

G-3/304/21

Roll No.....

III Semester Examination, April-2021

M.Sc.

BIOCHEMISTRY

Paper IV

(Enzymology)

Time : 3 Hours]

[Maximum Marks : 80

Note : *All questions are compulsory. Question Paper comprises of 3 sections. **Section A** is objective type/Multiple Choice questions with no internal choice. **Section B** is short answer type with internal choice. **Section C** is long answer type with internal choice.*

SECTION 'A'

1×8=8

(Multiple Type Questions)

Choose the correct answer :

1. Who proposed induced Fit model ?

- | | |
|------------------|------------------------|
| (a) James Watson | (b) Daniel E. Koshland |
| (c) Emil Fisher | (d) Daniel Fiesher |

P. T. O.

[4]

2. Write the significance of enzyme turnover.

Or

Describe the mechanism of action of Lysozyme.

3. Explain Regulatory enzymes.

Or

Write the different methods of immobilization of enzymes in brief.

4. Write the role of cellulases in detergents.

Or

Explain the enzymes used in brewing and wine making.

SECTION 'C'

12×4=48

(Long Answer Type Questions)

Note : Answer the following questions in 500 words.

1. Describe the strategies of enzyme purification.

Or

Explain the concept of Michaelis-Menten Kinetics.

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6. The most commonly employed cross linked polymer is the :

- (a) Poly acrylamide gel
- (b) Collagen
- (c) Celluloses
- (d) Cation exchange resin

7. The reduction in off-flavour of Beer is practiced through :

- (a) Hesperidinase
- (b) Rnase
- (c) Invertase
- (d) Diacetyl reductase

8. Liquefaction of starch to dextrin is carried out by :

- (a) α -amylase
- (b) Cellulase
- (c) Pectinase
- (d) All of these

SECTION 'B'

4×6=24

(Short Answer Type Questions)

Note : Answer the following questions in 250 words.

1. Write the effects of pH, substrate and temperature on enzyme catalyzed reactions.

Or

Write the significance of K_m and V_{max} values.

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P. T. O.

[2]

2. Which of the following statement is not true ?
- (a) Changes in quaternary structure reduces the catalytic activity
 - (b) Substrate binds on the allosteric site
 - (c) Specificity allows the enzymes to coexist in the same cell without any interference
 - (d) Lock and key model is also known as rigid template model
3. Enzyme exist in the cell as :
- (a) Solid (b) Colloid
 - (c) Crystals (d) None of these
4. Name the enzyme which catalyzes the Oxidation-Reduction reaction ?
- (a) Transaminase (b) Glutamine synthetase
 - (c) Phospho fructokinase
 - (d) Oxidoreductase
5. Which of the following is commonly employed adsorbents ?
- (a) Calcium carbonate (b) Alumina
 - (c) Celluloses (d) All of these

[5]

2. Describe the pyruvate dehydrogenase complex and its reactions.

Or

Write the mechanism of enzyme catalyzed reaction of chymotrypsin and carboxypeptidase.

3. Describe the general mechanism of enzyme regulation.

Or

Explain the Industrial applications of immobilized enzymes.

4. Write the roles of enzymes in Leather Industry.

Or

Write the Industrial importance of enzymes with reference to Textile Industry.

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