Enrollment No: _____ Exam Seat No: _____

C. U. SHAH UNIVERSITY

Summer Examination-2022

Subject Name: Organic Chemistry-III

Subject Code: 4SC05OCH1 **Branch: B.Sc. (Chemistry)**

Semester: 5 **Date: 26/04/2022** **Time: 11:00 To 02:00** **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) What are free radicals? **(1)**
b) Give an example of homolytic cleavage and heterolytic cleavage of bond. **(1)**
c) What are electrophiles? Give one example of it. **(1)**
d) Draw the structure of Pinacolone. **(1)**
e) What is hydrolysis? **(1)**
f) What is general molecular formula of carbohydrates? **(1)**
g) What are carbohydrates? **(1)**
h) How many chiral carbons are present in fructose? **(1)**
i) Write the full form of EAA. **(1)**
j) What are Epimers? **(1)**
k) What do you mean by rearrangements? **(1)**
l) Give only reaction of Skruap synthesis. **(1)**
m) Draw the structure of anyactive methylene compound. **(1)**
n) Define Ylides. **(1)**

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

Q-2 **Attempt all questions** **(14)**

a) What are carbocations? How they are generated? Introduce their structure. **(7)**
b) Give the generation of free radicals and ylides. **(7)**

Q-3 **Attempt all questions** **(14)**

a) Discuss Meerwein-Pondorf Varley reaction with mechanism and its applications. **(7)**
b) Discuss Ullmann reaction with mechanism and its applications. **(7)**

Q-4		**Attempt all questions**	**(14)**
	a)	What are carbanions? Discuss structure and generation of Carbanion.	**(7)**
	b)	Explain stability of free radicals with proper examples.	**(7)**
Q-5		**Attempt all questions**	**(14)**
	a)	Discuss Ruff method for step down reaction.	**(6)**
	b)	Explain Kiliani synthesis.	**(5)**
	c)	Give Osazone formation reaction of glucose.	**(3)**
Q-6		**Attempt all questions**	**(14)**
	a)	What is acid hydrolysis? Explain with example?	**(5)**
	b)	Give the synthesis of Crotonic acid with reaction explanation.	**(5)**
	c)	Write the synthesis of valeric acid from diethyl malonate.	**(4)**
Q-7		**Attempt all questions**	**(14)**
	a)	Discuss generation of benzynes with its fates.	**(7)**
	b)	Discuss Hantzsch-pyridine synthesis with its mechanism and applications.	**(7)**
Q-8		**Attempt all questions**	**(14)**
	a)	Explain in detail Pinacol-Pinacolonerearrangement with suitable examples.	**(7)**
	b)	Discuss classification of carbohydrates with examples.	**(4)**
	c)	Write any two general reactions of monosaccharides.	**(3)**