Purification, Qualitative and Quantitative Analysis of Organic Compounds

Q.1. In Carius method 0.099 g organic compound gave 0.287 g AgCl. The percentage of chlorine in the compound will be

a) 28.6
b) 71.7
c) 35.4
d) 64.2

Q.2. Which of the following compounds gives blood red colouration when its Lassaigne's extract is treated with alkali and ferric chloride ?

a) Thiourea
b) Diphenyl sulphide
c) Phenyl hydrazine
d) Benzamide

Q.3. The ammonia evolved from the treatment of 0.30 g of an organic compound for the estimation of nitrogen was passed in 100 mL of 0.1 M sulphuric acid. The excess of acid required 20 mL of 0.5 M sodium hydroxide solution for complete neutralization. The organic compound is

a) urea
b) benzamide
c) acetamide
d) thiourea

Q.4. Sodium nitroprusside, when added to an alkaline solution of sulphide ions, produces purple colour ion due to the formation of

a) $Na[Fe(H_2O)_5\ NOS]$
b) $Na_2[Fe(H_2O)_5\ NOS]$
c) $Na_3\ Fe(CN)_5NOS]$
d) $Na_4[Fe(CN)_5NOS]$

Q.5. Lassaigne's test for the detection of nitrogen will fail in case of

a) NH_2CONH_2
b) $H_2NCONHNH_2.HCl$
c) $H_2NNH_2.2HCl$
d) $H_5C_6NHNH.2HCl$

Q.6. In Kjeldahl's method nitrogen present is estimated as

a) N_2
b) NH_3
c) NO_2
d) None of these

Q.7. Before testing halogens the sodium extract is boiled with conc. HNO_3 to

a) bring common ion effect
b) make solution clear
c) destroy CN^- and S^{--} ions
d) make the solution acidic

Q.8. In steam distillation the vapour pressure of volatile organic compound is

a) equal to atmospheric pressure
b) double the atmospheric pressure
c) less than atmospheric pressure
d) more than atmospheric pressure

Q.9. Duma's method involves the determination of nitrogen content in the organic compound in form of

a) NH_3
b) N_2
c) NaCN
d) $(NH_4)_2SO_4$

Q.10. The principle involved in paper chromatography is

a) Adsorption
b) Partition
c) Solubility
d) Volatility

Q.11.Molecular mass of a volatile substance may be obtained by

a) Kjeldahl's method
b) Duma's method
c) Victor-meyer's method
d) Liebig's method

Q.12. The compound formed in the positive test for nitrogen with the Lassaigne solution of an organic compound is

a) $Fe_4[Fe(CN)_6]_3$
b) $Na_3[Fe(CN)_6]$
c) $Fe(CN)_3$
d) $Na_4[Fe(CN)_5NOS]$

Q.13. In sodium fusion test of organic compounds, the nitrogen of the organic compound is converted into

a) Sodamide
b) Sodium cyanide
c) Sodium nitrite
d) Sodium nitrate

Q.14.The most suitable method for separtion of a 1 : 1 mixture of ortho and para nitrophenols is

a) Sublimation
b) Chromatography
c) Crystallization
d) Steam distillation

Q.15.Beilstein's test is given by which of the following?

a) Halogens
b) Thiourea
c) Pyridine
d) All of these

Q.16. To detect iodine in presence of bromine, the sodium extract is treated with $NaNO_2$ + glacial acetic acid + CCl_4 . Iodine is detected by the appearance of

a) yellow colour of CCl_4 layer
b) purple colour of CCl_4
c) brown colour in the organic layer of CCl_4
d) deep blue colour in CCl_4

Q.17.A is a lighter phenol and B is an aromatic carboxylic acid. Separation of a mixture of A and B can be carried out easily by using a solution of

a) Sodium hydroxide
b) Sodium sulphate
c) calcium chloride
d) Sodium bicarbonate

Q.18.Absolute alcohol is prepared by

a) fractional distillation
b) Kolbe's method
c) azeotropic distillation
d) vacuum distillation

Q.19.For the separation of two immiscible liquids which method (or apparatus) is used?

a) chromatography
b) fractionating column
c) fractional distillation
d) separating funnel

Q.20. Which of the following is the best scientific method to test presence of water in a liquid ?

a) Smell
b) Taste
c) Use of litmus paper
d) Use of anhydrous copper sulphate

Q.21.Distillation under reduced pressure is employed for

a) C_6H_6
b) petrol
c) $CH_2OHCHOHCH_2OH$
d) organic compounds used in medicine

Q.22.Liebig's method is used for the estimation of

a) nitrogen
b) sulphur
c) carbon and hydrogen
d) halogens

Q.23.Which of the following compounds gives blood red colouration when its Lassaigne's extract is treated with alkali and ferric chloride ?

a) Thiourea
b) Diphenyl sulphide
c) Phenyl hydrazine
d) Benzamide

Q.24.Chromatography is a valuable method for the separation, isolation, purification and identification of the constituents of a mixture and it is based on general principle of

a) phase rule
b) phase distribution
c) interphase separation
d) phase operation

Q.25.In paper chromatography

a) moving phase is liquid and stationary phase in solid
b) moving phase is liquid and stationary phase is liquid
c) moving phase is solid and stationary phase is solid
d) moving phase is solid and stationary phase is liquid