

Chemistry - 12th Class Chemistry Chapter 12 Short Questions Preparation

Q1. Define nucleophilic addition reaction with an example?

Ans 1: Addition of nucleophilic reagent to the substrate in the presence of some catalyst is called nucleophilic addition reaction. It is due to the unsymmetrical electronic configuration about the carbonyl group, the nucleophilic reagent can start the initial attack on the carbon.

Q2. Write three uses of formaldehyde?

Ans 1:

1. It is used as decolouring agent in vat dyeing.
2. It is used in the silvering of mirrors.
3. It is used in making medicines urotropine used as urinary antiseptic.

Q3. Write the name of those weak oxidizing agents which can oxidize aldehyde but not the ketone?

Ans 1: Tollen's reagent, Fehling solution and Benedict's solution.

Q4. What is sodium bisulphate test?

Ans 1: Sodium bisulphate test: Aldehydes and small methyl ketones form a crystalline white precipitate with saturated sodium bisulphite solution.

Q5. What is Tollen's Test?

Ans 1: Aldehydes form silver mirror with Tollen's reagent (ammoniacal silver nitrate solution). Add Tollen's reagent to an aldehyde solution in a test tube and warm, a silver mirror is formed on the inside of the test tube.

Q6. What is sodium nitroprusside test?

Ans 1: Ketones produce a wine red or orange red color on adding alkaline sodium nitroprusside solution drop wise, Aldehyde doesn't give this test.

Q7. How will you distinguish between acetaldehyde and benzaldehyde?

Ans 1: Acetaldehyde is an aldehyde having a hydrogen atom which reacts with cold dilute solution of an alkali to form product known as aldol, while benzaldehyde is an aldehyde having no α -hydrogen atom so it does not react with cold dilute solution of an alkali to form product known as Cannizzaro product.

Q8. Addition of HCN on aldehydes and ketones is a base catalyzed reaction?

Ans 1: Hydrogen cyanide adds to aldehydes and ketones to form cyanohydrins. The reaction is carried out by adding slowly a mineral acid to an aqueous solution of sodium cyanide. The acid generates HCN from sodium cyanide in situ.

Q9. What is haloform reaction?

Ans 1: Acetaldehyde and methyl ketones react with halogens in the presence of sodium hydroxide to give haloform. This reaction is called haloform reaction. The term haloform is used to distinguish acetaldehyde from other aldehydes.

Q10. What is iodoform test?

Ans 1: The haloform reaction using iodine and aqueous sodium hydroxide is called the iodoform test. It results in the formation of water insoluble iodoform which is a yellow solid. Iodoform test is used to distinguish ethyl ketones from other ketones.
