

Enrollment No: \_\_\_\_\_ Exam Seat No: \_\_\_\_\_

# C.U.SHAH UNIVERSITY

## Summer Examination-2018

Subject Name: Organic Chemistry-II

Subject Code: 5SC02OCH1

Branch: M.Sc. (Chemistry)

Semester: 2

Date: 25/04/2018

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)**
- What is Anomers?      **(1)**
  - Define: Enantiomers      **(1)**
  - Define: Stereoisomers      **(1)**
  - Draw the structure of Threo-2,3-dichlorobutane.      **(1)**
  - Define R, S configuration of following compound.      **(1)**
  
  - Draw the structure of (E)-2-butene.      **(1)**
  - Define: Homomers      **(1)**
- Q-2**      **Attempt all questions**      **(14)**
- Discuss the stereochemistry of cyclopropanes.      **(7)**
  - Discuss the optical activity without stereocenter.      **(4)**
  - Answer the following:      **(3)**
    - Write a note on Asymmetric synthesis
    - R,S nomenclature of

OR

- Q-2**      **Attempt all questions**      **(14)**
- Explain Sharpless asymmetric epoxidation.      **(7)**



- b. Discuss Fisher Projection methods in stereochemistry. (4)  
c. Answer the following: (3)  
1. Write a note on Prochiral  
2. E,Z nomenclature of

- Q-3 Attempt all questions (14)**  
a. What is isomerism? Write the complete classification of isomerism. (6)  
b. Write brief notes on (8)  
1. Stereoheterotopic ligands  
2. Homomorphous ligand topology

**OR**

- Q-3 Attempt all questions (14)**  
a. Explain the stereochemistry of cyclobutane and cyclopentane. (6)  
b. Write a brief note on (8)  
1. Newman and Sawhorse Projection  
2. Stereoselective and Stereospecific reactions

## **SECTION – II**

- Q-4 Attempt the Following questions (07)**  
a. Define: HOMO and LUMO (1)  
b. Define: Cycloaddition reaction (1)  
c. Define: Photostationary state (1)  
d. Explain Beer Lambert Law of Photochemistry. (1)  
e. Define: Luminescence (1)  
f. What is Stoke's Shift? (1)  
g. Define: Quantum yield (1)

- Q-5 Attempt all questions (14)**  
a. Discuss Joblonski diagram with all required terms in details. (7)  
b. Describe the photochemical reaction of carbonyl compounds. (7)

**OR**

- Q-5 Attempt all questions**  
a. Explain types of photochemical reactions. (7)  
b. Write notes on (7)  
1. Photo-fries reaction of anilide.  
2. Photo isomerization of olefins.

- Q-6 Attempt all questions (14)**  
a. What is pericyclic reaction? Discuss types of pericyclic reactions with examples. (5)  
b. Define electrocyclic reaction and write a note on Cyclisation of [4n] system. (5)  
c. Write notes on (4)  
1. Woodward-Hoffmann rule



2. In phase and out of phase

**OR**

**Q-6**

**Attempt all Questions**

- a. Explain [2+2] cycloaddition reaction. (5)
- b. Discuss the cyclization of 1,3,5-Hexatriene system. (5)
- c. Write notes on (4)
  - 1. Conrotatory and disrotatory motions
  - 2. Sigmatropic rearrangements

