**GATITU MIXED SECONDARY SCHOOL**

**END OF TERM 1 EXAMS-2013**

**CHEMISTRY FORM 2**

1. Naturally occurring lead has the isotope 206 Pb and 208 Pb in the ratio 1:1. Calculate the relative atomic mass of lead (2mks)

2. Element x has two isotopes. Two thirds of 33 x and one third 30 x

16 16

What is the relative atomic mass of element x (2mks)

3. Element A, B and C have an atomic numbers 17, 19 and 20 respectively

a) What are valencies of A and B respectively (2mks)

b) To which group of the periodic table does A, B and C belong (1 ½ mk)

c) In which period do elements A and C lie (1mk)

d) Which of the three elements is a non-metal (1mk)

e) Write the formula of the compound formed when

i) B reacts with A

ii) C reacts with oxygen (2mks)

f) The mass numbers of A and B are 35 and 39 respectively

How many

i) Neutrons do A have

ii) Protons does B have (2mks)

4. The diagram below shows the relationship between the physical states of matter .Study it and answers ht questions that follows

a) Name the process labeled A to D (4mks)

b) What is a mixture? Give three examples (2mks)

c) List any three methods used to separate the mixtures (1 ½ mks)

5. Study the set up and answer the quest ions that follow

a) Identify gas X

b) Write word equation for the reaction liberating gas X

c) What is the purpose of anhydrous calcium chloride in the u tube (1mk)

d) Name the method used to collect the gas and the reason why it is collected in that method (2mks)

e) Name another compound that would serve the same purpose as anhydrous calcium chloride (1mks)

6. Define the following words

a) Atom

b) Isotopes

c) Mass number

d) Atomic number

e) Ionization n energy

f) Electron affinity

g) Electro chemistry

h) Electro negativity

i) Atomic radius

j) Radicals (6mks)

7. A part of the periodic table is shown below. The elements are represented by the letter which is not the real symbols

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| A |  | | | | | |  |
| B |  |  |  |  | C | D | E |
| M | N | X | L | W | H |  | Z |
| F | G |

A) Write the electron arrangement of the following elements E X L and H (4mks)

b) Which pair of the elements forms ions by giving two electrons (2mks)

c) Give the formulae of the oxides and chlorides of the elements A,G,X and W (4mks)

d) To which group an d period does the element z, N and M belong (3mks)

8. Write a balanced chemical equation between the following elements

i) Magnesium and nitric acid

ii) Aluminum hydroxide and hydrochloric acid

iii) Sodium carbonate and sulphuric acid

iv) Copper and sulphur (8mks)]

9. Write a well balanced equation for the process of rusting

b) Draw the diagram for the preparation of oxygen and label it (4mks)

c) Write the chemical equation for the process (2mks)

10. Outline four differences between permanent and temporary changes (4mks)

11. What is an alkali, Give 3 examples (3mks)

12. Write the atomic number, electron configuration and symbols of the first twelve elements of the periodic table