

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Sc. (Non Medical) (Sem.-4)

ORGANIC CHEMISTRY-III

Subject Code : BSNM402-18

M.Code : 77680

Date of Examination : 04-07-22

Time : 3 Hrs.

Max. Marks : 50

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying ONE marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Write briefly :

- a) What are phase transfer catalyst?
- b) Out of Aniline and Ethyl, amine, which is more basic and why?
- c) Give two uses of picric acids.
- d) Write down the chemical reaction for auto-oxidation.
- e) Give IUPAC name of sec-butyl nitroarenes.
- f) What is HVZ reaction?
- g) Give one reaction for synthesis of acid chloride.
- h) Out of piperidene and pyridine, which is more basic?
- i) Give one reaction for the synthesis of ester.
- j) Discuss the structure of Furan.

SECTION-B

2. a) What are Heterocyclic compounds? Explain why Pyrrole, Thiophene and Furan are classified as aromatics.
- b) Give method of preparation of each of the following :
 - i) Furan
 - ii) Thiophene

3. a) How are ethers prepared from following :
 - i) Carboxylic acids
 - ii) Acid chlorides
- b) What are Epoxides? How are they prepared from alkenes?
4. a) Discuss the mechanism of Hofmann bromamide reaction.
- b) Compare the basic character of primary, secondary and tertiary amines.
5. Write a short note on the following:
 - a) Grignard Reagent
 - b) Organolithium compounds
6. Write down the mechanism for following reaction
 - a) Electrophilic substitution of Pyridine derivative
 - b) Decarboxylation of carboxylic acid

SECTION-C

7. a) Compare the basicity of pyridine, piperidine and pyrrole along with their resonance diagram.
- b) What are the structural features which affect the basicity of amines?
8. Write down a short note on following :
 - a) Hydrolysis of carboxylic acid
 - b) Acid Catalysed ring opening of Epoxide
 - c) Phase transfer of catalyst
 - d) Stereochemistry of amines
9. Discuss the mechanism of following :
 - a) Reductive amination of aldehydic compounds
 - b) Esterification of Carboxylic acid
 - c) Auto-oxidation of Ethers
 - d) Nucleophilic substitution of pyridine

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.