

C.U.SHAH UNIVERSITY

Summer Examination-2019

Subject Name: Organic Chemistry-II

Subject Code: 5SC02OCH1

Branch: M.Sc. (Chemistry)

Semester: 2

Date: 20/04/2019

Time: 02:30 To 05:30

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)**
- Define: Homomers (1)
 - Define: Heterotopic group (1)
 - Define Epimers with example. (1)
 - Draw the structure of Erythro-2,3-dibromobutane. (1)
 - Define: Topicity (1)
 - Draw the structure of (Z)-2-butene. (1)
 - What is pericyclic reaction? Explain it with one example. (1)
- Q-2 Attempt all questions (14)**
- Discuss the stereochemistry of cyclopropanes. (7)
 - Discuss Fisher Projection method in stereochemistry. (4)
 - Write a note on Asymmetric synthesis. (3)
- OR**
- Q-2 Attempt all questions (14)**
- Explain epoxidation reaction with the use of tertiary butyl hydroperoxide reagent. (7)
 - Discuss Newman and Sawhorse projection with butane example. (4)
 - Discuss the prochiral with example. (3)
- Q-3 Attempt all questions (14)**
- What is stereoisomerism? Write down the classification of stereoisomerism. (6)
 - Write note on stereochemistry of cyclobutane and cyclopentane. (4)
 - Discuss stereoselective and stereospecific reactions. (4)
- OR**
- Q-3 Attempt all questions (14)**
- Explain enantiotopic and distereotopic relationship in stereochemistry with examples. (6)
 - Write a brief note on optical activity without stereocenter. (4)
 - Write a following answers (4)
 - Explain Homochiral molecule.



b. Assume E or Z nomenclature for

c. Assume R or S nomenclature for

SECTION – II

- Q-4** **Attempt the Following questions** **(07)**
- a. Write the full forms of HOMO and LUMO. **(1)**
 - b. Define: Cycloaddition reaction **(1)**
 - c. Explain Beer Lambert Law of photochemistry. **(1)**
 - d. Define: Singlet Photosensitisation **(1)**
 - e. Define: Luminescence **(1)**
 - f. What is quenching? **(1)**
 - g. Define: Quantum yield **(1)**
- Q-5** **Attempt all questions** **(14)**
- a. Write a brief note on Joblonski diagram. **(7)**
 - b. Explain Norrish type-I and Norrish type-II reactions. **(7)**
- OR**
- Q-5** **Attempt all questions** **(14)**
- a. Explain the various types of photochemical reactions. **(7)**
 - b. Write a note on **(7)**
 - 1. Photo-fries rearrangement.
 - 2. Photo isomerization of Cis and Trans stilbenes.
- Q-6** **Attempt all questions** **(14)**
- a. Write a brief note on sigmatropic rearrangement with various examples. **(7)**
 - b. Explain cyclisation of [4n] system by electrocyclic reaction. **(7)**
- OR**
- Q-6** **Attempt all Questions** **(14)**
- a. Explain [2+2] cycloaddition reaction. **(5)**
 - b. Discuss the cyclization of 1,3,5-Hexatriene system. **(5)**
 - c. Write note on **(4)**
 - 1. Conrotatory and disrotatory motions
 - 2. In phase and out of phase

