

Delhi Public School, Jammu
Session: 2021-22
Month: August
Chemistry Assignment

Class :XII

Topics: 1) Haloalkanes and haloarenes
2) Alcohols, phenols and ethers

Section A (MCQ's)

- 1) Which of the following is not correctly matched with its IUPAC name?
 - (a) $\text{CHF}_2\text{CBrClF}$: 1-Bromo-1-chloro-1, 2, 2-trifluoroethane
 - (b) $(\text{CCl}_3)_3\text{CCl}$: 2-(Trichloromethyl)-1, 1, 2, 3, 3-heptachloropropane
 - (c) $\text{CH}_3\text{C}(\text{p-C}_6\text{H}_4)_2\text{CH}(\text{Br})\text{CH}_3$: 2-Bromo-3, 3-bis (4- chlorophenyl) butane
 - (d) $\text{o-BrC}_6\text{H}_4\text{CH}(\text{CH}_3)\text{CH}_2\text{CH}_3$: 2-Bromo-1- methylpropylbenzene
- 2) The negative part of the addendum (the molecule to be added) adds on the carbon atom of the double bond containing the least number of hydrogen atoms. This rule is known as
 - (a) Saytzeffs rule
 - (b) Peroxide rule
 - (c) Markovnikov's rule
 - (d) van't hoff rule
- 3) Which of the following compounds can yield only one monochlorinated product upon free radical chlorination?
 - (a) 2, 2-Dimethylpropane
 - (b) 2-Methylpropane
 - (c) 2-Methylbutane
 - (d) n-Butane
- 4) Which of the following compounds has the highest boiling point?
 - (a) $\text{CH}_3\text{CH}_2\text{CH}_2\text{Cl}$
 - (b) $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{Cl}$
 - (c) $\text{CH}_3\text{CH}(\text{CH}_3)\text{CH}_2\text{Cl}$
 - (d) $(\text{CH}_3)_3\text{CCl}$
- 5) One mole of ethyl acetate on treatment with an excess of LiAlH_4 in dry ether and subsequent acidification produces
 - (a) 1 mole acetic acid + 1 mole ethyl alcohol
 - (b) 1 mole ethyl alcohol + 1 mole methyl alcohol
 - (c) 2 moles of ethyl alcohol
 - (d) 1 mole of 2-butanol
- 6) Which of the following reagents can not, be used to oxidise primary alcohols to aldehydes?
 - (a) CrO_3 in anhydrous medium
 - (b) KMnO_4 in acidic medium

- (c) Pyridinium chlorochromate
 - (d) Heat in the presence of Cu at 573 K
- 7) 1-Phenylethanol can be prepared by the reaction of benzaldehyde with
- (a) methyl bromide
 - (b) ethyl iodide and magnesium
 - (c) methyl iodide and magnesium (Grignard reagent's)
 - (d) methyl bromide and aluminium bromide
- 8) Which of the following alcohols will give the most stable carbocation during dehydration?
- (a) 2-methyl-1-propanol
 - (b) 2-methyl-2-propanol
 - (c) 1-Butanol
 - (d) 2-Butanol

SECTION B (Reasoning assertion type)

These questions consist of two statements, each printed as Assertion and Reason. While answering these questions, you are required to choose any one of the following four responses.

- (a) If both Assertion and Reason are correct and the Reason is a correct explanation of the Assertion.
- (b) If both Assertion and Reason are correct but Reason is not a correct explanation of the Assertion.
- (c) If the Assertion is correct but Reason is incorrect.
- (d) If both the Assertion and Reason are incorrect.

Q.1. Assertion : The bond angle in alcohols is slightly less than the tetrahedral angle.

Reason : In alcohols, the oxygen of –OH group is attached to sp³ hybridized carbon atom.

Q.2. Assertion : In Lucas test, 3^o alcohols react immediately.

Reason : An equimolar mixture of anhyd. ZnCl₂ and conc. HCl is called Lucas reagent.

Q.3. Assertion : Reimer-Tiemann reaction of phenol with CCl₄ in NaOH at 340 K gives salicylic acid as the major product.

Reason : The reaction occurs through intermediate formation of dichlorocarbene.

Q.4. Assertion : Phenol is more reactive than benzene towards electrophilic substitution reaction.

Reason : In the case of phenol, the intermediate carbocation is more resonance stabilized.

Q.5. Assertion : Alkylbenzene is not prepared by Friedel-Crafts alkylation of benzene.

Reason : Alkyl halides are less reactive than acyl halides.

Q.6. Assertion : S_N2 reaction of an optically active aryl halide with an aqueous solution of KOH always gives an alcohol with opposite sign of rotation.

Reason : S_N2 reactions always proceed with inversion of configuration.

Q.7. Assertion : CHCl_3 is stored in dark bottles.
Reason : CHCl_3 is oxidised in dark.

Q.8. Assertion : CCl_4 is not a fire extinguisher.
Reason : CCl_4 is insoluble in water.