Tests For the Functional Groups Present In Organic Compounds Viva Questions With Answers

Question.1.What is a functional group?
Answer. The group of atoms that largely determines the properties of an organic compound is called functional group.

Question.2.Name any four functional groups.
Answer. Hydroxyl group —OH
Amino group —NH_2 Carboxyl group —COOH Aldehydic group —CHO.

Question.3.Name the functional groups present in alkenes and alkynes.
Answer. Alkenes are unsaturated hydrocarbons with C = C bond present in them. Alkynes are un-saturated hydrocarbons with C = C bond present in them.

Question.4.What is Baeyer's test for unsaturation?
Answer. When Baeyer's reagent (alkaline potassium permanganate) is added to unsaturated com-pound, its colour gets discharged indicating presence of C = C or C = C in the compound.

Question.5.Do alkynes turn blue litmus paper red?
Answer. No.

Question.6. Which is more acidic: an alcohol or a phenol?
Answer. A phenol.

Question.7. Why is alcohol dried before carrying out sodium metal test?
Answer. Because water also reacts with sodium and gives hydrogen gas with brisk effervescence.

Question.8. What is the use of Lucas reagent?
Answer. It is used to distinguish between primary, secondary and tertiary alcohols.

Question.9. Which of the two is more acidic: phenol or carboxylic acid?
Answer. Carboxylic acid.

Question.10. Name a test by which you can distinguish between hexylamine ($C_6H_{13}NH_2$) and aniline. ($C_6H_5NH_2$).
Answer. Dye test.

Question.11.Name two tests which distinguish aldehydes from ketones?
Answer. Tollen's test and Fehling's test.

Question.12. Name a reagent used to detect carbonyl group in a compound.
Answer. DNP (2, 4-dinitrophenylhydrazine).

Question.13, What is Tollen's reagent?
Answer. It is ammonical silver nitrate solution.

Question.14. What is the use of Schiff's reagent?
Answer. Schiff's reagent is used to detect aldehyde group.

Question.15. Give one test to distinguish between an aldehyde and a ketone.
Answer. Tollen's test can be used to distinguish between an aldehyde and a ketone.

Question.16. What is Rochelle's salt?
Answer. Sodium potassium tartarate is called Rochelle's salt.

Question.17. What is Fehling's solution?
Answer. It is a solution obtained by mining equal volumes of copper sulphate solution (Fehling A) and a solution of sodium hydroxide containing sodium potassium tartarate (Fehling B).

Question.18. How is nitrous acid is prepared?
Answer. When sodium nitrite is reacted with dil. HCl at a temperature below 5°C, nitrous acid is produced.

Question.19. What is application of carbylamine reaction?
Answer. it is used to detect primary amine.

Question.20. How can phenol and aniline be distinguished chemically?
Answer. Phenol is soluble in aqueous NaOH solution whereas aniline is not.
Aniline is soluble in dilute HCl whereas phenol is not.

Question.21. In contrast to aromatic primary amines, aliphatic primary amines do not form stable diazonium salts. Why?
Answer. Because alkyl carbocation formed on decomposition of diazonium salt is more stable than phenyl carbocation.

Question.22. Why is aniline weaker base than ammonia?

Answer. Because lone pair of nitrogen in aniline is delocalized over benzene ring and is not fully available for sharing with acids.

Question.23. How can you distinguish between methanol and ethanol chemically?

Answer. Methanol and ethanol can be distinguished by iodoform test. Ethanol gives yellow ppt. of iodoform in this test whereas methanol does not give this test positive.