C. U. SHAH UNIVERSITY

Summer Examination-2022

Subject Name: Chemical Structure and Macromolecules

Subject Code: 4SC01CSM2 Branch: B.Sc. (Microbiology)

Semester: 1 Date: 26/04/2022 Time: 11:00 To 01:00 Marks: 50

Instructions:

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
- (2) Instructions written on main answer book are strictly to be obeyed.
- (3) Draw neat diagrams and figures (if necessary) at right places.
- (4) Assume suitable data if needed.

Q-1		Attempt the following questions:	(10)			
	a)	Which sugar is present in DNA?	(1)			
	b)	What do you mean by Van der waals force?	(1)			
	c)	What is epimer of glucose?	(1)			
	d)	What do you mean by Carbohydrates?	(1)			
	e)	Give one example of disaccharide.	(1)			
	f)	Give an electronic configuration of F and Mg.	(1)			
	g)	Define: Proteins.	(1)			
	h)	What is the composition of nucleotides?	(1)			
	i)	Draw the structure of purine bases.	(1)			
	j)	Which base is not found in RNA?	(1)			
Attempt any four questions from Q-2 to Q-8						
Q-2		Attempt all questions	(10)			
	a)	Explain nucleotides with examples	(5)			
	b)	Write a note on primary and secondary structure of proteins	(5)			
Q-3		Attempt all questions	(10)			
	a)	Explain structure and function of different types of RNA.	(5)			



	b)	Write a note on the synthesis of polypeptide.	(5)
Q-4		Attempt all questions	(10)
	a)	Write the electronic configuration of Na to Ca elements	(5)
	b)	Explain the general reaction of monosaccharides due to presence of -OH, -CO- and -CHO group. (Any two reactions)	(5)
Q-5		Attempt all questions	(10)
	a)	Discuss any two types of chemical bonds with proper examples.	(5)
	b)	Discuss stereo and optical isomerism in the sugar	(5)
Q-6		Attempt all questions	(10)
	a)	Write the properties of nucleic acids	(5)
	b)	Write biological importance of insulin, glutathione	(5)
Q-7		Attempt all questions	(10)
	a)	An organic substance on analysis was found to contain 10.06% C, 0.84 % H, and 89.10 % Cl, Calculate its empirical formula	(5)
	b)	Explain any two weak chemical forces.	(5)
Q-8		Attempt all questions	(10)
	a)	Explain structure and function of different types of DNA.	(5)
	b)	Explain the shapes of the s, p and d orbitals	(5)

