Enrollment No:-_____ Exam Seat No:-_____

C.U.SHAH UNIVERSITY

Summer-2015

Subject Code: 5SC02CHC2 **Subject Name: Organic Chemistry**

Course Name: M.Sc. (Chemistry) Date: 20/5/2015

Semester: II Marks: 70

Time: 10:30 TO 01:30

Instructions:

1) Attempt all Questions in same answer book/Supplementary.
2) Use of Programmable calculator & any other electronic instrument prohibited.
3) Instructions written on main answer book are strictly to be obeyed.
4) Draw neat diagrams & figures (if necessary) at right places.
5) Assume suitable & perfect data if needed.

SECTION-I

Q-1	Answer the following questions .(All Questions are compulsory)	(07)
a)	Define HOMO and LUMO	(02)
b)	Kasha's Rule	(02)
c)	Define Microelectronic components	(01)
d)	Define Angular Momentum	(01)
e)	Define Actinometry	(01)
Q-2	Answer the following.	(14)
a)	What is photochemistry? Explain types of Photochemical reaction in detail.	(05)
b)	Write a note on 1) Factors affecting rate of reaction 2) Jablonski diagram	(05)
c)	What are the reasons for Low and high Quantum Yield?	(04)

OR

Q-2	Answer the following.	(14)
a)	Describe Intermolecular reaction of the olefinic-bond	(05)
b)	Write a note on 1) Gas phase photolysis 2) Fluorescence and Phosphorescence	(05)
c)	What is the difference between photochemical reactions and thermo-chemical reactions	(04)
Q-3	Answer the following.	(14)
a)	Discuss the Intramolecular reaction of the olefinic-bonds with the help of geometrical isomerism.	(07)
b)	What is isomerization? Discuss the photochemical reaction and isomerization of olefins.	(07)

20-5

OR

Q-3 Answer the following. (14)

a) Write a note as photoisomerisation and rearrangement of 1,4 -dinenes (07)

b) What is Chemiluminescence? Discuss “Law of Photochemistry”. (07)

SECTION-II

Q-4 Define following term (All Questions are compulsory) (07)

a) Addition and Substitutions reactions (02)

b) Conrotatory and Disrotatory motions (02)

c) Group transfer reaction (01)

d) Cheletropic reaction (01)

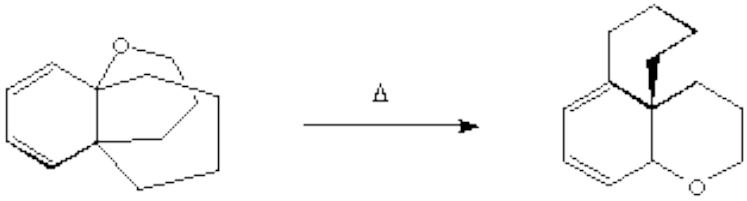
e) Dyotropic reaction (01)

Q-5 Answer the following. (14)

a) Write note on: 1) Oxetane formation 2) Formation of smog (05)

b) What are pericyclic reactions? Write the Bartone reaction with mechanism (05)

c) What are azulenes? Propose a mechanism for the following transformation. (04)



OR

Q-5 Answer the following. (14)

a) Write note on 1) 4n-allyl systems 2) Classification of pericyclic reaction (05)

b) Discuss the Hukel rule and their applications (05)

c) Write the complete reaction of Norrish types II & Photo-Fries reactions of anilides (04)

Q-6 Answer the following. (14)

a) Discuss the Frontier orbital’s of 1,3 – butadiene, 1,3,5– hexatriene (07)

b) Write a note on: 1) FMO and PMO approach 2) Tropolener (07)

OR

Q-6 Answer the following. (14)

a) What is sigmatropic rearrangements and explain the Photo degradation of polymers in detail (07)

b) Describe the complete Woodward– Hoffmann correlation diagrams (07)