

GIRLS' HIGH SCHOOL AND COLLEGE

2020-2021

Class XII A & B

CHEMISTRY

WORKSHEET NO. – 8

Note: - Parents please ensure that your ward refers to the prescribed book.

The student should spend two days to read and understand the topic.

Answer the questions in your chemistry notebook.

Reference Books – Nootan ISC Chemistry- Vol II Class XII – Dr. H.C. Srivastava

Chapter – Aldehydes, Ketones and Carboxylic Acids

Topic – Aldehydes and Ketones

Q1). How will you convert (write balanced chemical equations)?

- i). Ethanol to acetaldehyde.
- ii). Isopropyl alcohol to acetone.
- iii). Acetic acid to acetone.
- iv). Formic acid to methanol.
- v). Acetone to cyanohydrin.
- vi). Ethanal to acetaldoxime.
- vii). Methanal to urotropine.
- viii). Toluene to benzaldehyde.
- ix). Benzaldehyde to diphenyl carbinol.

Q2). Give reasons for the following

- i). Formaldehyde gives Cannizzaro's Reaction whereas acetaldehyde does not.
- ii). Aldehydes have lower boiling points than corresponding alcohols.
- iii). Aldehydes are more reactive than ketones towards nucleophilic reaction.

- iv). Acetaldehyde undergoes aldol condensation but formaldehyde does not.
- v). Carbonyl group present in benzaldehyde is m-directing.

Q3). Write chemical equations to illustrate the following named reactions.

- i). Rosenmund's Reaction.
- ii). Clemmensen Reduction.
- iii). Wolff-Kishner Reduction.
- iv). Cannizzaro's Reaction.
- v). Tischenko Reaction.
- vi). Perkin's Reaction.

Q4). How will you obtain the following? Give balanced equations.

- i). Acetaldehyde from Grignard's Reagent.
- ii). Methanal from ethene.
- iii). Acetone from methyl cyanide.
- iv). Ethanal from acetylene.
- v). Ethanol from ethanol.
- vi). Trichloro acetaldehyde from acetaldehyde.
- vii). Benzyl alcohol from benzaldehyde.
- viii). Ethyl acetate from ethanol.

Q5). Give a chemical test to distinguish between

- i). Formaldehyde and acetaldehyde.
- ii). Acetaldehyde and acetone.
- iii). Acetaldehyde and benzaldehyde.

Q6). Give balanced equations for the following reactions:

- i). Acetone reacts with magnesium amalgam and water.

- ii). Benzaldehyde reacts with hydroxyl amine.
 - iii). Calcium acetate is subjected to dry distillation.
 - iv). Acetaldehyde is treated with phenyl hydrazine.
 - v). Benzaldehyde with sodium bisulphite.
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