PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2019
(First/Second Semester)

Branch - **BIOTECHNOLOGY**

ENZYMOLOGY

Time: Three Hours Maximum: 75 Marks

SECTION-A (10 Marks)
Answer **ALL** questions
. ALL questions carry **EQUAL** marks (10 x 1 = 10)

1 Non-protein part of an enzyme is called
(i) co-enzyme (ii) co-factor
(iii) substrate (iv) activator

2 An enzyme which is devoid of its either prosthetic group or co-enzyme is designates as
(i) holoenzyme (ii) apoenzyme
(iii) substrate (iv) coenzyme

3 Biological catalyst to convert Hydrogen Peroxide (H_20_2) into Water (H_20) and Oxygen (0_2) is
(i) amylase (ii) hydrolase
(iii) catalase (iv) protease

4 Some of the enzymes, which are associated in converting fats into carbohydrates, are present in
(i) microsomes (ii) glyoxysomes
(iii) liposomes (iv) golgi bodies

5 The catalytic efficiency of two different enzymes can be compared by the
(i) formation of the product (ii) pH of optimum value
(iii) Km value (iv) molecular size of the enzyme

6 • The Michaelis-Menton equation relates the rate of enzyme - catalysed reaction to which of the following?
(i) Substrate concentration (ii) Product concentration
(iii) Activation energy (iv) Inhibitor concentration

7 Regulators of enzymatic reactions are classified as
(i) inhibitors (ii) converters
(iii) activators (iv) both (i) and (iii)

8 The enzyme involved in feedback inhibition are called
(i) Allosteric enzymes (ii) Holoenzymes
(iii) Apoenzymes (iv) Coenzymes

9 Trypsin is active in
(i) Acidic (ii) Alkaline
(iii) Neutral (iv) None of these

10 The enzymes which produces the peptide bond is known as
(i) carbonic unhydrase (ii) peptidase
(iii) carbohydrase (iv) peptidyl transferase

SECTION - B (25 Marks!

Answer **ALL** questions
ALL questions carry **EQUAL** Marks (5 x 5 = 25)

11 a Bring out the properties and functions of metalloenzymes,

OR

b Describe the structure and function of coenzyme NAD.

12 a Appraise the enzyme substrate complex formation with reference to free energy.

OR

b Explain the molecular mechanism of covalent catalyst in detail.

13 a Summarize the significances of Arrhenius equation.

OR

b Bring out the factors affects the enzyme activity.

14 a Compare the competitive and non competitive inhibition,

OR

b Write notes on cooperativity and its types.

15 a Name any five enzymes and their applications in industries.

OR

b Write short notes on artificial enzymes.

SECTION -C (40 Marks)

Answer **ALL** questions
ALL questions carry **EQUAL** Marks (5 x 8 = 40)

16 a Discuss in detail about the classification of enzymes in detail as per the enzyme commission system.

OR

b Exemplify the structure of active site and add notes for lock and key hypothesis.

17 a Explain transition stat theory and role of energy in catalysis.

OR

b Narrate on the role and mechanism of serine protease and chymotrypsin.

18 a Derive Michaelis-Menton equation. State the importance of MM equation.

OR

b Briefly describe on the methods of investigating the kinetics of enzyme catalysed reactions.

19 a Discuss the structural and functional properties of multi enzyme complexes.

OR

b Explain on allosteric enzymes.

20 a Elucidate in brief about the different techniques of enzyme immobilization.

OR

b Elaborate on the enzymes used in clinical diagnosis.

Z-Z-Z END