HOLY ANGELS SCHOOL (KATWA)

ICSE CLASS X - SEMESTER I EXAMINATION, 2021 - 2022

MOCK TEST

CHEMISTRY

(SCIENCE - PAPER 2)

Maximum Marks 40

Time allowed : One hour (inclusive of reading time)

ALL QUESTIONS ARE COMPULSORY

The marks intended for questions are given in brackets ***[].***

Select the correct option for each of the following questions.

Question 1

The reaction taking place at the anode during electrolysis of copper sulphate solution is

(a) $Cu^{2+} + 2e \longrightarrow Cu$ (b) $Cu - 2e \longrightarrow Cu^{2+}$ (c) $Cu + 2e \longrightarrow Cu^{2-}$ (d) None of the above

Question 2

The coloured positive ion is

(a) NO_3^- (b) MnO_4^{-2} (c) Zn^{2+} (d) Cu^{+2}

Question 3

Lead Nitrate decompose to form

(a) Reddish Brown NO_2 (b) Colourless O_2 (c) Yellow residue (d) All of the above

Question 4

During electrorefining of impure copper, the

(a) Cu^{+2} ions are discharged at the cathode (b) The cathode is impure copper

(c) Anode mud is formed above anode (d) None of the above

Question 5

The correct decreasing order of the electrical discharge of the following ions are

(a) $Pb^{+2} < Cu^{+2} < Na^{+2}$ (b) $Cu^{+2} > Fe^{+2} > Mg^{+2}$ (c) $Mg^{+2} < K^{+} < Ag^{+2}$ (d) $Ag^{+2} > Na^{+} > Zn^{+2}$

Question 6

$[Cu(NO_3)]OH$ is an example of _____ salt

(a) Normal (b) Acidic (c) Basic (d) None of the above

Question 7

Element 'M' has 3 electrons in its M-shell while element 'N' has 6 electrons in its L-shell. The chemical formula of the compound having M and N are.

(a) M_3N_2 (b) M_2N_3 (c) MN_3 (d) M_2N

Question 8

The basicity of acetic acid is

(a) Three (b) One (c) Two (d) Four

Question 9

Electroplating of an article is done ____

(a) To prevent it from corrosion (b) Both (a) and (c)

(c) To enhance its appearance (d) None of the above

Question 10

The VD of a substance is 30.Its molecular mass is _____

(a) 15 (b) 45 (c) 30 (d) 60

K L M

2, 8, 2

Question 11

An element Y has 2 electrons in its M-shell

a. What is its valency?

(a) + 2 (b) 0 (c) – 2 (d) None of these

b. The equation to show its ion formation is

(a) $Y - 2e \longrightarrow Y^{+2}$ (b) $Y + 2e \longrightarrow Y^{+2}$ (c) $Y - e \longrightarrow Y^{+2}$ (d) $Y + 3e \longrightarrow Y^{-3}$

c. The formula of its nitride is _____

(a) Y_2N_3 (b) Y_3N_2 (c) YN_3 (d) Y_3N

d. An element placed at the bottom of Y has

(a) More non metallic nature (b) More EA

(c) Less electronegativity (d) More IP

e. The type of chemical bond shown by Y is

(a) Ionic (b) Covalent (c) Coordinate (d) None of the these

Question 12

The chemical equation that correctly shows the formation of a reddish brown precipitate with an analytical reagent is

(a) $CuSO_4 + 2NaOH \longrightarrow Cu(OH)_2 + Na_2SO_4$ (b) $FeCl_3 + 3NH_4OH \longrightarrow Fe(OH)_3 + 3NH_4Cl$

(c) $FeSO_4 + 2NH_4OH \longrightarrow Fe(OH)_2 + 2(NH_4)_2SO_4$ (d) None of the above

Question 13

With reference to the electrolysis of water , answer the following

a. The acid used in electrolysis of water is

(a) Acetic acid (b) Sulphuric acid (c) Nitric acid (d) Hydrobromic acid

b. The ratio of the products formed is 2 : 1 at the electrodes. Which gases are released?

