

CS/2110

5495/NH

Note: Please write legibly, only on one side of sheets, number them and write their total No. In the Column provided for the purpose above.

3<sup>rd</sup> Sem.

Subject: ENZYMOLOGY

Time: 03 hours

Paper No. (with nomenclature): BHB-15

Maximum Marks: 74

Serial .No. Of Questions	<i>(Space for Instructions to the Examinees)</i>	Marks
	The candidate is required to attempt 2 questions each from Section A and B. Candidate has to attempt all questions in Section C.	
	<b>SECTION-A</b>	
1.	Elucidate the strategy for the isolation and purification of an enzyme taking a suitable example. Why do we need to crystallize an enzyme?	(11)
2.	What kind of parameters have been used to classify enzymes. Mention about various classes of enzymes along with their functions citing suitable examples	(11)
3.	What is the significance of the following: a. Chymotrypsin b. Lysozyme c. Feedback control	(4+4+3=11)
4.	a. Describe various parameters associated with catalytic efficiency of an enzyme. b. What do you understand by Enzyme inhibition and various types of inhibitions? How would you determine the $K_i$ values?	(5.5x2=11)
	<b>SECTION-B</b>	
5.	What are Isoenzymes and their physiological importance? Describe the significance of lactate dehydrogenase in this context.	(11)
6.	Discuss the significance of the following citing suitable examples: 1. Hill and Scatchard Plots 2. Enzyme-Enzyme interaction	(5.5x2=11)
7.	A. What strategies would you employ for the protein sequencing? B. How would you analyze the tertiary structure of enzymes?	(5.5x2=11)

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8.	What do you understand by the Immobilized enzymes and their precise applications in health and industry?	(11)
<b>SECTION-C</b>		
9.	What is the significance of the following: 1. Proteases 2. Prothrombin 3. E-S complex 4. Km and Vmax 5. Rate-limiting enzyme 6. Zymogens 7. Ping-Pong Reactions 8. Nucleophilic catalysis 9. Allosteric inhibitor 10. Binding Isotherm 11. Enzyme inhibitors 12. Suicidal inhibition 13. Diagnostic enzymes 14. Turn over number of enzyme 15. Non-competitive Inhibition	(15x2=30)

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