GREENLAWNS SCHOOL, WORLI
Terminal Examination 2018
CHEMISTRY

Std: VIII   Marks: 80

Date: 01/10/2018   Time: 2 hrs

Answer to this paper must be written on the answer booklet provided to you.
The first 10 minutes are to be spent in reading the Question paper. The time given at the head of this paper is the time allowed for writing the answers. All questions are compulsory. Do not waste paper. Leave only one line after each answer.

I A) Write the formula of the following compounds: [2½]
   i.   Magnesium bicarbonate   iv. Sodium zincate
   ii. Copper (I) chloride   v. Aluminium sulphite
   iii. Calcium carbonate

B) Write the names of the following compounds: [2½]
   i. K_2PbO_2 iv. NH_3
   ii. Ca_3N_2 v. HNO_3
   iii. NH_4OH

C) Classify the following into acidic, basic, neutral and amphoteric oxides: [2½]
   i. ZnO iv. CO_2
   ii. MgO v. $Al(OH)_3$
   iii. N_2O

D) Elements A, B, C, D and E have atomic numbers 4, 9, 12, 17 and 20 respectively.
   i.   Which ones will form anions?   [1]
   ii. State the number of protons and electrons in E.   [1]
   iii. Write down the formula of the compound formed between C and D.   [½]

E) Balance the following chemical equations: [3]
   i. $Fe_2O_3 + Al \rightarrow Al_2O_3 + Fe$
   ii. $Pb_3O_4 + HCl \rightarrow PbCl_2 + H_2O + Cl_2$
   iii. $S + HNO_3 \rightarrow H_2SO_4 + H_2O + NO_2$
   iv. $(NH_4)_2SO_4 + NaOH \rightarrow Na_2SO_4 + H_2O + NH_3$
   v. $NH_3 + O_2 \rightarrow N_2 + H_2O$
   vi. $AgCl + NH_4OH \rightarrow Ag(NH_3)_2Cl + H_2O$

F) Balance the following word equations: [3]
   i.   Copper + Sulphuric acid → Copper (II) sulphate + Water + Sulphur dioxide
   ii. Aluminium oxide + Sodium hydroxide → Sodium aluminate + Water
   iii. Iron (III) chloride + Ammonium hydroxide → Ammonium chloride + Iron (III)
                                                                                          hydroxide

G) Give reasons for the following: [4]
   i.   Both precipitation and neutralisation are considered as double decomposition reactions.
   ii. Particles of matter possess energy called kinetic energy.

iii. Burning of a magnesium ribbon in air is considered a chemical change.
iv. Zinc displaces copper from copper (II) sulphate.

H) Name the following: [5]
   i.   Colour of copper carbonate.
   ii. The shell closest to the nucleus of an atom.
   iii. The chemical name for rust.
   iv. The valency of an element whose electronic configuration is 2, 8, 5.
   v.   The colour of lead acetate paper when introduced in hydrogen sulphide.
   vi. Conversion of vapour into a liquid.
   vii. The catalyst used during the formation of ammonia.
   viii. The salt obtained when dilute sulphuric acid is added to zinc metal.
   ix. The gravitational pull on matter.
   x.   An element exhibiting variable valency of 1+ and 3+.

I) Define the following terms: [5]
   i.   Precipitate   iv. Physical change
   ii. Chemical equation   v. Ion
   iii. Isotopes

J) Draw the atomic structure of the following elements and give the necessary [5]
   information:
   i.   Nitrogen (A = 14)   ii. Sulphur (A = 32)

K) Give balanced equations for the following: [5]
   i.   Change of colour.
   ii. Formation of a precipitate.
   iii. Thermal decomposition of potassium chlorate.
   iv. Thermal dissociation of ammonium chloride.
   v.   Synthesis of sodium oxide with water.
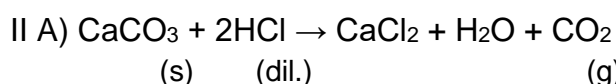
II A) $CaCO_3 + 2HCl \rightarrow CaCl_2 + H_2O + CO_2$
           (s)   (dil.)   (g)
   i.   State the information provided by the above chemical equation. [2]
   ii. State the information not conveyed by the above chemical equation. [2]
B) Complete and balance the following equations: [4]
   i. $ZnSO_4 + (NH_4)_2CO_3 \rightarrow$ _____ + _____
   ii. $Cl_2 + KBr \rightarrow$ _____ + _____
   iii. $P_2O_5 + H_2O \rightarrow$ _____
   iv. $Zn(OH)_2 \rightarrow$ _____ + _____
C) Represent the formation of oxygen molecule using atomic diagrams. [2]

III A) What are oxides? Give equations for preparation of oxides by: [4]
   i.   Action of steam on a metal
   ii. Heating of nitrates
   iii. Heating of carbonates

B) The figure below represents one of the discoveries of the part of an atom.
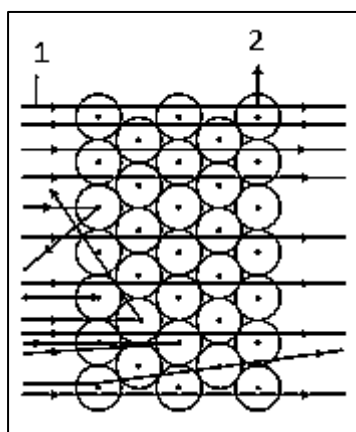
i. State the discovery being done. [½]
ii. Which scientist carried out this experiment? [½]
iii. Label 1 and 2. [1]
iv. What did the scientist observe from this experiment? [1½]
v. What did he conclude? [1]

(C) Give an equation to represent catalytic reaction. [1½]

IV A) When steam is passed over red hot iron, magnetic oxide of iron and hydrogen are obtained. "The reaction between steam and iron is a *reversible* reaction."
   i. What is meant by the term reversible reaction? [1]
   ii. Give a balanced equation for the reaction between iron and steam. [1]

B) Mention any two factors that bring about chemical changes or reactions. [2]
C) Define mass number. What is the mass number of the atom having 20 neutrons and 15 protons? [2]
D) 'Inter-particle attraction between atoms of gases is very weak.' State four properties of gases which correlate as a consequence of the weak inter-particle attraction between particles of gases. [2]
E) Distinguish between electrolytic and photochemical reaction. Give an example in each case. [2]

V A) Give a chemical test for each of the following gases: [4]
   i. HCl   ii. SO₂   iii. O₂   iv. Cl₂
B) Give balanced equations for the action of heat on Copper sulphate and Lead dioxide. [2]
C) Distinguish between ionic and covalent bond. Give suitable examples for the same. [2]
D) Give equation for reaction between a metallic sulphide and dilute acid. State the reason for balancing a chemical equation. [2]

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