_____ **C.U.SHAH UNIVERSITY Summer Examination-2016**

Subject Name : Chemical Structure & Macromolecules

	Subject (Code : 4SC01CSM1	1	Bra	anch: B.Sc. (Mici	obiology)	
	Semester	r:1 Date:	25/04/2016	Time : 10:	30 To 01:30	Marks : 70	
	 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	9)	Attempt the follow	wing questions:	l and K		(1	
	a) b)	Draw the structure	of pyrimidine b	$\Delta = \Delta =$		(
	(U C)	What is DNA dena	turation?			(
	d)	Draw the cyclic str	uctures of D-glu	cose.		(
	e)	What products will	l be produced by	the acid hydrolys	is of maltose?	(
	f)	Give examples and	l structure of any	one essential uns	aturated fatty acid	l. (
	g)	Give the structural	formula of stear	ic acid and oleic a	icid.	(
	h)	Draw the structure	of plasmalogen.			(
	i)	Define domains an	d motifs in tertia	ry structure of pro	otein.	(
	j)	Give any two exam	ples of polysace	charide.		(
	K)	What are the differ	ent classes of pr	oteins based on th	eir functional proj	perties? (
	I) m)	Calculate the mole	cular weight of a	amme.		(
	m)	What are the force	s that stabilize ou	uaternary structure	e of protein?		
Atte	mpt anv f	four questions from	• O-2 to O-8	uaternary structure	e of protein.	(
0-2	1 0	Attemnt all questi	ions			(1	
× -	a)	What are differ macromolecules? I	rent weak ch Explain with suit	emical forces able examples.	exist between	biological (
	b)	What is atomic orb	oital? Draw and e	explain different ty	ypes of atomic orb	oital. (
Q-3	a) b)	Attempt all questi Explain the rules for Explain different halogen.	ions or assigning elec methods for qu	trons in atomic or antitative element	bital. tal analysis of C,	(1 (H, N and (
0-4		Attempt all questi	ions			(1	

a) Explain general method for the synthesis of peptides. Write reaction sequences (7)

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and procedure involved in the synthesis of Gly-Ala.

b) What are the major and minor bases found in nucleic acid? Draw the structures (7) and explain the tautomeric forms of major bases.

Q-5	,	Attempt all questions What is the Chargaff's rule of DNA composition? Explain the Watson and Crick			
	a)				
	b)	Explain structure and functions of different types of RNA.	(7)		
Q-6		Attempt all questions			
•	a)	Write a note on different stereoisomers of D-glucose.	(7)		
	b)	Discuss the structure and functions of starch, glycogen and cellulose.	(7)		
O-7		Attempt all questions			
L.	a)	Draw and explain different reactions associated with the chemical properties of monosaccharide.	(7)		
	b)	Write a note on structure and functions of phospholipids.	(7)		
O-8		Attempt all questions			
C	a)	Write a note on organization of protein structure. Give an account of the determination of tertiary structure of protein.	(7)		
	b)	Explain the classification of proteins based on their physical and chemical properties with suitable examples.	(7)		



