

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

P. Pages : 2

Time : Three Hours



GUG/W/24/12001

Max. Marks : 50

1. a) Discuss the reduction of nitrobenzene in various conditions. 5
- b) Explain the method of separation of primary, secondary and tertiary amines, by Heisenberg's method. 5

OR

- c) Explain the mechanism of diazotization. 2½
- d) Write the Hoff-man – bromamide reaction. 2½
- e) Give the preparation and uses of picric acid. 2½
- f) Discuss about Amine salts as phase transfer catalyst. 2½
2. a) What are organometallic compounds? Give the synthesis and structure of Organo Mg compounds. 5
- b) What are Heterocyclic compounds? Explain why electrophilic substitution in pyridine take place at position '3'. 5

OR

- c) Give one method of preparation of 1, 3 Dithiane Anion umpolung. 2½
- d) Write the synthesis of Quinoline. 2½
- e) Explain the Woodward Hydroxylation. 2½
- f) Give the preparation of pyridine from β -coline. 2½
3. a) What are Amino acids? How will you prepare glycine by Gabriel's phthalamide synthesis? What happens when glycine reacts with Acetyl chloride? 5
- b) Give the principle and calculations involved in Estimation of carbon. 5

OR

- c) Give the classification of proteins. 2½
- d) Write a short notes on Electrophoresis. 2½

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| 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) What are carbohydrates? Explain open-chain structure of glucose. | 5 |
| | b) Explain the Witt's theory of colour and constitution. | 5 |

OR

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| c) | What are the qualities of ideal drug? | 2½ |
| d) | Give the synthesis and applications of paracetamol. | 2½ |
| e) | Give classification of glucose. | 2½ |
| f) | Give the preparation and uses of phenolphthalein. | 2½ |
| 5. | Answer any ten questions. | |
| a) | What is coupling reaction? | 1 |
| b) | What are LDA? | 1 |
| c) | Give the oxidation reaction of quinoline. | 1 |
| d) | Write about isoelectric point. | 1 |
| e) | Write the structure of Maltose. | 1 |
| f) | What are uses of Dettol? | 1 |
| g) | Which is more basic among 1 ^{ry} , 2 ^{ry} & 3 ^{ry} amines. | 1 |
| h) | What is nitroalkane? Give any one example of nitroalkane. | 1 |
| i) | Draw the molecular orbital picture of thiophen. | 1 |
| j) | Write about ninhydrin test. | 1 |
| k) | Write about Polysaccharides. | 1 |
| l) | What is di-peptide linkage? | 1 |
