

Enrollment No: _____

Exam Seat No: _____

C. U. SHAH UNIVERSITY

Winter Examination-2022

Subject Name: Organic Chemistry-III**Subject Code: 4SC05OCH1****Branch: B.Sc. (Chemistry)****Semester: 5****Date: 23/11/2022****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: Homolytic Cleavage	01
b)	Write down structures of Triplet Carbene and Triplet Nitrene.	01
c)	What are Carbanions?	01
d)	Define: Ylides	01
e)	Write only reaction of preparation of Enamines.	01
f)	What are Carbohydrates?	01
g)	Write only reaction of Ullmann reaction.	01
h)	Define: Oligosaccharides	01
i)	Draw the Structure of Aluminium tri isopropoxide.	01
j)	Write only reaction of Knorr-Pyrrole reaction.	01
k)	Give two examples of Polysaccharides.	01
l)	Define the term: Mutarotation.	01
m)	Define: Active Methylene Compounds.	01
n)	Draw the structure of Diethyl Malonate.	01

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

Q-2	Attempt all questions	(14)
a)	Discuss the generation of Carbocations.	5
b)	Discuss the preparation of Benzyne.	5
c)	Write down only four reactions for preparation of Free Radicals.	4
Q-3	Attempt all questions	(14)
a)	Discuss Hantzsch Pyridine synthesis with mechanism and its applications.	07
b)	Explain Pinacol-Pinacolone rearrangement with mechanism and its applications.	07



Q-4	Attempt all questions	(14)
	a) Discuss chemical properties of Carbenes in detail.	07
	b) Write down Reactions of Carbanions.	07
Q-5	Attempt all questions	(14)
	a) Explain Meerwien-Pondorf-Varley reaction with mechanism and its applications.	07
	b) Explain Skraup Synthesis with mechanism and its applications.	07
Q-6	Attempt all questions	(14)
	a) Discuss classification and nomenclature of carbohydrates.	07
	b) Discuss Oxidation of Monosaccharides with Nitric acid (conc. HNO_3) and periodic acid (HIO_4).	4
	c) Discuss reduction of Monosaccharides with HI/P.	3
Q-7	Attempt all questions	(14)
	a) Explain Wolform Method for conversion of Aldose to next higher Ketose.	5
	b) Discuss Killiani Step-up reaction.	5
	c) Explain the conversion of Aldose to corresponding Ketose.	4
Q-8	Attempt all questions	(14)
	a) Write down synthesis of Ethyl aceto acetate (EAA) with mechanism.	5
	b) Give the synthesis of Crotonic acid with mechanism.	5
	c) Discuss Hydrolysis of Ethyl aceto acetate (EAA).	4

