

(i) Printed Pages: 3

Roll No. ....

(ii) Questions : 9

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Exam. Code : 

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B.A./B.Sc. (General) 2<sup>nd</sup> Semester  
(2054)

**BIO-CHEMISTRY**

**Paper-B : Enzymes and Bioenergetics**

**Time Allowed : Three Hours] [Maximum Marks : 45**

**Note :—**Attempt **FIVE** questions; at least **ONE** question is compulsory from each Section. Q. No. 1 is compulsory.

1. Give the answer of following questions in very brief :—
- (i) Write names of two cofactors.
  - (ii) What is the activation energy ?
  - (iii) Who has given induced fit hypothesis ?
  - (iv) Write name of two chromatography methods used to isolate enzymes.
  - (v) What is PLP ?
  - (vi) Write two functions of metal ion in enzyme catalysis.
  - (vii) What is the ATP ?
  - (viii) What is  $V_{max}$  ?
  - (ix) Give name of one enzyme inhibitor. 9×1

## SECTION—I

2. (a) What are biocatalysts ? Describe four major properties of enzymes.
- (b) Write the names of six classes of enzymes with one example. 5,4
3. (a) Write a short note on prosthetic group.
- (b) Describe in brief functions of NAD. 4,5

## SECTION—II

4. (a) What do you mean by multi-enzyme complex ? Describe about PDH complex.
- (b) Write the roles of acid bases catalysis in enzymatic reaction. 5,4
5. (a) Write a short note on Iso-enzymes.
- (b) Explain the mechanism of chymotrypsin. 4,5

## SECTION—III

6. (a) What is Michaelis Menten equation ? Draw a plot between initial velocity and substrate concentration.
- (b) Explain the effect of Temperature on enzyme activity. 5,4
7. (a) What is  $K_m$  and its significance ?
- (b) Write about regulatory enzymes in metabolic pathway. 5,4

## SECTION—IV

8. (a) Explain bioenergetics and its application in biological sciences.
- (b) Describe about the ATP and prove that it is high energy compound. 5,4
9. (a) Write a short note on biological oxidation.
- (b) What is the Electron Transport Chain (ETC) ? Write role of coenzyme Q in ETC. 4,5