**NAME --------------------------------------------- CLASS ---------------------------ADM NO ---------------------**

**GATITU MIXED SECONDARY SCHOOL**

**CHEMISTRY FORM 1**

**3RD TERM 2013**

**2 HRS**

1. Give two harmful effects of drug abuse. 2mks
2. Give two ways that chemistry has helped to boost food production. 2mks
3. Indicate whether the following substances are conductors or non conductors. 4mks

|  |  |
| --- | --- |
| copper | Conductor |
| Rubber |  |
| Glass |  |
| Graphite  |  |

1. Name the piece of apparatus used for the following function in the laboratory.
2. measuring accurate volumes of liquids and solutions. 1mk
3. scoping solid reagents from container. 1mk
4. supporting beakers and flasks during heating 1mk
5. Give two properties of glass that makes it suitable for the manufacture of laboratory apparatus. 2mks
6. The diagram below shows what is observed when paraffin is added to water in a beaker.



1. On the diagram label the water and paraffin layer 1mk

A

B

1. What type of a mixture is the paraffin water mixture? 1mk
2. Name the method of separation that can be used to separate the liquids. 1mk
3. The diagram below represents chromatogram obtained when a plant extract was introduced on a piece of chromatographic paper.



1. What is solvent front? 1mk
2. Give two reasons why Y is formed near the solvent front. 2mks
3. What is meant by the following terms? 2mk
4. melting point
5. mixture
6. Give three differences between permanent and non permanent changes. 3mks

|  |  |
| --- | --- |
| permanent | Non permanent |
|  |  |
|  |  |
|  |  |

1. Write a word equation for the reaction between the following.
2. Write a word equation for the reaction between the following. 1mk
3. sodium hydroxide and hydrochloric acid 1mk
4. Classify the following substances as elements, compounds or mixtures

|  |  |
| --- | --- |
| Air  | Mixture |
| Water |  |
| Soil |  |
| Iron  |  |

1. In an experiment, a form one student inverted a gas jar over a burning candle placed on a cork floating on a sodium hydroxide solution as shown in the diagram below.



1. What observation was made? 2mks
2. what was the student investigating in the experiment? 1mk
3. Why did the student use sodium hydroxide solution instead of water? 1mk
4. What is meant by water pollution? 1mk
5. Give one possible water pollutant that comes from your home. 1mk
6. When a metal M was placed in a beaker of cold water it melts into a silvery white ball that reacts on surface producing a hissing sound as shown below.
7. Identify metal M 1mk
8. State and explain the observation made when a blue and red litmus paper were placed in the water after the reaction. 2mks
9. The word equation below is for a redox reaction

Lead (II) oxide + hydrogen gas → lead + water

1. what is a redox reaction? 1mk
2. Identify the

reducing agent 1mk

 Oxidizing agent 1mk

1. Name the elements present in the following compounds
2. sodium nitrate 1 ½ mk
3. water 1 mk
4. Give two ways of preventing fire accidents in the laboratory while using the Bunsen burner in the laboratory 2mks
5. What is the function of fume chamber in the laboratory? 1mk
6. Explain why it is extremely dangerous to use a charcoal Jiko in a room that is not well ventilated. 2mks
7. The table below gives some properties of gases V1,V2 and V3

|  |  |  |
| --- | --- | --- |
| Gas  | Density to air  | Effect of water |
| V1 | Lighter than air | Dissolves easily |
| V2 |  Heavier than air | Dissolves fairly |
| V3 | Slightly less dense than air | Almost insoluble |

1. Name the most suitable method of collecting 1mk
2. v1 1mk
3. v2 1mk
4. v3 1mk
5. Name the method of separation used to separate crude oil into components. 1mk
6. Name one compound obtained from separation of crude oil and give its use. 1mk
7. The diagram below represents a set up of apparatus used in experiment to determine mass of oxygen gas that reacted with a given mass of magnesium ribbon.



The following masses were measured during the experiment

mass of crucible + lid =13.6 g

mass of crucible + lid + magnesium ribbon =14.8g

mass of crucible + lid + residue after heating =16.4 g

1. Give a reason for the following
2. the magnesium ribbon was polished with solid paper before being used in the experiment. 1mk
3. the lid was opened occassionary during heating. 1mk
4. State the observation made in the crucible at the end of experiment. 1mk
5. Write a word equation for the reaction that took place. 1mk
6. calculate the
7. mass of magnesium ribbon used 1 ½ mk
8. mass of oxygen that reacted with the magnesium ribbon 1 ½ mk
9. total mass of the compound formed when magnesium reacts with oxygen 1 ½ mk
10. In an experiment to determine the composition of candle wax, candle wax was burnt in air and the products collected were a colourless liquid and a colourless gas that formed a white precipitate in calcium hydroxide solution.
11. State how the courless liquid obtained could be identified. 1mk
12. name the colourless gas 1mk
13. From the experiment, what elements compose candle wax. 2mks
14. During the large scale isolation of oxygen, air is passed through the following stages

stage i: passed through filters

stage ii: bubbled through sodium hydroxide solution

stage iii: cooled to -25 c

stage iv: compressed and expanded repeatedly

stage v: fractional distillation

1. state the purpose of the following stages 4mks

stage i

stage ii

 stage iii

stage iv

1. which components of air are separated in stage v 1 ½ mk
2. Give one advantage of universal indicators over acid –base indicators 2mks
3. Give two examples of each of the following
4. A strong base 2mks
5. An acidic oxide 2mks
6. laboratory acid –base indicators 2mks
7. study the diagram below and answer the questions that follow



1. Name apparatus E 1mk
2. state the observation made in the

Apparatus E 1mk

Test tube 1mk

1. Name the compounds formed in the reaction 1 ½ mk
2. study the diagram below and answer the questions that follow



 a. Identify process A,C and F 3mks

b. Give an example of a substance that undergoes process A 1mk

c. On the axis below draw the heating curve of pure water showing all the process it undergoes and three states of matter.

3mks

a. i.Name the regions of a non luminous flame 3mks

ii. Which is the hottest region 1mk

b. Under what condition can the non – luminous flame are obtained from a Bunsen burner. 1mk

c. What type of reaction takes place when the laboratory gas burns in air? 1mk