

M.Sc. Sem-4 Examination

509

Chemistry (Org.)

April 2022

Time : 2-00 Hours]

[Max. Marks : 50

Instructions : All questions in **Section –I** carry equal marks.
 Attempt any **Three** questions in **Section-I**.
 Questions in **Section-II** is **COMPULSORY**.

Section-i

Q-I	A. Explain how pH is maintained in body fluids?	7
	B. Give classification of Vitamins and discuss their biological functions.	7
Q-II	A. Write a short note on biological role of water.	7
	B. Write a note on chemistry of vision.	7
Q-III	A. Give an account of structure, function and nomenclature of nucleotides ?	7
	B. Classify carbohydrates giving suitable examples with structural formula of each.	7
Q-IV	A. Describe primary and secondary structure of DNA	7
	B. Discuss various steps in structure elucidation of cellulose	7
Q-V	A. What are peptides ? Classify them and discuss method for determination of N-terminal ?	7
	B. Write a note on solid phase peptide synthesis.	7
Q-VI	A. What are enzymes ? Taking a specific example explain induced fit theory of enzyme action.	7
	B. What is the role of electrophoresis in structure elucidation of proteins?	7
Q-VII	A. What are fatty acids ? Discuss their properties.	7
	Discuss structure and function of sphingolipids and glycerol phospholipids ?	7
Q-VIII	A. Give classification of lipids.	7
	B. Explain biosynthesis of fatty acids.	7

Section II

QIX	MCQs (All question carry equal marks)	8
1.	Write Henderson-Hasselbach equation.	
2.	What are anomers?	
3.	Name two essential fatty acids.	
4.	What are reducing and non reducing sugars	

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5.	Give difference between Nucleotides and Nucleosides ?	
6.	What is meant by lipid bilayer ?	
7.	Structure and function of vitamin C.	
8.	What is isoelectric point of amino acids?	

