Roll No…….. **Total No. of Printed Pages: 1**
Total No. of Questions: [09]

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?