Chemistry Model Question Paper - 4

Question 1 :

A white crystalline salt A reacts with dilute HCl to liberate a suffocating gas B and also forms a yellow precipitate. The gas B turns potassium dichromate acidified with dilute H2SO4 to a green coloured solution C. A, B and C are respectively _____.
(A) Na2S2O3, SO2, Cr2 (SO4)3

(B) Na2SO3, SO2, Cr2 (SO4)3

(C) Na2SO4, SO2, Cr2 (SO4)3

(D) Na2S, SO, Cr2 (SO4)3

Answer: (A)

Question 2 : According to Baeyer's strain theory which is highly stable?
(A) cyclohexane

(B) cycloheptane

(C) cyclopentane

(D) cyclobutane

Answer: (C)

Question 3 : Acidified K2Cr2O7 solution turns green when Na2SO3 is added to it. This is due to the formation of
(A) CrSO4

(B) Cr2(SO4)3

(C) CrO_4^{2-}

(D) Cr2(SO3)3

Answer: (B)

Question 4 : Acidified sodium fusion extract on addition of ferric chloride solution gives blood red colouration which confirms the presence of

(A) S

(B) N

(C) N and S

(D) S and Cl

Answer: (C)

Question 5 :

Amines behave as

(A) Lewis acids

(B) Lewis base

(C) aprotic acid

(D) neutral compound

Answer: (B)

Question 6 : Among the following, the compound that contains ionic, covalent and coordinate linkage is

(A) NaCl

(B) CaO

(C) NH3

(D) NH4Cl

Answer: (D)

Question 7 : Among the following, which is least acidic?

(A) phenol

(B) O-cresol

(C) p-nitrophenol

(D) p-chlorophenol

Answer: (B)

Question 8 :

An alkyl halide reacts with alcoholic ammonia in a sealed tube, the product formed will be
(A) a primary amine

(B) a secondary amine-

(C) a tertiary amine

(D) a mixture of all the three

Answer: (D)

Question 9 : An aqueous solution containing 6.5 gm of NaCl of 90% purity was subjected to electrolysis. After the complete electrolysis, the solution was evaporated to get solid NaOH. The volume of 1 M acetic acid required to neutralise NaOH obtained above is
(A) 100 cm3

(B) 200 cm3

(C) 1000 cm3

(D) 2000 cm3

Answer: (A)

Question 10 : An element with atomic number 21 is a

(A) halogen

(B) representative element

(C) transition element

(D) alkali metal

Answer: (C)

Question 11 :

The sp3d2 hybridization of central atom of a molecule would lead to

(A) square planar geometry

(B) Tetrahedral geometry

(C) Trigonal bipyramidal geometry

(D) Octahedral geometry

Answer: (D)

Question 12 : The reagent with which both acetaldehyde and acetone react is

(A) I2/NaOH

(B) Fehling's reaction

(C) Carbonic acid

(D) Tollen's reagent

Answer: (A)

Question 13 :

The ozone layer forms naturally by
(A) the interaction of CFC with oxygen

(B) the interaction of UV radiation with oxygen

(C) the interaction of IR radiation with oxygen

(D) the interaction of oxygen and water vapour

Answer: (B)

Question 14 : The number of naturally occurring p-block elements that are diamagnetic is _____.

(A) 6
(B) 18
(C) 7
(D) 5

Answer: (D)

Question 15 :

The normality of 30 volume H_2O_2 is
(A) 2.678 N

(B) 5.336 N

(C) 8.034 N

(D) 6.685 N

Answer: (B)