Class 12 Assignment

Class 12 Assignment 1
HaloAlkenes

Note: In the following questions a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices.
(i) Assertion and reason both are correct and reason is correct explanation of assertion.
(ii) Assertion and reason both are wrong statements.
(iii) Assertion is correct but reason is wrong statement.
(iv) Assertion is wrong but reason is correct statement.
(v) Assertion and reason both are correct statements but reason is not correct explanation of assertion.

1. Assertion: Phosphorus chlorides (tri and penta) are preferred over thionyl chloride for the preparation of alkyl chlorides from alcohols.
Reason: Phosphorus chlorides give pure alkyl halides.

2. Assertion: The boiling points of alkyl halides decrease in the order:
RI > RBr > RCl > RF
Reason: The boiling points of alkyl chlorides, bromides and iodides are considerably higher than that of the hydrocarbon of comparable molecular mass.

3.Assertion: KCN reacts with methyl chloride to give methyl isocyanide
Reason: CN is an ambinnucleophile.

4.Assertion: tert-Butyl bromide undergoes Wurtz reaction to give 2, 2, 3, 3- tetramethylbutane
Reason: In Wurt.z reaction, alkyl halides react with sodium in dry ether to give hydrocarbon containing double the number of carbon atoms present in the halide.

5.Assertion: Presence of a nitro group at ortho or para position increases the reactivity of halo-alkenes towards nucleophilic substitution.
Reason: Nitro group, being an electron withdrawing group decreases the electron density over the benzene r g.

6.Assertion: In mono halo-alkenes, further electrophilic substitution occurs at ortho and para positions.
Reason: Halogen atom is a ring deactivator.
7.Assertion: Aryl iodides can be prepared by reaction of arenes with iodine in the presence of an oxidising agent.
Reason: Oxidising agent oxidises I2 into HI.

8.Assertion: It is difficult to replace chlorine by –OH in chlorobenzene in comparison to that in chloroethane.
Reason: Chlorine-carbon (C—Cl) bond in chlorobenzene has a partial double bond character due to resonance.

9.Assertion: Hydrolysis of (–)-2-bromooctane proceeds with inversion of configuration.
Reason: This reaction proceeds through the formation of a carbocation.

10.Assertion: Nitration of chlorobenzene leads to the formation of m-nitrochlorobenzene
Reason: —NO2 group is a m-directing group.