Enrollment No: _____ Exam Seat No: _____

C.U.SHAH UNIVERSITY

Summer Examination-2019

Subject Name: Chemical Structure & Macromolecules
Subject Code: 4SC01CSM2 Branch: B. Sc. (Microbiology)
Semester: 1 Date: 19/03/2019 Time: 02:30 To 04:30 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) What is polar covalent bond? 01
b) What is meant by glycoside? 01
c) Albumins …….soluble which is ……by heat. 01
d) Define : Electron configuration of atom 01
e) Give one example of dipeptide. 01
f) Draw the shape of planar d-orbital. 01
g) What is different between D and α ? (in sense of isomer) 01
h) Define: Oligosaccharides 01
i) Give one example of purine base which is present in DNA. 01
j) How many types of pyrimidine base are found in nucleic acid? 01

Attempt any four questions from Q-2 to Q-8

Q-2 **Attempt all questions** **(10)**

a) Write a note on weak chemical force. 05
b) What is an ionic bond? Explain it in detail with suitable example. 03
c) Discuss the Hydrogen bonding. 02

Q-3 **Attempt all questions** **(10)**

a) What are Monosaccharides? Describe it in deep with examples. 05
b) Write a note on mutarotation. 05

Q-4 **Attempt all questions** **(10)**

a) Write a note on synthesis of polypeptides with example. 05
b) Write a biological important of insulin, glutathione and vasopressin. 05

Q-5		**Attempt all questions**	**(10)**
	a)	Compare DNA and RNA in detail.	05
	b)	Write physical properties of nucleic acid.	03
	c)	Discuss the Nucleotides.	02
Q-6		**Attempt all questions**	**(10)**
	a)	Explain Carius method in detail.	05
	b)	When analyzed by the combustion method, 0.25g of an organic substance yielded (i) 0.180 g of CO_2 and 0.20 g of water and (ii) 80 mL of N_2 gas at NTP. Find the empirical formula of the substance. [Take Atomic weight of C=12, H=1, O=16 & N=14]	05
Q-7		**Attempt all questions**	**(10)**
	a)	Explain with examples : How to find molecular formula?	06
	b)	Write a note on covalent bond with examples.	04
Q-8		**Attempt all questions**	**(10)**
	a)	What are the differences between stereoisomer and optical isomer.	05
	b)	Write a biological important of mono, di, and polysaccharide.	05