

PARUL UNIVERSITY
FACULTY OF APPLIED SCIENCE
B.Sc./IMSc Winter 2017-18 Examination

Semester: 3
Subject Code: 11103201
Subject Name: Enzymology

Date: 01/01/2018
Time: 10:30 am to 1:00 pm
Total Marks: 60

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

- Q.1. A) Essay type. (08)**
 (a) Write a note on any two methods of enzyme regulation in cell
- Q.1. B) Answer the following questions (Any two)**
- (a) Short note/ Brief note (2x2) (Each of 02 marks) (04)
1. What is Coenzymes? Example of Coenzyme
 2. Short note on the role of vitamin as coenzymes
- (b) Write a note on induced fit theory (04)
- (b) List out the methods of cell disruption, describe any one out of them. (04)
- Q.2. A) Answer the following questions.**
- (a) Brief note. (Each of 02 marks) (04)
1. Define- Holoenzyme, apoenzyme
 2. Give the two example of cytosomal and nuclear enzymes
- (c) Write about uncompetitive inhibition (04)
- Q.2. B) Answer the following questions (Any two)**
- (a) Multiple choice questions. (Each of 01 marks) (03)
1. Which Enzyme have RNA molecules with catalytic properties?
 (a) Abzymes (b) Ribozyme (c) All catabolic enzymes (d) Enzymes involved in transcription
 2. Low Km value means
 (a) Enzyme has low affinity for substrate (b) Enzyme has high affinity for substrate
 (c) Enzyme has no affinity for substrate (d) Enzyme can act with one substrate at a time
 3. Lysozyme is used to break the cell of
 (a) Bacteria (b) Plant cell (c) Yeast (d) Mammalian cell
- (b) Short note on Lock and Key Method (03)
- (d) Write a short note on active site of enzyme (03)
- Q.3. A) Essay type. (08)**
 (a) Derivation of Michaelis-Menten equation
- Q.3. B) Answer the following questions (Any two)**
- (a) Short note/ Brief note. (Each of 02 marks) (04)
1. List any two method of protein purification based on change in solubility.
 2. Transition state stabilization hypothesis
- (b) What is Isoenzymes? Explain any two example (04)
- (c) Describe Industrial application of enzymes. (04)
- Q.4. A) Answer the following questions.**
- (a) Short note/ Brief note (2x2)/ Fill in the blanks. (Each of 02 marks) (04)
1. Koshland's theory of enzyme is known as _____, Fischer proposed _____ theory of enzyme.
 2. What is the difference between metallo enzymes and metal activated enzymes
- (b) What is immobilization? Describe methods of immobilization. (04)

Q.4. B) Answer the following questions (Any two)

(a) Multiple choice questions. (Each of 01 marks)

(03)

1. The immobilized technique involving chemical method is

(a) covalent bond formation dependent (b) non-covalent bond formation dependent

(c) both (a) and (b)

(d) ionic bond formation dependent

2. K_i Indicates

(a) Reaction velocity (b) Competition inhibition

(c) Denaturation of enzyme (d) all of above

3. Competitive inhibition is

(a) always reversible (b) always irreversible

(c) sometimes reversible (d) none of these

(b) What are the advantages and disadvantages of Immobilization

(03)

(c) Short note on Ping pong mechanism of enzyme catalysis.

(03)