22BCP103/18BCP03

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2022
(First Semester)

Branch – **BIOCHEMISTRY**

ENZYMES & ENZYME TECHNOLOGY

Maximum: 50 Marks Time: Three Hours

SECTION-A (5 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** marks (5 x 1 = 5)

1 Identify the class of enzyme catalyse the linking together of two compounds.
(i) Lyases (ii) Ligases
(iii) Hydrolases (iv) Transferases

2 Name the multi enzyme that catalyzes the synthesis of palmitate.
(i) LDH (ii) CK
(iii) LDH and CK (iv) Fatty acid synthase

3 Where does the inhibitor bind on the enzyme in mixed inhibition?
(i) At active site (ii) Allosteric site
(iii) Does not bind on enzyme (iv) Binds on substrate

4 Find the graphical representation of Allosteric enzyme, when initial velocity is plotted against substrate concentration?
(i) Straight line with negative slope (ii) Hyperbola
(iii) Sigmoid curve (iv) Parabola

5 Which of the following ways can be used for entrapment?
(i) Adsorption (ii) Polymerized gel entrapment
(iii) Membrane entrapment (iv) Covalent binding entrapment

SECTION - B (15 Marks)
Answer **ALL** Questions
ALL Questions Carry **EQUAL** Marks (5 x 3 = 15)

6 a Illustrate the active site structure of the enzyme.
OR
b Elaborate the role of chemicals for the modification of structure of active site.

7 a Sketch the structure and function of Pyridine nucleotides.
OR
b Classify the types and importance of SOD.

8 a Analyse the schematic representation of LB plot.
OR
b Explain the role and significance of Suicide inhibitors.

9 a Determine the Cooperativity and enzyme series of allosteric enzyme.
OR
b State the concepts of Acid base catalysis of enzyme action.

Cont...

10 a Justify why enzymes are called analytical agents.

OR

b State the principle and working of Calorimetric biosensors.

SECTION -C (30 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks (5 x 6 = 30)

11 a Classify the enzymes and add a note on it.

OR

b Criticize on coupled enzyme assay.

12 a Elucidate the structure, function and mode of action of TPP.

OR

b Assess the importance of Non- Vitamin derived coenzyme – Glutathione.

13 a Derive Michaelis- Menton equation.

OR

b Appraise the applications of enzymes in Food industry.

14 a Enumerate the Feed - back regulation of Allosteric enzymes.

OR

b Discuss the mechanism of action of Lysozyme.

15 a Elucidate the physical adsorption and covalent binding of enzyme immobilization.

OR

b Analyze how enzymes are used as immunobiosensors.

Z-Z-Z

END