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Total No. of Printed Pages: [01]

Total No. of Questions: [09]

B.Sc. Hons. Chemistry (Semester – 3rd)

ORGANIC CHEMISTRY-II

Subject Code: BCHMS1-301

Paper ID: [19131616]

Time: 03 Hours

Maximum Marks: 60

Instruction for candidates:

1. Section A is compulsory. It consists of 10 parts of two marks each.
2. Section B consist of 5 questions of 5 marks each. The student has to attempt any 4 questions out of it.
3. Section C consist of 3 questions of 10 marks each. The student has to attempt any 2 questions.

Section – A

(2 marks each)

Q1. Attempt the following:

- a. What are diazonium salts?
- b. Explain Wittig reaction?
- c. Define and Curtius rearrangement?
- d. Differentiate between thioethers and sulphonic acids?
- e. Write mechanism of Perkin reaction?
- f. Write Benzyne mechanism ?
- g. Differentiate between 1°, 2°, 3° alcohols.
- h. What is PDC?
- i. Explain Nucleophilic aromatic substitution?
- j. Define Claisen condensation along with mechanism?

Section – B

(5 marks each)

- Q2. Explain Bouvaelt-Blanc Reduction with mechanism?
- Q3. Explain Mechanisms of Aldol and Knoevenagel condensation?
- Q4. How Oxidation by periodic acid and lead tetraacetate takes place?
- Q5. How LiAlH_4 differs from NaBH_4 discuss in detail. Why NaBH_4 is a mild reducing agent than LiAlH_4 . How reaction rate determining step differs in both cases?
- Q6. Predict mechanism for Dieckmann and Reformatsky reactions, Hofmann bromamide degradation?

Section – C

(10 marks each)

- Q7. (a) Write Mechanism of Pinacol-Pinacolone rearrangement? (5)
(b) Discuss Organometallic compounds of Mg and Li and their uses in synthesis of organic compounds? (5)
- Q8. Explain following reactions along with mechanism (2 x 5)
 - a. Reimer- Tiemann and Kolbe's-Schmidt Reactions
 - b. Fries and Claisen rearrangements
- Q9. (a) Differentiate between SN_1 , SN_2 and SN_i mechanisms? (4)
(b) Explain Clemmensen, Wolff-Kishner and MPV reactions along mechanism? (6)