KITALA SECONDARY SCHOOL

CHEMISTRY END TERM ONE EXAMS 2016

NAME……………………………………………………………………………………..ADM NO…………………..SIGN……………

1. What is the chemical name for rust? 1mk

2. The table below gives the atomic numbers of elements represented by letters K, L, M and N.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ELEMENT | K | L | M | N |
| ATOMIC NO. | 15 | 16 | 7 | 20 |

a) Write the formula for the reaction between K and M.1mks

b)Using dot(.) or cross(x) diagram, draw the structure of element M.2mks

3i) Using an example, explain the term sublimation.2mks

ii) When iodine crystals are heated, they vaporize and on cooling, the purple vapor, a solid is formed. Name two other solids that behave like iodine.2mks

4. A student was supplied with a colourless liquid suspected to be water.

a) Describe one chemical test that could be carried out to show that the liquid was water.2mks

b) How could it have been shown that the liquid was pure water.1mk?

5. Give two methods of preventing rusting. 2mks

6.Fractional distillation of liquid air is usually used to separate various gaseous mixtures in air. Explain how to;

a)remove carbon iv oxide .2mks

b)remove water.2mks

7.Write a balanced chemical equation for the reaction of water with the following metals. 3mks

a)Sodium

b)Calcium

c)Potassium

8. Define the following terms;2mks

a)Reduction

b)Oxidation

9. When hydrogen is passed over heated copper ii oxide, the reaction took place as shown;

Copper ii oxide + hydrogen copper +water

 Identify;2mks

 a)Oxidizing agent

 b) Reducing agent

10.Name the element present in the following compounds.5mks

a)Sodium bromide

b)Zinc sulphide

c) Lead oxide

d)Magnesium nitride.

e) Potassium iodide

11.a)An atom of an element is said to be electrically neutral. Explain 2mks

b)Distinguish between atomic number and mass number.2mks

c)An isotope Q, has 18 neutrons and mass number of 34

i)Draw the atomic structure of Q 2mks

ii)Write the electron arrangement of Q 1mk

d) To which period and group does Q belong.1mk? Explain your answer.2mks

e)How does Q forms its ion ? Explain. 2mks

12a)Determine the relative atomic mass of the following elements;

i)Neon

$\frac{20}{10}Ne$(90.92%) ,$\frac{21}{10}Ne$(0.26%) and $\frac{22}{10}Ne$(8.82%)

ii)Argon $\frac{36}{18}Ar(0.34\%)$, $\frac{37}{18}Ar($ 0.06%) and $\frac{38}{18}Ar(99.6\%)$

b) Calculate the number of neutrons in each atom of Argon. (3mks)

13.Define the term ionization energy. 1mk

14.State two uses of Alkali metals. 2mks

15.Balance the equation below;

a)Mg(s) + HCl(aq) MgCl2(aq) +H2(g)

b)Na(s) + H2O(l) NaOH(aq) +H2(g)

16. Both lead and copper have a valency of 2. Write the formula of; 2mks

i)Lead Carbonate

ii)Copper Chloride

17.Give the oxidation numbers of the following ions;2mks

a)Cu2+

b)Al3+

18.The table below shows the PH values of solutions A, B ,C , D AND E

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SOLUTIONS | A | B | C | D | E |
| PH | 6.5 | 7 | 8 | 12 | 2.5 |

Which solution could be;

a)Distilled water.1mk

b)Rain water.1mk

c)Wood ash.1mk

d)Dilute nitric acid.1mk

e)Potassium hydroxide solution.1mk

19 State whether each of the following changes are physical or chemical.4mks

i)Copper ii sulphate crystals neated gently

ii)Zinc Oxide heated and cooled

iii)Candle wax heated gently in a test-tube

iv)A few crystals of iodine are heated gently in a test-tube

20.State the kinetic theory of matter.1mk

21.State the method of separating the following mixtures;

i)Oil from nuts.

ii)Ethanol and water

Sodium Chloride and water