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2003N1660

Candidate's Seat No :_____

M.Sc. Semester-3 Examination

501

Chemistry (O)

March-2024

Time : 2-30 Hours] **[Max. Marks : 70**

Instructions : All questions carry equal marks.
All questions are Compulsory.
Attempt any seven in Question 5

Q-I A Give proof that cholesterol has four ring structure and one double bond. Also give evidence given for the position of double bond. 7

B What are hormones ? Give details of Auxins 7

OR

A Give Classification of sex hormones with suitable examples. Write synthesis of testosterone 7

B. What is Barbier Wieland degradation? How is it used for the determination of side chain in steroids ? 7

Q-II A What are amino acids? Give structure, stereochemistry and classification ? 7

B What is electrophoresis? How is it applied in the structure determination of proteins? 7

OR

A What is solid phase peptide synthesis ? Give its importance. 7

B. What is meaning of C and N terminal in proteins? Write one method each for C-terminal and N-terminal determination in proteins. 7

Q-III A Write ring structure of glucose and give evidence in its favour. 7

B What are natural and derived polysaccharides? Draw structure and applications of any five polysaccharides. 7

OR

A Give various steps in structure determination of cellulose. 7

B Give proof of 1-4 and 1-6 glycosidic linkage in carbohydrates 7

P.T.O

Q- IV	A	Write a short note on fatty acids and their properties.	7
	B	Explain in detail structure , types and applications of RNA.	7
		OR	
	A	Discuss the chemistry of polymer chain reaction (PCR).	7
	B.	Discuss structure and nomenclature of nucleotides and nucleosides.	7
Q-V		MCQs (Attempt any seven. Each answer carry 2 marks)	14
1		What are omega 3 and omega 6 fatty acids. Give exmples	
2		What causes denaturation of proteins?	
3		What is meant by rancidification of fatty acids ?	
4		Discuss mutarotation.	
5		What is the difference between primary and secondary structure of protein?	
6		What is the difference between androsterone and epiandrosterone.	
7		Give two differences between DNA and RNA.	
8		What is Sanger reagent?	
9		Draw ring structure of galactose which is an epimer of glucose at C- 4..	
10.		What are bile acids? Draw structure.	
11.		Draw structure of maltose and write its IUPAC name.	
12.		Define Blanc 's rule.	

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