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Total No. of Printed Pages: 1

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

ORGANIC CHEMISTRY-II

Subject Code: BCHMS1301

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 is Benzyne mechanism?
- b. What is Keto-enol tautomerism?
- c. What is Curtius rearrangement?
- d. Write one each method for preparation of thioethers and sulphonic acids.
- e. Write the various factors which affect the acidity of carboxylic acids?
- f. Why phenol is more acidic than aliphatic alcohol?
- g. What is PDC? Discuss the reactivity pattern of the PDC?
- h. What is haloform reaction?
- i. Write mechanism of acidic and alkaline hydrolysis of esters?
- j. What is Pinacol-Pinacolone rearrangement?

Section – B

(5 marks each)

- Q2. a. What are diazonium salts? Write method of preparation and their chemical reactions?
b. Explain the relative reactivity of alkyl, allyl/benzyl, vinyl halides towards nucleophilic substitution reactions?
- Q3. a. Explain the ring opening of epoxide in acidic conditions?
b. Explain Claisen rearrangements with mechanism.
- Q4. a. What is Backmann Rearrangement? Write mechanism?
b. What is Fries rearrangement? Write mechanism?
- Q5. a. Discuss the method of preparation of different acid derivatives?
b. Write method of preparation and reaction of unsaturated carboxylic acid?
- Q6. a. What are active methylene compounds? Discuss their synthetic applications?
b. What is Clemmensen reduction? Explain with example?

Section – C

(10 marks each)

- Q7. a. What is Baeyer Villiger oxidation?
b. What is Michael addition reaction? Explain with mechanism?
- Q8. a. What is SN2 mechanism in aliphatic substitution reaction? Explain with examples
b. What are Grignard reagents? Discuss their reactions with suitable mechanism?
- Q9. a. What is Reformatsky reactions? Explain with mechanism?
b. What is Wittig reaction? Discuss with examples?
c. What is Reimer–Tiemann reaction?