What are side effects of ACE inhibitors?
- i) Define stereoselective biocatalyst?
- j) What the factors affecting on enzyme activity.

SECTION-A

Q. 2. a) "Chirality and Biological Activity"- with examples explain statement.

- b) List taking advantages and disadvantages of biocatalyst over chemical catalyst with suitable example. (5, 5)

Q.3. a) Define the term of enzyme immobilization. Discuss the various support systems for immobilizing enzymes.

- b) Explain effect of substrate concentration on enzyme activity. (7, 3)

Q. 4. a) Discuss the different type of enzyme inhibition.

- b) Write notes on enzymes involved for synthesis of organic solvents.

- c) Briefly write notes on Industrial applications of enzyme. (3, 3, 4)

SECTION-B

Q. 5. a) Write short notes on potassium channel openers.

- b) What type of calcium channel is affected by calcium channel blocker? (5, 5)

Q. 6) Explain any two:

- i) Antiviral compounds.
- ii) Anticancer drug.
- iii) ACE inhibitors

(5, 5)

Q. 7) How are anticholesterol drug synthesized by biocatalysts.

(10)

x-x-x