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- (iv) FMN,
- (v) Lipoic Acid.

#### Unit-IV

- **4.** (A) Write any two use of Amylase Enzyme. **2** 
  - (B) Who first time prepared the Immobilized enzyme and when?
  - (C) Write note on Recombinant DNA-Technology. 4

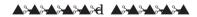
#### Or

Explain the structure and function of Proteins.

(D) Discuss the large scale production of enzymes.Explain the factor influencing production of enzymes.12

#### Or

Explain use of Enzyme in food and drink Industries



Roll No. of Sections: 4

Total No. of Printed Pages: 4

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## **III Semester Examination**

# M.Sc.

# **CHEMISTRY**

# Paper II

[Bio-Organic Chemistry]

Time : Three Hours ] [ Maximum Marks : 80 [Min. Passing Marks : 16

Note: Part A and B of each question in each unit consists of Very Short Answer Type Questions which are to be answered in one or two sentences. Part C (Short Answer Type) of each question will be answered 200-250 words. Part D (Long Answer Type) of each question should be answered within the word limit 400-450.

#### Unit-I

- **1.** (A) Define Transferases Enzymes.
  - (B) Why an enzyme which binds a lipid does not bind a polysaccharide? 2
  - (C) How does substrate concentration affect Enzyme activity?

2

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Or

What is Reversible Inhibitor? Explain the Lineweaver-Burk Plot for a competititive inhibitor.

(D) Write note on stereospecificity and stereoselectivity of enzymes. 12

Or

Write notes on:

- (i) Fischer's lock and key Model,
- (ii) Regulation of Enzyme activity,
- (iii) Koshland's Induced Fit Model.

## Unit-II

- 2. (A) What is covalent catalysis?
  - (B) What is "High-energy phosphate"? Give the example.
  - (C) Write notes on transition state theory for enzyme catalysis.

Or

What is Electrophilic catalysis? Give the mechanism for pyridoxal phosphate.

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(D) Explain Acid-base catalysis for enzyme activity in detail. 12

#### Or

Discuss the enzyme mechanism of carboxypeptidase-A and Lysozyme.

#### Unit-III

**3.** (A) What is Prosthetic group?

2

2

- (B) Draw the structure of Co-enzyme-A.
- (C) What is Biomimetic Chemistry? Explain with proper example.

#### Or

Write note on vitamin  $B_{12}$ .

(D) What are Ionophores? Explain the structure and function in detail.

Or

Write short notes on: (any three)

- (i) TPP,
- (ii) PLP,
- (iii) FAD,