

B.Sc.- II (CBCS Pattern) Sem-IV
USCCHT08 - Chemistry Paper-II : Organic Chemistry

P. Pages : 2

Time : Three Hours



GUG/W/22/12001

Max. Marks : 50

- Notes :
1. All questions are compulsory and carry equal marks.
 2. Diagrams and Chemical equation should be given wherever necessary.
 3. Illustrate your answer wherever necessary with the help of neat sketches.
 4. Use of slide rule, Logarithmic tables, Steam tables, Moldier's chart, drawing instruments, Thermodynamic tables for moist air, Psychometric Charts and Refrigeration charts is permitted. Nonprogrammable Electronic Calculator is allowed.
 5. Discuss the reaction, Mechanism wherever necessary.

1. a) Discuss the mechanism of nucleophilic substitution in nitroarenes. **5**
b) Explain the method of separation of primary, secondary and tertiary amines. By Heisenberg's method. **5**

OR

- c) Write about stability and preparation of benzene diazonium chloride. **2½**
d) Give the preparation and uses of picric acid. **2½**
e) Discuss about Amine salts as phase transfer catalyst. **2½**
f) Explain the Hoffman – bromamide reaction. **2½**
2. a) Give the synthesis, structure and any two chemical Reactions of Organozinc Compounds. **5**
b) Explain any three methods of synthesis of pyridine. **5**

OR

- c) Write about preparation of sulphur ylides. **2½**
d) Discuss the preparation of quinoline. **2½**
e) Explain the Woodward Hydroxylation. **2½**
f) Compare the basicity of pyrrole with pyridine. **2½**
3. a) What are Amino Acids? Give the Gabriel phthalimide synthesis. **5**
b) Give the principle and calculations involved in Estimation of nitrogen by Kjeldahl's method. **5**

OR

- c) Explain Electrophoresis. **2½**
d) Write about classification of proteins. **2½**
e) Give the Merrifield solid-phase synthesis. **2½**
f) An organic compound contains carbon 40% , Hydrogen 6.66% , oxygen 53.33%. Its vapour density is 30. Determine its empirical formula and molecular formula. **2½**

4. a) Explain the Witt's theory of Colour and Constitution. 5
b) Discuss open chain structure of glucose. 5
- OR**
- c) Explain the structure of maltose and lactose. 2½
d) What are Antibiotics? Give its classification. 2½
e) Give the preparation and uses of phenolphthalein. 2½
f) Give synthesis and uses of Aspirin. 2½
5. Attempt **any ten**.
- a) Give reduction of nitroarene in acidic medium. 1
b) Write the coupling reaction. 1
c) Explain the structure of amines. 1
d) What are Organometallic compounds. 1
e) What is LDA? 1
f) Draw the molecular orbital picture of Pyridine. 1
g) What is Zwitter ion? 1
h) Write about ninhydrin test. 1
i) Give the principle for the estimation of halogen by Carious method. 1
j) Write about Polysaccharides. 1
k) Give the structure of indigo dye. 1
l) What are uses of detol? 1
