

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2023
(Second Semester)

Branch – BIOCHEMISTRY

ENZYMOLGY

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(5 x 1 = 5)

1. What is an apoenzyme?
 - (i) It is a protein portion of an enzyme
 - (ii) It is a non-protein group
 - (iii) It is a complete, biologically active conjugated enzyme.
 - (iv) It is a prosthetic group
2. Multiple forms of the same enzyme is referred to as _____.
 - (i) Allosteric enzyme
 - (ii) biosensor
 - (iii) isoenzyme
 - (iv) effectors
3. Substances which reduce the rate of enzyme catalyzed reactions are known as
 - (i) Substrate
 - (ii) enzyme
 - (iii) Product
 - (iv) inhibitor
4. Which enzyme is used in dishwashing and destarching.
 - (i) Maltase
 - (ii) α -amylase
 - (iii) Peptidase
 - (iv) Alcalase
5. The restriction of enzyme mobility in a fixed space is known as _____.
 - (i) enzyme immobilization
 - (ii) enzyme inhibition
 - (iii) enzyme kinetics
 - (iv) biosensor

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks

(5 x 3 = 15)

- 6 a. Explain the derivation of Michaleis menten equation.

OR

b. Discuss the subcellular localization of enzymes.
- 7 a. Describe the stereochemistry of an active site.

OR

b. Outline the multienzyme complex with special reference to the pyruvate dehydrogenase.
- 8 a. Interpret the covalent & acid base catalysis of enzyme.

OR

b. Illustrate the line weaver Burk plot in the presence of enzyme inhibitors.

Cont...

- 9 a. Elaborate the enzymes as antioxidant.
OR
b. List the factors that regulate enzyme level in blood.
- 10 a. Discuss about immuno based biosensors.
OR
b. Discuss the role of enzymes in biotechnology.

SECTION -C (30 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 x 6 = 30)

- 11 a. Elaborate the structure and functions of NAD and NADP.
OR
b. Describe the nomenclature and classification of enzymes.
- 12 a. Explain the isoenzymes with special reference the lactate dehydrogenase.
OR
b. Discuss the covalent enzyme modification of glycogen phosphorylase.
- 13 a. Interpret the mechanism of action of chymotrypsin.
OR
b. Illustrate the competitive and non-competitive inhibitors of enzymes.
- 14 a. Explain the diagnostic importance of aminotransferase and alkaline phosphatases.
OR
b. Summarize the applications of enzymes in food and textile industries.
- 15 a. Elaborate the methods of immobilization and its applications.
OR
b. Describe the role of enzymes in biodegradation of waste and plastics.

Z-Z-Z

END