

# C.U.SHAH UNIVERSITY

## Summer Examination-2022

Subject Name: Organic Chemistry-I

Subject Code: 4SC03OCH1

Branch: B.Sc. (Chemistry)

Semester: 3

Date: 22/04/2022

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.
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<b>Q-1</b>	<b>Attempt the following questions:</b>	<b>(14)</b>
	a) Define: Electrophile	01
	b) Define: carbocation	01
	c) Which hetero atom is present into thiophene other than four carbons?	01
	d) Give the example of aromatic compound.	01
	e) Draw the chemical structure of furan	01
	f) How many carbon and nitrogen elements are present in Pyrrole?	01
	g) Draw the chemical structure of propanone and 1,4-cyclohexanedione	02
	h) How to prepare carboxylic acid from primary alcohol?	02
	i) Discuss about chlorination of Pyrrole with reaction scheme.	02
	j) Write some physical properties of furan.	02

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

<b>Q-2</b>	<b>Attempt all questions</b>	<b>(14)</b>
	a) Explain $sp^3$ hybridization with suitable example.	07
	b) Discuss about stability of carbanions with suitable examples.	07
<b>Q-3</b>	<b>Attempt all questions</b>	<b>(14)</b>
	a) What is an electrophilic substitution reaction? Explain it with suitable example.	07
	b) Discuss about the Friedel-crafts alkylation.	07
<b>Q-4</b>	<b>Attempt all questions</b>	<b>(14)</b>
	a) Write a note on Sulphonation reaction.	07
	b) Explain how to prepare Pyrrole from furans and ammonium mucate?	07
<b>Q-5</b>	<b>Attempt all questions</b>	<b>(14)</b>
	a) Write a note on the Knorr synthesis methods for Pyrrole.	07
	b) Write a note on chemical reactions of furan.	07



- Q-6** **Attempt all questions** **(14)**  
a) Discuss about the synthesis of thiophene derivatives. 07  
b) Explain Hell Volhard Zelinsky reaction with mechanism. 07
- Q-7** **Attempt all questions** **(14)**  
a) Explain how to prepare Aldehydes and ketones with suitable examples? 07  
b) Write chemical reactions of Aldehydes and ketones with  $\text{H}_2\text{O}$  and  $\text{HCN}$ . 07
- Q-8** **Attempt all questions** **(14)**  
a) Discuss about IUPAC nomenclature of Aldehydes and ketones. 07  
b) Explain Aldol condensation with mechanism. 07

