

**. PSG COLLEGE OF ARTS & SCIENCE**  
(AUTONOMOUS)

**BSc DEGREE EXAMINATION MAY 2019**  
(Second Semester)

Branch - **BIOCHEMISTRY**

**ENZYMOLGY**

Time: Three Hours

Maximum: 75 Marks

**SECTION-A (10 Marks)**

Answer **ALL** questions

**ALL** questions carry **EQUAL** marks (10 x 1 = 10)

- 1 Mention the enzyme that converts an aldose sugar to ketosugar would be classified as  
(i) Transferase (ii) Isomerase  
(iii) Oxidoreductase (iv) Hydrolase
- 2 Find the y intercept in the LB plot  
(i)  $-1/K_m$  (ii)  $1/V_{max}$   
(iii)  $K_m/V_{max}$  (iv)  $V_{max}/K_m$
- 3 Koshland's theory of enzyme action is known as  
(i) Reduced fit theory (ii) Lock and key theory  
(iii) Induced fit theory (iv) Enzyme coenzyme theory
- 4 The enzyme glycogen phosphorylase is regulated by the mechanism of  
(i) Allosteric inhibition (ii) Zymogen inhibition  
(iii) Covalent inhibition (iv) Feedback inhibition
- 5 In acid-base catalysis, the protonated form of some amino acids acts as  
(i) Acid catalysts (ii) Basic catalysts  
(iii) Both (i) and (ii) (iv) None of the above
- 6 Pyruvate dehydrogenase complex is regulated by  
(i) Covalent modification (ii) Allosteric regulation  
(iii) Both (i) and (ii) (iv) Feed back inhibition
- 7 Identify the isoenzyme from the following  
(i) Alkaline phosphatase (ii) Trypsin  
(iii) Malate dehydrogenase (iv) Enolase
- 8 Indicate that LDH assays are useful in diagnosing disease of  
(i) Heart (ii) Liver  
(iii) Heart and liver (iv) Pancreas
- 9 A method of immobilization where the materials are trapped by the membrane  
(i) Physical entrapment (ii) Adsorption  
(iii) Cross linking (iv) Micro encapsulation
- 10 Which immobilized enzyme used in the treatment of whey is  
(i) p-galactosidase (ii) a - amylase  
(iii) P - amylase . (iv) Glucoamylese

**Cont...**

**SECTION - B (35 Marks)**

Answer **ALL** Questions

**ALL** Questions Carry **EQUAL** Marks ( 5 x 7 = 35)

- 11 a Classify the six classes of enzymes. Give one example from each classes.  
OR  
b Derive M.M. equation and explain its importance.
- 12 a Describe lock & key and induced fit hypothesis.  
OR  
b Sketch the structure and function of any two co-enzymes.
- 13 a Describe the mechanism of action of chymotrypsin.  
OR  
b Explain briefly about the covalent catalysis.
- 14 a Summarise the diagnostic importance of enzymes.  
OR  
b Outline the method that adopted in the intracellular localization of enzymes.
- 15 a What is Ribozymes? Explain its nomenclature and action.  
OR  
b Bring out role of enzymes as biosensors.

**SECTION - C (30 Marks)**

Answer any **THREE** Questions

**ALL** Questions Carry **EQUAL** Marks ( 3 x 10 = 30)

- 16 Discuss the construction of LB plot and Eadie-Hofstee plot. Give the significance of these two.
- 17 Summarise the different types of reversible inhibitions.
- 18 Highlight the mechanism of pyruvate dehydrogenase complex.
- 19 Discuss the importance of isoenzymes.
- 20 Elaborate the methods employed in the immobilization of enzymes.

Z-Z-Z

END