Enrollment No: _____ Exam Seat No:_____

C.U.SHAH UNIVERSITY

Summer Examination-2017

Subject Name: Organic Chemistry-I

Subject Code: 4SC05CHC2 **Branch: B.Sc.(Chemistry)**

Semester: 5 **Date: 24/03/2017** **Time: 02:30 To 05:30** **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		**Attempt the following questions:**	**(14)**
	a)	Define: specific rotation	**(1)**
	b)	Define: recemisation.	**(1)**
	c)	Give example of enantiomer.	**(1)**
	d)	Draw the structure of boat conformer of cyclohexane.	**(1)**
	e)	Draw the structure of r-lactic acid.	**(1)**
	f)	Define: diastereomer	**(1)**
	g)	Define: optical purity	**(1)**
	h)	Define: free radical	**(1)**
	i)	Define: Van der Waals repulsion	**(1)**
	j)	Draw the structure of s-mandelic acid.	**(1)**
	k)	What is addition reaction?	**(1)**
	l)	Define: isomer number	**(1)**
	m)	Define: torsional strain	**(1)**
	n)	Give example of geometric isomer.	**(1)**

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

Q-2		**Attempt all questions**	**(14)**
	a)	Write a note on ring strain.	**(7)**
	b)	Explain reactions involving bond breaking of chiral molecules.	**(7)**
Q-3		**Attempt all questions**	
	a)	Write a note on reactions involving coupling of alkyl halides with organometallic compounds.	**(7)**
	b)	Explain stability and reactions involving carbocations.	**(7)**
Q-4		**Attempt all questions**	**(14)**
	a)	Explain nucleophilic substitution reaction of substituted cyclohexane.	**(7)**
	b)	Discuss the energy diagram for different conformations of cyclohexane.	**(7)**
Q-5		**Attempt all questions**	**(14)**
	a)	Write a note on conformation of Butane and ethane.	**(7)**

	b)	Write a note on locking group in conformational analysis of organic compound.	**(7)**
Q-6		**Attempt all questions**	**(14)**
	a)	Explain structure of carbocation and carbanions.	**(7)**
	b)	Write a note on industrial sources and laboratory preparation of alkene.	**(7)**
Q-7		**Attempt all questions**	**(14)**
	a)	What is optical activity? Explain instrumental setup of polarimeter with its schematic representation.	**(7)**
	b)	Write a note on sequence rules for nomenclature of specific configuration (R, S) of organic compounds.	**(7)**
Q-8		**Attempt all questions**	**(14)**
	a)	Explain halogenations of alkene with mechanism.	**(7)**
	b)	Explain reactions involving generation of chiral center.	**(7)**