



**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 - 2021

Course Code: CH234 **Course Name:** BIO-ORGANIC CHEMISTRY
Date: 06/12/2021
Time: 08:30 am to 10:30 am

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>carageenan</td> <td>alcohol dehydrogenase</td> </tr> <tr> <td>2.</td> <td>double reciprocal plot</td> <td>enzyme immobilization support</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>zymogen</td> <td>turnover number</td> </tr> <tr> <td>6.</td> <td>enzyme efficiency</td> <td>sulphated polysaccharide</td> </tr> <tr> <td>7.</td> <td>gelatin</td> <td>lysozyme</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>calcium alginate</td> <td>Lineweaver –Burk modification</td> </tr> </tbody> </table>	Sr. No.	Column A	Column B	1.	carageenan	alcohol dehydrogenase	2.	double reciprocal plot	enzyme immobilization support	3.	rennet	inactive form of enzyme	4.	acetyl CoA	partially hydrolyzed collagen	5.	zymogen	turnover number	6.	enzyme efficiency	sulphated polysaccharide	7.	gelatin	lysozyme	8.	zinc	cheese making	9.	catalytic triad	fatty acid synthesis	10.	calcium alginate	Lineweaver –Burk modification		CO1, CO2	BT1, BT2, BT3
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Q.2	Fill in the blanks	5																																			
	<ol style="list-style-type: none"> Vitamin B₁₂ appears red in colour due to presence of Vitamin A, D, E and K are soluble vitamins. Deficiency of causes osteomalacia and rickets. Unit of Michealis constant K_m is Mechanism of thiamine pyrophosphate involves formation of an intermediate known as 		CO2	BT3, BT4																																	
Q.3	Answer the following	6																																			
	<ol style="list-style-type: none"> Give structure of thioctic acid and pyridoxal phosphate. Give full forms of TPP, GABA, NAM, and FMN. Explain why fatty acids have even number of carbon atoms. 		CO3, CO4	BT2, BT3, BT4, BT5																																	

Q.4	Answer the following (a) Write a short note on alcohol dehydrogenase (b) Differentiate between prosthetic group and coenzyme. (c) Explain three applications of immobilized enzymes.	9	CO4	BT1, BT2
Q.5	Answer in detail 1. Describe methods of immobilization of enzymes with suitable diagrams. 2. Gives reactions of formation of FMN from flavin and then formation of FAD from FMN.	10		

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