

PSG COLLEGE OF ARTS & SCIENCE (AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2025
(First Semester)

Branch – BIOTECHNOLOGY

ENZYMOLOGY

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry **EQUAL** marks

$$(10 \times 1 = 10)$$

Cont...

	9	The enzyme used to make cheese by coagulating milk is: a) Trypsin b) Lipase c) Rennet d) Lysozyme	K1	CO5
	10	Which enzyme's increased concentration in serum can indicate liver diseases? a) Creatine Kinase (CK) b) Amylase c) Aspartate Transaminase (AST) d) Urokinase	K2	CO5

SECTION - B (35 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks $(5 \times 7 = 35)$

Module No.	Question No.	Question	K Level	CO
1	11.a.	Illustrate the lock and key mechanism and induced fit theory to explain the structure of active site. (OR)	K2	CO1
	11.b.	Classify enzyme specificity and explain them in short.		
2	12.a.	Relate the definition of activation energy with reference to enzyme catalysis. (OR)	K2	CO2
	12.b.	Deduce the mechanism of action of serine proteases.		
3	13.a.	Identify the environmental factors which influence the enzyme activity in canned food. (OR)	K3	CO3
	13.b.	Develop a protocol to analyze the optimum temperature of an enzyme through Arrhenius equation.		
4	14.a.	Describe how allosteric enzymes change conformation upon substrate binding. (OR)	K3	CO4
	14.b.	Comment on the types of irreversible enzyme inhibition.		
5	15.a.	Analyze the importance of enzyme in clinical diagnosis with reference to LDH. (OR)	K4	CO5
	15.b.	Compare the use of artificial enzymes and catalytic antibodies.		

SECTION -C (30 Marks)

Answer ANY THREE questions

ALL questions carry EQUAL Marks $(3 \times 10 = 30)$

Module No.	Question No.	Question	K Level	CO
1	16	Outline enzyme nomenclature and classification.	K2	CO1
2	17	Explain about various mechanism of enzyme catalysis.	K2	CO2
3	18	Apply MM equation to determine the enzyme substrate specificity.	K3	CO3
4	19	Compare competitive, non-competitive and un-competitive type of enzyme inhibition.	K4	CO4
5	20	Apply various enzyme immobilization method for industrial applications.	K3	CO5