

B.Sc. (Part-II) (CBCS Pattern) Semester - IV
USCCHT08 - Chemistry Paper-II (Organic Chemistry)

P. Pages : 2

Time : Three Hours



GUG/S/23/12001

Max. Marks : 50

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1. a) How will you separate primary, secondary and tertiary amines by Heisenberg's method? 5
b) Discuss reduction of nitrobenzene in 5
i) Acidic medium ii) Alkaline medium.

OR

- c) Give preparation and uses of picric acid. 2½
d) Explain Basicity of amines. 2½
e) Discuss Hoffmann bromamide reaction. 2½
f) Discuss stability of Benzene diazonium chloride. 2½
2. a) Explain molecular orbital structure of pyridine in detail. 5
b) What are organometallic compound? Discuss reaction mechanism of Woodward hydroxylation. 5

OR

- c) Explain skraup synthesis. 2½
d) Compare basicity of pyrrole and pyridine. 2½
e) Write a short note on Sulphur Ylide. 2½
f) What happens when diethyl zinc reacted with acetyl chloride. 2½
3. a) Write short notes on: 5
i) Isoelectric point ii) Electrophoresis.
b) An organic compound containing $C_1 H_1 O$ gives 40% C, 6.66% H on analysis. It's vapour density is 30. Calculate its empirical and molecular formula. 5

OR

- c) Write a note on Merrifield solid phase synthesis. 2½
d) Give the principle and calculation involved in the estimation of carbon. 2½
e) Discuss Gabriel phthalimide reaction. 2½
f) What are proteins? Give its classification. 2½

4. a) Discuss Witt's theory of colour and constitution of dyes. 5
b) Define polysaccharides? Explain open structure of Glucose. 5

OR

- c) Explain synthesis of Aspirin. 2½
d) Give synthesis and uses of Congo red. 2½
e) What are antibiotics? Give its classification. 2½
f) What are carbohydrate? Give its classification. 2½
5. Attempt **any ten**. 1x10
=10
- i) What are nitroalkanes?
ii) Write coupling reaction.
iii) Give the example of phase transfer catalyst.
iv) What is LDA?
v) Draw the structure of indole.
vi) Define umpolung.
vii) What is peptide linkage in protein?
viii) Define zwitterion.
ix) Draw the structure of secondary amine.
x) Give the structural formula of Fructose.
xi) What are hormones.
xii) Draw structure of phenolphthalein.
