

C.U.SHAH UNIVERSITY

Summer Examination-2016

Subject Name: Organic Chemistry

Subject Code: 5SC02CHC2

Branch: M.Sc.(Chemistry)

Semester: 2

Date: 06/05/2016

Time: 10:30 To 01:30

Marks: 70

Instructions:

- (1) Use of Programmable calculator and 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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SECTION – I

- Q-1 Attempt the Following questions (07)**
- A. Define Wavelength and wavenumber **01**
- B. Define electromagnetic radiations **01**
- C. Draw the structure of Norborane **01**
- D. Draw the possible products **02**
- E. Complete the reaction **02**

- Q-2 Attempt all questions (14)**
- A Discuss the basic laws of photochemistry **5**
- B Write a note on fate of Excitation state molecule **5**
- C What is reaction mechanism? Discuss the classification of reaction mechanism **4**

OR

- Q-2 Attempt all questions (14)**
- A Discuss the rate constant and life times of reaction energy state **5**
- B Write a note on photo degradation of polymer **5**
- C What is sensitized reaction? Explain why trans stilbene is more stable than cis stilbene **4**



Q-3	Attempt all questions	(14)
A	What is photochemical reactions? Discuss the types of photochemical reactions	07
B	What is photolysis of acetone? Discuss the Norrish types cleavage in detail	07
OR		
Q-3	Attempt all Questions	07
A	What is photochemical smog? Explain the development of photochemical smog	
B	What is substitution reaction? Discuss the addition and elimination reaction in detail	07
SECTION – II		
Q-4	Attempt the Following questions	(07)
A.	Define aromaticity	01
B.	Draw the structure of trans stilbene	01
C.	Define ‘in phase’ and ‘out of phase’ geometry	01
D.	Draw the possible products	02
E.	Complete the reaction	02
Q-5	Attempt all questions	(14)
A	Write a note on Frontier orbital theory	05
B	Discuss the Woodward-Hoffmann rule for cyclo addition reaction	05
C	Write a note on Perturbation molecular orbital	04
OR		
Q-5	Attempt all Questions	(14)
A	Write a note on Frontier molecular orbital	05
B	Discuss the photo fries reaction of Anilide	05
C	Discuss the motion with proper examples	04
	1. Suprafacial and Antrafacial	
	2. Conrotatory and Disrotatory	
Q-6	Attempt all questions	(14)
A	Discuss the fries rearrangement and explain the mechanism by inter and intramolecular rearrangement.	07
B	Write a notes on	07
	1. Oxetane Formation	



2. Barton reaction

OR

Q-6

Attempt all Questions

- A** Discuss the Huckel rule and give the application of Huckel rules.
B Write notes on
1. Azulene
 2. Tropolone

