SEVEN ELEVEN SCHOLASTIC SCHOOL (ICSE)
SECOND PRILIMINARY EXAMINATION
2020-21

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Grade: X Div : _____Roll no___
Subject : CHEMISTRY

Date: 16 February, 2021
Marks: 80
Duration: 2 hrs

General Instructions:
Answers to this paper must be written on the paper provided separately.
*You will **not** be allowed to write during the first **15** minutes.*
This time is to be spent in reading the question paper.
The time given at the head of the paper is the time allotted for writing the answers.
*Attempt **all** questions from **Section I** and **any four** questions from **Section II**.*
The intended marks of questions or parts of questions are given in brackets[ ].

SECTION I (40 Marks)

*Attempt **all** questions from this section*

Q1 (a) From the list below , select the word (s) required correctly complete the blank **[5mk]**
Note: No need to copy the passage only write the Chosen answer
[Reddish brown , ammonium, nitrogen dioxide , hydroxyl, dirty green , ammonia , acidic , alkaline]
Nitrogen and hydrogen combine in the presence of a catalyst to give (i) ..... gas. When the above gas is passed through water it forms a solution which will be (ii) .....in nature and the solution contains (iii) ..... Ions and (iv)..... Ions . The above solution when added to iron (ii) sulphate solution gives a (v) .....coloured Precipitate of iron (ii) hydroxide

Q1.(b) Select from the list given a to e . One substance in each case which matches the description given in parts (i) to (v) **[5mk]**

(a) Nitroso iron (II) sulphate (b) iron (III) chloride (c) Chromium sulphate
(d) Lead (II) chloride (e) Sodium chloride

(i) A compound which is deliquescent
(ii) A compound which is insoluble in cold water but soluble in hot water
(iii)The compound responsible for the browning during the brown ring test of nitrate ion
(iv) A compound whose aqueous solution is neutral in nature
(v) The compound which is responsible for the green colouration when sulphur dioxide is passed through acidified potassium dichromate solution

[10mk]

Q 1.(c) Choose the correct Answer

(i) A particular solution contains molecules and ions of the solute so it is a
(A) Weak Acid (B) Strong Acid (C) Strong Base (D) Salt Solution

(ii) A compound which liberates reddish brown gas around the anode during electrolysis in its molten state is
(A) Sodium Chloride (B) Copper (II) oxide (C) Copper (II) Sulphate (D) Lead (II) bromide

(iii) An Organic Compound undergoes in addition reaction and show two successive reaction to form saturated
(A) Alkane (B) Alkene (C) Ethane (D) Alkyne

(iv) Find out the odd one
(A) Methane (B) Ethyl Alcohol (C) Ethene (D) Pentene

(v) An organic weak acid is
(A) Nitric acid (B) Formic Acid (C) Sulphuric acid (D) Hydrochloric acid

(vi) During Ionization metals lose electrons, this change can be called
(A) Oxidation (B) Reduction (C) Redox (D) Displacement

(vii) Which one of the following is not true for Metal
(A) Metals are good conductor of electricity
(B) Metals are ductile
(C) Metals form non polar covalent compound
(D) Metals will have 1,2 or 3 valence electron

(viii) The I.P. of Metals in comparison with nonmetals are
(A) Less (B) More (C) Equal (D) None

(ix) Strong Electrolytes when dissolve in water or during electrolysis it form ions on
(A) Dissociation (B) Ionisation (C) Molecular form (D) A & B both

(x) The number of electron present in Valence shell of a halogen is
(A) 1 (B) 3 (C) 5 (D) 7

Q1 (d) State your observation for the following cases : [5mk]

(i) Zinc metal is heated in air at 500 ^{0} C
(ii) Ammonium hydroxide is added to Iron (III) chloride solution
(iii) Action of nitric acid on Limestone
(iv)Ammonium gas is burnt in an atmosphere of oxygen in the absence of a catalyst
(v) Glass rod is dipped into ammonium hydroxide is brought near the month ofconcentrated hydrochloric acid bottle

Q1 (e) Define the term [5mk]

(i) Flux (ii) Electrolysis (iii) Electronegativity (iv) Coordinate bond
(v) Polar Covalent Bond

Q.1.(f) Write the balance Chemical reaction [5mk]

(i) Ethen reacts with Hydrogen
(ii) Zinc Oxide is treated with Sodium hydroxide solution
(iii) Ammonium Chloride is treated with Sodium hydroxide solution
(iv) Sodium reacts with Dil. Hydrochloric acid
(v) Magnesium sulphate solution is mixed with Barium chloride

Q1 (g). By using following information Identify the bond which form between the following [5mk]

(i) Na and Cl (at. No. 11 and 17 respectively)
(ii) N and H (at. No. 7 and 1 respectively)
(iii) N ,H and O (at. No. 7 , 1 and 8 respectively)

$HNO_3 + 2CuO \longrightarrow$

$NH_4OH + Fe_3Cl \longrightarrow NH_4Cl \rightarrow Fe_3OH$

Section II (Attempt any four Question)

Q.2 a. Arrange the following elements as per the guidelines in bracket [5 mk]

(I) Na, Cl, Mg, P [in decreasing order of atomic size]
(II) C, Li , F, N [in increasing order of electronegativity]
(III) Cl, Al, Na, S [in increasing order of I.P.]
(IV) Li. F,C ,O [[Decreasing order of electron affinity]
(V) Ar, He, Ne [in increasing order of electron affinity]

Q.2 b. (I) Distinguish between Ionic Compound and Covalent Compound [3mk]
(II) By taking an example justify coordinate bond [2mk]

Q3.(a). 500 ml of a gas X at S.T.P. weighs 0.50 g . Calculate the V.D. and Molecular weight of the gas . (1 lit. of H_2 weighs 0.09 g) [3 mk]
(b). Distinguish between Electrolytes and Non electrolytes [2 mk]
(c). With the help of reactions explain about the electrolysis of $PbBr_2$
(Only reaction required for explanation) [3mk]
(d) . Define the term Electroplating and Electrorefining [2mk]

Q.4 (a). An Organic Compound on analysis gave H= 6.48 %, and O = 51.42 % . Determine its EmpericalFormula .if the compound contains 12 atoms of carbon [4mk]
Q.4 (b). Give balanced equations for the following conversions [4mk]
(I) Liquor Ammonia to Ammonium sulphate
(II) Nitric acid to sulphuric acid
(III) Silver nitrate to silver chloride
(IV) Ehene to Ethyne
Q4 (c). Write the chemical distinguish between Ethene and Ethane (reaction required) [2mk]

Q.5 .(a). Draw the structural formula for the following : [5mk]
(i) 1,2 dimethyl Pentane (ii) 2chloro, 3 Ethyl Butene (iii) Tetrachloro Methane
(iv) 1,2,dibromoethane (v) 1,1, dichloroethane
Q.5(b). Distinguish between Addition reaction and Substitution reaction [3mk]
Q.5(c) Write the Chemical test for HCl and HNO_3 [2mk]

Q.6 a. Write name & observation of product for the following reaction (No need of reaction)[5mk]
(i) Iron(II) Sulphate reacts with Ammonium hydroxide
(ii) Iron(III) Chloride reacts with Ammonium hydroxide
(iii) Copper sulphatereacts with Ammonium hydroxide
(iv) Lead Nitrate reacts with Nitric acid
(v) Zinc sulphate reacts with Ammonium hydroxide
Q.6(b). (i) Distinguish between Metal and Non- Metal (any three points) [2mk]
(ii) With reference to periodic table explain how I.P. and Nature of Oxides varies [3mk]