Roll No.....

Total No. of Section :03
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# Code No. : 03/202(B)

## Third Semester Examination, Dec. 2017

## M.Sc. CHEMESTRY

## Paper - II

## BIO-ORGANIC CHEMESTRY

**Time : 3 Hrs.** **Max.Marks : 80**

**Note :** Section 'A' consists of 10 very short answer type questions, all of which are compulsory and should be attempted first. Section 'B' consists of four short answer type questions with internal options. Section 'C' consists of four long answer type questions with internal choice.

### Section - 'A'

**Answer the following very short-answer-type questions in one or two sentences : (2x10=20)**

Q.1 Define Enzymes.

Q.2 Why Enzymes lose their catalytic activity at temperatures above $70^{o}$ C ?

Q.3 Write an example of the class of digestion enzymes.

Q.4 Which co-enzyme is involved in Hydrogen transfer ?

Q.5 Write the importance of Serum amylase.

Q.6 Which enzyme is used to convert cholin into O-acetyl cholin.

Q.7 Name any two co-enzymes which are derived from vitamin "Niacin".

Q.8 Write the catalytic role of $Zn^{2+}$ ions.

Q.9 The protein used for the preparation of inhibitor model of Ranin enzyme are ..... and ..... .

**P.T.O.**

Q.10 Name the enzymes used in baking and brewing industry.

## Section - 'B'

**Answer the following short-answer-type questions with word limit 200-250 : (5x4=20)**

Q.1 Write the extraction of soluble enzymes from plants and micro organisms.

**OR**

Explain the effect of pH and temperature on enzymes catalyzed reaction.

Q.2 How enzymes having $Zn^{2+}$ lower the energy of transition state?

**OR**

Why lysozyme distorts one of the rings of the bacterial Cell wall from the chair to half chair form?

Q.3 How will you differentiate between crown ethers and Cryptates?

**OR**

Discuss the mechanism of oxidation of alcolo in biological systems with $NAD^+$.

Q.4 Explain the effect of immobilization on the enzyme activity.

**OR**

Discuss the application of enzyms in the baking and brewing industries.



## Section - 'C'

**Answer the following long-answer-type questions with word limit 400-450 : (10x4=40)**

Q.1 Write a note on nomenclature of enzymes and discuss the Fischer's Lock and Key hypothesis.

**OR**

How the velocity of enzymes is affected by the substrate concentration. Explain the kinetics involved.

Q.2 What is the difference between specific and general acid catalyst? Explain by giving suitable examples.

**OR**

Describe nucleophilic displacement on a phoshorus atom with example.

Q.3 Write a note on Cyclodextrin based enzymes models.

**OR**

Which Co-enzymes are involved during the conversion of pyruvate to ethanol. Explain its mechanism.

Q.4 Write a note on the large scale production and purification of enzymes.

**OR**

How the enzymes are useful in Recombinant DNA Technology?

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