B.Sc. (CBCS Pattern) Semester-IV

USCCHT08 - Chemistry Paper-II - Organic Chemistry

P. Pages : 2 **GUG/S/25/12001**

Time : Three Hours * 1 8 0 7 * Max. Marks : 50

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1. a) Explain the reduction of nitrobenzene in acidic, neutral and alkaline medium. **5**

b) How will you separate primary, secondary and tertiary amines by Heisenberg's method? **5**

OR

c) Give preparation and uses of picric acid. **2½**

d) Discuss the Gabriel phthalimide synthesis. **2½**

e) Explain the mechanism of diazotization reaction. **2½**

f) Write about basicity of primary, secondary and tertiary aliphatic amines. **2½**

2. a) Explain the structure of pyridine with molecular orbital diagram. **5**

b) What are organometallic compounds? How will you prepare primary, secondary and tertiary alcohol from Grignard reagent? **5**

OR

c) Give a method of synthesis of acetaldehyde from 1, 3 – Dithiane. **2½**

d) Compare the basicity of pyrrole and pyridine. **2½**

e) Explain the Skraup synthesis of preparation of quinoline. **2½**

f) Write a note on Sulphur ylides. **2½**

3. a) Discuss principle and calculations involved in estimation of nitrogen by Kjeldahl's method. **5**

b) What are proteins? Give classification of proteins with atleast one example. **5**

OR

c) Explain electrophoresis and Zwitterions. **2½**

d) Write about Merrifield solid-phase synthesis. **2½**

e) 0.301g of organic compound when heated with excess of strong nitric acid any AgCl gave 0.3066g AgBr. Calculate the % of bromine in the compound (At. Wt of Br is 80 and Ag is 108). **2½**

f) Explain the peptide linkage. **2½**

4. a) Explain the Witts theory of colour and constitution of Dyes. **5**

b) What are Carbohydrates? Discuss the open chain structure of Glucose. **5**

OR

c) Write about qualities of ideal drugs. **2½**

d) Explain Mutarotation. **2½**

e) Discuss the molecular orbital theory of Dyes. **2½**

f) Define Antipyretic and Tranquilizer drugs. **2½**

5. Write **any ten** answers from the following. **1x10 =10**

a) What is phase transfer catalyst?

b) Give the structure of Benzene diazonium chloride.

c) Name the reagent used in Woodward Hydroxylation raction.

d) Write the structure of Ferrocene.

e) Give the formula of phenyl lithium.

f) Write the position of electrophilic substitution in pyridine.

g) What is isoelectric point in Amino acids?

h) Give the use of Ninhydrin test.

i) Write the method used for the estimation of carbon and Hydrogen.

j) What are monosaccharides?

k) Give the structure of phenolphthalein.

l) Write the uses of dettol.

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