(a) N_2 and O_2 (b) O_2 and H_2 (c) O_2 and H_2S (d) H_2 and O_2

c. The electrode used is made up of the material

(a) Graphite (b) Silver (c) Platinum (d) Gold

d. The reaction is an example of _____ reaction

(a) oxidation (b) Reduction (c) Redox (d) None of the above

Question 14

The alkaline earth metal present in period-2 is

(a) Magnesium (b) Caesium (c) Silicon (d) Beryllium

Question 15

This metal has a hydroxide soluble in excess NaOH

(a) Calcium (b) Zinc (c) magnesium (d) Iron

Question 16

An oxide soluble in universal solvent is

(a) CuO (b) PbO (c) ZnO (d) Na_2O

Question 17

The energy released when an electron is added to the _____ shell of a neutral Atom is called electron affinity.

(a) Valence (b) Penultimate (c) Ante penultimate (d) None of the above

Question 18

Caustic Soda in its aqueous form contains high concentration of _____ ions.

(a) H_3O^+ (b) H^+ (c) Na^{+2} (d) OH^-

Question 19

Citric acid is used as a ___

(a) Eye wash (b) stain remover (c) Food Preservative (d) Antacid

Question 20

A dibasic acid that is a weak electrolyte _____

(a) Sulphuric acid (b) Carbonic acid (c) Acetic acid (d) Both (b) and (c)

Question 21

A solution of NH_4OH contains

(a) Only molecules (b) only ions

(c) Both ions and molecules (d) only atoms

Question 22

The tendency of an atom to attract the shared pair of electrons to itsef when combined in a compound is termed

(a) electron affinity (b) Reduction (c) Ionisation (d) Electroneagtivity

Question 23

The electronic configuration of the element in the third period that gains two electrons to get stabilized

(a) (2, 6) (b) (2, 8, 2) (c) (2, 8, 6) (d) (2, 8, 8)

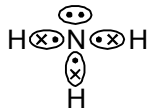
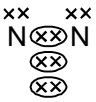
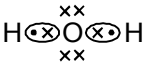
Question 24

The electrovalency of Mg in $MgCl_2$ is

(a) 1 (b) 2 (c) 0 (d) 3

Question 25

The correct electron dot diagram of the non polar covalent molecule is

(a)  (b)  (c)  (d) 

Question 26

The gas with the smell of rotten eggs is evolved during the following reactions

(a) metal carbonate + dil acid (b) metal sulphide + dil acid

(c) metal hydroxide + dil acid (d) both (b) and (c)

Question 27

Strong electrolytes differs from weak electrolytes with respect to

(a) Difference in their atomic number (b) Difference in their mass number

(c) Difference in their no.of ions furnished in the solution (d) All of the above.

Question 28

Ionization potential of atoms of elements is inversely related to

(a) Atomic radius (b) Electron effinity (c) Electronegativity (d) Non metallic metal

Question 29

The value of 'n' for the compound C_6H_6 whose empirical formula bases ratio C : H = 1 : 1 is

(a) 5 (b) 2 (c) 6 (d) 4

Question 30

The favourable conditions for the formation of magnesium chloride are

(a) High EA of magnesium (b) Low IP of magnesium

(c) Less nuclear charge on oxygen (d) High electronegativity and large size of chlorine

Question 31

The electrolyte used during electroplating of an article with nickel is

(a) Nickel chloride (b) Nickel sulphate (c) Nickel hydroxide (d) Nickel oxide

Question 32

The V.D. of a compound is calculated using the formula given below –

(a) V.D = 2/Molecular Weight (c) RMM = 2 + VD

(b) VD = 2*RMM (d) None of the above

Question 33

The bulb in the circuit of the electrolytic cell glows dim when the electrolytic cell used is

(a) Magnesium hydroxide (b) Magnesium sulphate

(c) Glucose solution (d) Distilled water.