

C.U.SHAH UNIVERSITY

Summer Examination-2017

Subject Name: Organic Chemistry-II

Subject Code: 4SC06CHC2

Branch: B.Sc.(Chemistry)

Semester: 6

Date: 17/04/2017

Time: 02:30 To 05:30

Marks: 70

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.

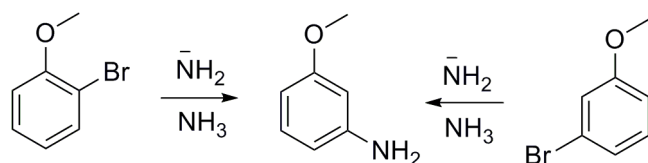
- Q-1 Attempt the following questions: (14)**
- a) Why does para-dihalobenzene have less solubility than ortho isomer? (1)
 - b) Why do aryl and vinyl halides show low reactivity towards nucleophilic substitution reactions? (1)
 - c) What are the hybridization, bond angle and symmetry of carbonyl carbon? (1)
 - d) Write the IUPAC name of valeraldehyde? (1)
 - e) What is Tollens test? (1)
 - f) What is Huckel rule? (1)
 - g) What is Friedel Craft alkylation reaction? (1)
 - h) Give examples of polynuclear aromatic hydrocarbon. (1)
 - i) Define halogenations. (1)
 - j) Product of oxidation of methane? (1)
 - k) Define halogenations. (1)
 - l) Hybridization in methane? (1)
 - m) Write Claisen reaction. (2)

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

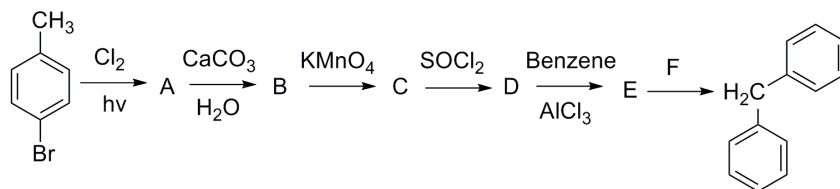
- Q-2 Attempt all questions (14)**
- a) Write a note on bimolecular displacement mechanism for nucleophilic aromatic substitution of aryl halide. (7)
 - b) Give a brief description on chemical reaction of aryl halide. (7)
- Q-3 Attempt all questions**
- a) Discuss the stability of benzene. (7)
 - b) Write a note on polynuclear aromatic hydrocarbon. (7)



Q-4 **Attempt all questions** (14)
a) Justify the following reaction (7)



b) Write the reaction products and conditions A-F (4)



c) Discuss Carius method for quantitative analysis of sulfur. (3)

Q-5 **Attempt all questions** (14)

- a) Explain chemical properties of aldehydes and ketones. (7)
b) Write a note on nucleophilic aromatic substitution reaction for substituted aryl halides. (7)

Q-6 **Attempt all questions** (14)

- a) Discuss the different methods for quantitative analysis of Nitrogen. (7)
b) Write a note on heat of reaction and energy of activation. (7)

Q-7 **Attempt all questions** (14)

- a) Write a note on chlorination of methane and control of chlorination. (7)
b) Explain detail mechanism of chlorination of methane. (7)

Q-8 **Attempt all questions** (14)

- a) Discuss the reaction involving preparation of Aldehyde and Ketones. (7)
b) Discuss the Aldol condensation and Wittig reaction with proper mechanism. (7)

