

Enrollment No: _____ Exam Seat No: _____

C.U.SHAH UNIVERSITY
Summer Examination-2018

Subject Name: Stereochemistry in Organic Synthesis

Subject Code: 4SC02SOS1

Branch: B.Sc. (Microbiology)

Semester: 2

Date: 27/04/2018

Time: 10:30 AM To 12:30 PM

Marks: 50

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.

- Q-1 Attempt the following questions: (10)**
- What is Carbene? (01)
 - Write a definition of Nucleophile. (01)
 - Define: Tautomerism (01)
 - Define: Heterolytic bond cleavage (01)
 - Write the stability order of Carbocation. (01)
 - Give the example of enantiomers. (01)
 - Define: Atomic radius (01)
 - Give the example of meso compounds. (01)
 - State the definition of Electrophile. (01)
 - Write the definition of bond angle. (01)

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

- Q-2 Attempt all questions (10)**
- State the difference between E1 and E2 mechanism reactions. (05)
 - Write a note on Friedel Crafts Alkylation of benzene with all mechanism steps. (05)
- Q-3 Attempt all questions (10)**
- Write a note on Free radical intermediate. (05)
 - Explain Unimolecular (E1) and Bimolecular (E2) elimination reaction with suitable examples. (05)
- Q-4 Attempt all questions (10)**
- Write note on S_N1 reaction mechanism. (05)
 - Explain short introduction about Carbanion with discussion of its hybridization, geometry and stability. (05)



- Q-5** **Attempt all questions** **(10)**
- a) What is hybridization? Explain the structure of methane molecule based on hybridization concept. **(05)**
- b) Write a note on tautomerization and inductive effect with proper examples. **(05)**
- Q-6** **Attempt all questions** **(10)**
- a) Explain the basic rules for aromaticity and anti-aromaticity with examples. **(05)**
- b) Write a note on acidic character of carboxylic acid group. **(05)**
- Q-7** **Attempt all questions** **(10)**
- a) Discuss the different steps that are involved in drawing of Fischer projection of organic compounds. **(05)**
- b) Write down a note on optical activity without chiral carbons in structure. **(05)**
- Q-8** **Attempt all questions** **(10)**
- a) Discuss R, S, erythro and threo nomenclature for stereoisomers with proper examples. **(05)**
- b) Write a note on Halogenation of benzene with all mechanism steps. **(05)**

