

**Avinashilingam Institute for Home Science and Higher Education for Women  
Coimbatore-641 043**

**Bachelor's Degree Examination – November 2017  
III Semester**

**Class : II UG**

**Time : 3 hrs**

**Major : Biochemistry and Biotechnology**

**Max. Marks : 100**

**15BBTC07 Enzyme and Enzyme Technology**

**Part – A**

**(10x1=10)**

**Choose the Correct Answer**

1. Maximum enzyme activity is observed at  
a. acidic pH      b. neutral pH      c. alkaline pH      d. optimum pH
2. An example of ligases is  
a. Succinate thiokinase      b. Alanine racemase      c. Fumarase  
d. Aldolase
3. Mechanism of enzyme activity is termed as  
a. hydrolysis      b. catalysis      c. proteolysis      d. hydration
4. Any of the following processes except one are involved at the active site of enzyme to accelerate the rate of reaction  
a. Non covalent catalysis      b. Catalysis by bond strain  
c. Catalysis by proximity and orientation      d. Acid base catalysis
5. In enzyme assays, all the following are kept constant except  
a. Substrate concentration      b. Temperature      c. pH  
d. Enzyme concentration
6. An inorganic ion required for the activity of an enzyme is known as  
a. Activator      b. Cofactor      c. Coenzyme      d. None of these
7. Key and lock hypothesis of enzyme action was given by  
a. Fischer      b. Koshland  
c. Buchner      d. Kuhn
8. Feedback inhibition of enzyme action is affected by  
a. Enzyme      b. Substrate  
c. End products      d. None of these
9. Which one of the following reactions used for the purpose of recycling enzymes in bioprocesses?  
a. Isomerization      b. Immobilization  
c. Phosphorylation      d. Polymerization
10. Most industrial enzymes are obtained from  
a. Animal tissues      b. Plants  
c. Insects      d. Microbes

**Part – B**

**5x6=30**

**Answer the following**

**Answer should not exceed 400 words or two pages**

11.a. What are the factors which affect the enzyme activity?

(Or)

11.b. Discuss on i) LB plot ii) ED plot.

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- 12.a. Give note on electrostatic catalysis.  
(Or)
- 12.b. Discuss on proximity Orientation for mechanism of enzyme action.
- 13.a. How to assay the enzymes using colorimetry?  
(Or)
- 13.b. Explain the following  
i) Turn over number  
ii) Enzyme units
- 14.a. What is active site? Give a note of lock and key hypothesis.  
(Or)
- 14.b. Discuss on enzyme specificity.
- 15.a. Describe the application of enzymes in diagnosis.  
(Or)
- 15.b. Discuss on the basic assumptions of protein engineering.

**Part – C**

**5x12=60**

**Answer the following**

**Answer should not exceed 400 words or two pages**

- 16.a. Elaborate on the different types of enzyme inhibition.  
(Or)
- 16.b. Derive Michaelis menton equation.
- 17.a. Elaborate the mechanism of action of Lysozyme.  
(Or)
- 17.b. Explain in detail about the mechanism of action of Chymotrypsin.
- 18.a. Explain the structure and functions of any four coenzymes.  
(Or)
- 18.b. Describe on metal activated enzymes and metalloenzymes.
- 19.a. Explain about the the following in regulation of metabolism by enzyme  
i) Enzyme compartmentalization  
ii) Feedback inhibition  
(Or)
- 19.b. Explain the reversible covalent modification of regulatory enzymes.
- 20.a. Enlist and explain the methods used in immobilized enzyme preparation.  
(Or)
- 20.b. Discuss on the applications of enzymes in medicine and leather industries.

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