

Subject Code—60422

B. Sc. EXAMINATION

(Main/Reappear) (Batch 2019 Onwards)

(Third Semester)

CHEMISTRY

CCL-305, Paper-VI

Organic Chemistry-III (Functional Group

Organic Chemistry-II)

Time : 3 Hours

Maximum Marks : 80

Note : Attempt *Five* questions in all, selecting *one* question from each Unit. Q. No. 1 is compulsory. All questions carry equal marks.

(Compulsory Question)

1. (i) Why p-nitro benzoic acid is strong than m-nitro benzoic acid ?

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- (ii) How will you convert acid chloride in to anilide ?
- (iii) Why aniline is weaker base than methyl amine ?
- (iv) How will you prepare 1, 3, 5 tribromo benzene from nitro benzene ?
- (v) What is isoelectric point ?
- (vi) Why amino acids are weaker acids than carboxylic acids ?
- (vii) Why does D-glucose not give Schiff's test ?
- (viii) Draw Haworth formula structure for Sucrose. 8×2=16

Unit I

- 2. (a) How will you convert benzoic acid in to
 - (i) Benzene (ii) Benzoyl chloride (iii) Ethyl acetate. 8
- (b) Discuss HVZ reaction with mechanism. 8

3. (a) How acid chlorides can be converted in to (i) Acetamide (ii) Acetic anhydride (III) Benzoic acid. 9
- (b) Write a note on Perkin Condensation. 7

Unit II

4. (a) What is carbylamine reaction ? Give its mechanism. 6
- (b) What is ortho effect ? How does it influence of aromatic amines ? 6
- (c) How will you distinguish between primary, secondary and tertiary amines using Hinsberg's reagent ? 4
5. (a) Write mechanism of reaction between aniline and HNO_2 at 0-5 degree C. 6
- (b) What is Diazotization ? Give mechanism. 5
- (c) Give mechanism of coupling of tertiary amines with diazonium salts. 5

Unit III

6. (a) Discuss Strecker synthesis of α -amino acids. 6
- (b) What is Electrophoresis ? Discuss with example, how is it carried out. 5
- (c) What are differences between fibrous and Globular Proteins ? 5
7. (a) Define N-terminal residue in proteins. How would you identify ? 6
- (b) Discuss α helical and β pleated sheet structure of proteins. 6
- (c) Write coupling reaction of amino acid with copper. 4

Unit IV

8. (a) Differentiate between starch and cellulose. 5
- (b) Draw Haworth projection formula of α -D Ribose and β -D Fructose. 5
- (c) Describe Ruff degradation to convert aldohexose to aldopentose. 6

9. (a) Explain erythro and threo distereomers. 5
(b) Describe Killiani-Fischer synthesis of aldohexoses. 6
(c) How will you convert glucose in to mannose ? 5

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