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SUBJECT CODE NO:- B-2005
FACULTY OF SCIENCE & TECHNOLOGY
B.Sc. S.Y. (Sem-III)
Examination November/December- 2022
Chemistry Paper-VII
(Organic Chemistry)

[Time: 1:30 Hours]

[Max. Marks: 50]

Please check whether you have got the right question paper.

- N.B
- 1) Attempt all question.
 - 2) Use blue or black pen only
- Q. 1 (A) Explain the following reactions with suitable Mechanism
- i. Gattermann Synthesis 6
 - ii. Pinacol-pinacolone rearrangement 4
- (B) i) Give any two methods of formation of acrylic acid 4
 ii) Give following reaction of ethylene Glycol 6
- a) Nitration
 - b) Acylation
 - c) Oxidation using pb (OAC)₄
- OR
- (C) How will you prepared Acetic acid from 10
- 1) CO₂
 - 2) Nitrile
 - 3) Ester
 - 4) Amide
 - 5) Acid Chloride
- (D) 1) Explain Mannich reaction with suitable mechanism 05
 2) write a note on Knoevenagel condensation 05
- Q. 2 (A) 1) How will you distinguish primary, secondary and ter. Amines 05
 2) Explain reduction of Nitrobenzene in Acidic and Neutral Media 05
- (B) 1) Explain the following electrophilic aromatic substitution reactions of Aniline 06
- i. Nitration
 - ii. Sulphonation
 - iii. Diazo coupling
- 2) Amine salt as PTC, Explain. 04

OR

(C) Write short note on (any four)

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- 1) Intramolecular Fries rearrangement
- 2) Benzoin condensation
- 3) Effect of substituents on strength of acid.
- 4) Reaction of amine with Nitrous acid
- 5) Use of acetal as a protecting group
- 6) Basic nature of amine

Q. 3 Choose and write the correct answer of the following questions. (Answer all questions)

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1. Oxidation of secondary alcohol gives
 - a) Carboxylic acid
 - b) Aldehyde
 - c) Ketone
 - d) Ester
2. Reimer-Tiemann reaction is the reaction of
 - a) Phenol with CHCl_3
 - b) Phenol with HCHO
 - c) Phenol with amine
 - d) None of these
3. Aldimine is an intermediate of
 - a) Mannich reaction
 - b) Gattermann Reaction
 - c) Fries rearrangement
 - d) Hoffmann Reaction
4. The correct order of basicity of amine in aqueous state is
 - a) $2^\circ > 3^\circ > 1^\circ$
 - b) $3^\circ > 2^\circ > 1^\circ$
 - c) $1^\circ > 3^\circ > 2^\circ$
 - d) $3^\circ > 1^\circ > 2^\circ$
5. Which of the following liberate CO_2 on treatment with NaHCO_3
 - a) Phenol
 - b) Benzoic acid
 - c) Acetamide
 - d) Acetanilide
6. Strongest acid among the following is
 - a) $\text{F}_3\text{C-COOH}$
 - b) $\text{Cl}_3\text{C-COOH}$
 - c) $\text{Br}_3\text{C-COOH}$
 - d) $\text{I}_3\text{C-COOH}$
7. Acetamide reacts with Br_2 in NaOH , the product formed is
 - a) Bromo acetic acid
 - b) Methanamine
 - c) Ethanamide
 - d) Ethane
8. Conversion of ketone to ester is the product of
 - a) Aldol condensation
 - b) Baeyer-Villiger oxidation
 - c) Reimer-Tiemann
 - d) None of above

9. O-allyl phenol is prepared in

- a) Claisen rearrangement
- b) Fries rearrangement
- c) Gattermann synthesis
- d) Reimer-Tiemann

10. Glycerol reacts with phosphorous tri-iodide (PI_3) to form

- a) Allyl alcohol
- b) Allyl iodide
- c) Acrolein
- d) 1,2,3, tri-iodopropane