

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

P. Pages : 2

Time : Three Hours



GUG/W/24/12001(S)

Max. Marks : 50

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1. a) Explain reduction of nitrobenzene under various condition. 5
b) What are amines? How amines are separated by Heisenberg's method. 5

OR

- c) Give preparation & uses of picric acid. 2½
d) Give preparation of benzene diazonium chloride. 2½
e) Explain Hoffmann-bromamide reaction. 2½
f) Explain amine salts as phase transfer catalyst. 2½
2. a) What are organometallic compounds? Explain Prevost hydroxylation. 5
b) Explain why electrophilic substitution is takes place at position 3-in pyridine. 5

OR

- c) Write preparation of 1, 3 Dithiane anion. 2½
d) Give synthesis of Quinoline. 2½
e) How will you prepare pyridine from pentamethylene diamine hydrochloride. 2½
f) Why pyridine is more basic than pyrrole. 2½
3. a) Define amino acids? How will you prepare amine by Strecker synthesis. 5
b) Explain principal and calculations involved in estimation of hydrogen. 5

OR

- c) Explain secondary structure of protein. 2½
d) Explain Merrifield solid phase synthesis. 2½
e) An organic compound contains carbon 40%, hydrogen 6.66%, oxygen 53.33%.
It's vapour density is 30. Determine its empirical & molecular formula. 2½
f) Give classification of proteins. 2½

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

OR

- c) Give classification of carbohydrates. 2½
- d) Give synthesis of phenolphthalein. 2½
- e) Write qualities of ideal drug. 2½
- f) Give synthesis and applications of paracetamol. 2½

5. Attempt **any ten**. 1x10
=10

- 1) What are nitroalkanes?
- 2) Define coupling reaction.
- 3) Which amine is more basic among primary amine, secondary amine & tertiary amine.
- 4) What is LDA?
- 5) Write structure of ferrocene.
- 6) Draw orbital diagram of thiophene.
- 7) Define isoelectric point.
- 8) What is Zwitterion ion?
- 9) What is dipeptide linkage in proteins?
- 10) Draw structure of Maltose.
- 11) Draw the structure of methyl orange.
- 12) Write structure of Dettol.
