

**Code No. : B03/202**

- (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 ? 2  
(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. ....**

**Total No. of Sections : 4**

**Total No. of Printed Pages : 4**

**Code No. : B03/202**

**III Semester Examination**

**M.Sc.**

**CHEMISTRY**

**Paper II**

[Bio-Organic Chemistry]

Time : Three Hours ]

[ Maximum Marks : 80

[Min. Passing Marks : 16

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*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.*  
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**Unit-I**

1. (A) Define Transferases Enzymes. 2  
(B) Why an enzyme which binds a lipid does not bind a polysaccharide ? 2  
(C) How does substrate concentration affect Enzyme activity ? 4

**Code No. : B03/202**

**Or**

What is Reversible Inhibitor ? Explain the Lineweaver-Burk Plot for a competitive 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 ? **2**  
(B) What is "High-energy phosphate" ? Give the example. **2**  
(C) Write notes on transition state theory for enzyme catalysis. **4**

**Or**

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

**Code No. : B03/202**

- (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**  
(B) Draw the structure of Co-enzyme-A. **2**  
(C) What is Biomimetic Chemistry ? Explain with proper example. **4**

**Or**

Write note on vitamin B<sub>12</sub>.

- (D) What are Ionophores ? Explain the structure and function in detail. **12**

**Or**

Write short notes on : (any three)

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