Enrollment No: _____ Exam Seat No:_____

C.U.SHAH UNIVERSITY

Summer Examination-2018

Subject Name: Organic Chemistry-I

Subject Code: 5SC01OCH1 **Branch: M.Sc. (Chemistry)**

Semester: 1 **Date: 21/03/2018** **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.

SECTION – I

Q-1 **Attempt the Following questions** **(07)**

a. Write about the Homolytic and Heterolytic bond fission with suitable example. **(2)**
b. Define the term electrophile with any one example. **(1)**
c. Define: Ambient Nuclophiles **(1)**
d. Define: Rearrangement **(1)**
e. Write the chemical reaction of Elbs persulfate oxidation. **(1)**
f. Write the only chemical reaction equation of Brich reduction. **(1)**

Q-2 **Answer the following questions** **(14)**

a. Describe the following reactions with mechanism and its application. **(7)**
(i) Bouveault-Blanc reduction
(ii) Apple reaction
b. Write a brief note on Vilesmeier – Haack reaction with mechanism and application. **(7)**

OR

Q-2 **Answer the following questions** **(14)**

a. Describe the following reactions with mechanism and its application. **(7)**
(i) Nazarov cyclization
(ii) Barton reaction
b. Write a note on Knoevenagel condensation with mechanism. **(7)**

Q-3 **Answer the following questions** **(14)**

a. Write a note on Barbier-Wieland degradation with application. **(7)**
b. Write the reaction of α-haloesters to β-hydroxyesters in presence of Zn and Ether with proper mechanism and application. **(7)**

OR

Q-3 **Answer the following questions**

a. Write a brief note on Michael Addition reaction. **(7)**

b. Complete the following reactions with proper mechanism. **(7)**

SECTION – II

Q-4 **Attempt the Following questions** **(07)**

a. Write the chemical reaction of Noyari recation. **(1)**

b. Write the full form of DMP. **(1)**

c. Write the full form of DCC. **(1)**

d. Write the chemical reaction of Prins recation. **(1)**

e. Draw chemical structure of [2,2,2]-Cryptands. **(1)**

f. Write the application of CAN. **(2)**

Q-5 **Answer the following questions** **(14)**

a. Describe the following rearrangements with mechanism and its applications. **(7)**
(i) Baeyer-villiger
(ii) Wagner-Meerwein

b. Write a brief note on Crown ether. **(7)**

OR

Q-5 **Answer the following questions**

a. Describe the following rearrangements with mechanism and its applications. **(7)**
(i) Baker Venkatraman
(ii) Newman-Kwart

b. Explain in brief about Dess-Martin Periodinane reagent. **(7)**

Q-6 **Answer the following questions** **(14)**

a. Write a note on **(7)**
(i) Sodium Cyanoborohydride
(ii) Ceric ammonium nitrate

b. Write a note on Sonogashira coupling. **(7)**

OR

Q-6 **Answer the following questions**

a. Explain Suzuki coupling and Hay coupling reactions. **(7)**

b. Write a note on Wilkinson's catalyst. **(4)**

c. Write in detail about different types of arrow notation. **(3)**