



**NAVVRACHANA
UNIVERSITY**

a UGC recognized University

School: School of Science
Program: M. Sc. in Chemistry
Year: 2nd **Semester:** 3rd
Examination: End Semester Examination
Examination year: December - 2022

Course Code: CH234 **Course Name:** BIO-ORGANIC CHEMISTRY

Date: 12/12/2022

Time: 11:30 am to 1:30 pm

Total Marks: 40

Total Pages: 2

Instructions:

→ Write each answer on a new page.

→ * COs=Course Outcome mapping. # BTL=Bloom's Taxonomy Level mapping

Q. No.	Details	Marks	COs*	BTL#																																	
Q.1	Q.1. Match the following (Write complete option in the answer sheet)	10																																			
	<table border="0"> <thead> <tr> <th>Sr. No.</th> <th>Column A</th> <th>Column B</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>zymogen</td> <td>Lineweaver –Burk modification</td> </tr> <tr> <td>2.</td> <td>calcium alginate</td> <td>lysozyme</td> </tr> <tr> <td>3.</td> <td>rennet</td> <td>inactive form of enzyme</td> </tr> <tr> <td>4.</td> <td>acetyl CoA</td> <td>partially hydrolyzed collagen</td> </tr> <tr> <td>5.</td> <td>carageenan</td> <td>turnover number</td> </tr> <tr> <td>6.</td> <td>enzyme efficiency</td> <td>alcohol dehydrogenase</td> </tr> <tr> <td>7.</td> <td>gelatin</td> <td>enzyme immobilization support</td> </tr> <tr> <td>8.</td> <td>zinc</td> <td>cheese making</td> </tr> <tr> <td>9.</td> <td>catalytic triad</td> <td>fatty acid synthesis</td> </tr> <tr> <td>10.</td> <td>double reciprocal plot</td> <td>sulphated polysaccharide</td> </tr> </tbody> </table>	Sr. No.	Column A	Column B	1.	zymogen	Lineweaver –Burk modification	2.	calcium alginate	lysozyme	3.	rennet	inactive form of enzyme	4.	acetyl CoA	partially hydrolyzed collagen	5.	carageenan	turnover number	6.	enzyme efficiency	alcohol dehydrogenase	7.	gelatin	enzyme immobilization support	8.	zinc	cheese making	9.	catalytic triad	fatty acid synthesis	10.	double reciprocal plot	sulphated polysaccharide		CO1, CO2	BT1, BT2, BT3
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Q.2	Fill in the blanks	5																																			
	<ol style="list-style-type: none"> 1. Deficiency of causes osteomalacia and rickets. 2. Vitamin B₁₂ appears red in colour due to presence of 3. Treatment of methanol poisoning is an example of inhibition. 4. Enzymes that transfer methyl groups are called as 		CO2	BT3, BT4																																	

	5. Vitamin A, D, E and K are soluble vitamins.			
Q.3	Answer the following (a) Give structure of thioctic acid and pyridoxal phosphate. (b) Give full forms of TPP, GABA, NAM, and FMN. (c) Explain why fatty acids have even number of carbon atoms.	6	CO3, CO4	BT2, BT3, BT4, BT5
Q.4	Answer the following (Any three) (a) Write a short note on alcohol dehydrogenase (b) Explain any three techniques of protein purification. (c) Explain three applications of immobilized enzymes. (d) Explain process of conversion of corn starch into fructose powder.	9	CO4	BT1, BT2
Q.5	Answer in detail (Any two) 1. Describe methods of immobilization of enzymes with suitable diagrams. 2. Describe types of enzymes based on their functions. 3. Explain in detail the mechanism of chymotrypsin for breakdown of peptide chains.	10	CO3, CO4	

*****End of Question Paper*****