

C.U.SHAH UNIVERSITY

Wadhwan City

Subject Code : 4LS02CHM1

Summer Examination-2014

Date: 30/05/2014

Subject Name: Stereochemistry in Organic Synthesis

Branch/Semester:- B.Sc(Micro)/II

Time:2:00 To 5:00

Examination: Regular

Instructions:-

- (1) Attempt all Questions of both sections in same answer book / Supplementary
- (2) Use of Programmable calculator & any other electronic instrument is 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**Question No.1 is compulsory.**

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|-----|-----|---|---|
| Q-1 | (a) | Give examples of carbonium ion. | 1 |
| | (b) | What is the unit of first order rate constant? | 1 |
| | (c) | Define the rate of a reaction. | 1 |
| | (d) | Define heterolytic and homolytic bond cleavage. | 2 |
| | (e) | Give one example of nitration reaction. | 1 |
| | (f) | Give one example of aromatic acid compound. | 1 |
| Q-2 | (a) | Write a short note on substitution reactions. | 5 |
| | (b) | Describe Huckel's rule for aromaticity. | 5 |
| | (c) | Write a short note on Hyperconjugation. | 4 |

OR

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|-----|-----|---|---|
| Q-2 | (a) | Describe the effect of substituent on strength of carboxylic acids. | 5 |
| | (b) | Explain the basic properties of aliphatic amines and aromatic amines. | 5 |
| | (c) | Why phenol is acidic in nature? Explain. | 4 |
| Q-3 | (a) | Describe resolution of racemic mixture. | 7 |
| | (b) | Describe the reactive intermediate carbene. | 7 |

OR

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|-----|-----|---|---|
| Q-3 | (a) | Describe the reactive intermediate carbon free radical. | 7 |
| | (b) | Describe various nucleophilic substitution reactions. | 7 |

SECTION-II**Question No.4 is compulsory.**

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|-----|-----|---|---|
| Q-4 | (a) | Write the reaction of sulphonation of benzene. | 1 |
| | (b) | Give one example of meso compound. | 1 |
| | (c) | Write the name of catalyst used in Friedel Crafts reaction. | 1 |
| | (d) | Give one example of elimination reaction. | 1 |
| | (e) | Give one example of tautomerism. | 1 |
| | (f) | Define racemisation. | 1 |
| Q-5 | (a) | What is Saytzeff rule and hofmann rule? | 5 |
| | (b) | What is Walden inversion? | 5 |
| | (c) | Write the properties of meso compounds.. | 4 |



OR

- Q-5 (a) Write the properties of enantiomers and diastereomers. 5
(b) What are stereoselective and stereospecific reactions? Describe. 5
(c) Write in detail about R/S nomenclature. 4

- Q-6 (a) Explain about structure, generation, stability and reaction of carbocations. 7
(b) Write a note on Fischer projection and Newman projection. 7

OR

- Q-6 (a) Describe the optical activity of compounds without asymmetric carbon atom. 7
(b) Explain the structure, generation, stability and reaction of carbanions. 7

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