**FORM 1**

**CHEMISTRY**

**END YEAR EXAM – OCT. 2014**

**TIME 2 HRS**

**NAME…………………………………………..………CLASS………. ADM NO. …………**

**INSTRUCTIONS TO CANDIDATES**

* Write your name an admission number in the spaces provided
* Answer all the questions in the spaces provided
* All workings must be clearly shown where necessary

For Examiners use only

 **80**

1. Give the uses of the following apparatus in the laboratory. (2mks)
2. Spatula

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1. Name the following apparatus (2mks)
2. The diagram below shows a flame produced by a Bunsen burner. Name the regions labeled A,B,C in the diagram. (3mks)
3. Which region is best for heating? Give a reason. (2mks)

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1. Label the parts of a Bunsen burner shown below. (5mks)

A –

B –

C –

D –

E –

1. State three ways of preventing drug abuse. (3mks)

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1. a) Define sublimation. (1mk)

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b) Give two substances that sublime. (2mks)

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1. Describe how the pH of anti-acid powder can be determined in the laboratory. (4mks)

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1. An agricultural officer recommended the addition of calcium oxide to the soil. Explain.

(3mks)

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1. Write two word equations for the products formed when magnesium is burnt in air.

(2mks)

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ii) If one of the products is dissolved in water, a colourless gas produced which turns red litmus blue. Explain using word equation. (2mks)

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1. The table below shows pH values of various substances.

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| --- | --- |
| Substance | pH |
| A | 13.0 |
| B | 4.5 |
| C | 6.5 |
| D | 2.0 |
| E | 8.5 |
| F | 7.0 |

Classify the substances as either strong acid, weak acid, neutral, weak base or strong base. (6mks)

A –

B –

C –

D –

E –

F –

1. a) Name two substances that are essential for rusting to take place. (2mks)

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b) Give three methods that can be used to prevent rusting. (2mks)

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c) Name two conditions which speeds up the rusting process. (2mks)

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d) The following set up of three test- tubes was used to investigate rusting of iron. Study it to answer the questions that follow.

1. Give a reason why rusting did not occur in test-tube C (1mk)

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1. Why was rusting intense in test-tube A. (1mks)

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1. What is the chemical name for rust. (1mk)

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1. The diagram below is a set-up for the laboratory preparation of oxygen gas.
2. Name solid R. (1mk)

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1. What is the role of solid R. (1mk)

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1. Write the word equation for the reaction that takes place in the flask. (1mk)
2. Give two commercial uses of oxygen. (1mk)

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1. Name the above method of gas collection and give a reason why its possible to collect oxygen using the above method. (2mks)

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1. How can a student confirm that the gas collected in the gas jar is oxygen. (1mk)

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1. Air can be separated through fractional distillation of liquid air. Give the use of each of the following in the process.
2. Passing air through sodium hydroxide solution. (1mk)

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1. Passing air through filters. (1mk)

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1. Cooling air to -25$℃ $(1mk)

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1. In an experiment, air was passed over heated copper.
2. State and explain the observations made in the combustion tube. (2mks)

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1. An experiment was set-up as shown below.
2. Identify substance D- (1mk)

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1. Explain the observations made in the test-tube containing calcium hydroxide solution.

(2mks)

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1. What is hydrocarbon. Give two examples of hydrocarbons. (2mks)

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1. In an experiment hydrogen gas was passed over heated copper(II) oxide as shown below
2. Write the word equation for the reaction taking place in;
3. Combustion tube. (1mk)
4. At point B (1mk)
5. Explain the observations made in the combustion tube. (2mks)
6. Complete the following equations (3mks)
7. Sodium + water
8. Magnesium + steam
9. Iron + steam

1. The diagram below was used for the laboratory preparation of hydrogen.
2. Write the equation for the reaction taking place in the reaction flask. (1mk)
3. Identify two drying agent which can be used in drying the hydrogen gas. (2mks)

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1. Name one gas that is mixed with hydrogen to be used in welding. (1mk)

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1. Which other method can be used in collecting hydrogen gas. (1mk)

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1. Give two reasons why air is considered a mixture. (2mks)

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1. Describe how a mixture of iron (III) chloride, sand and sodium chloride can be separated so as to obtain the three solids separately. (3mks)

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1. Dyes A,B and C were analyzed using Y as the purest sample of the dye required by a chemist. The results obtained were as shown on the diagram below.
2. Which of the three dyes A,B and C was the purest. Explain. (2mks)

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1. Give two reasons why dye B moved the furthest in the chromatogram paper. (2mks)

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1. Name the technique used to separate the following mixtures.
2. A mixture of soluble dyes used to colour sweets. (1mk)

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1. Oil from cashew nuts. (1mk)

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1. State whether the following are permanent or non-permanent changes.
2. Heating of copper in air - (1mk)
3. Boiling of water – (1mk)
4. What are the effects of impurities on .
5. Melting points of solids. (1mk)

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1. Boiling point of liquids. (1mk)

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1. Define the following terms. (2mks)
2. Atom –

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1. Molecule –

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1. Identify the **elements** in the following compounds and in each element indicate its **symbol**.
2. Calcium hydrogen carbonate - (4mks)
3. Silver chloride- (2mks)
4. Write the equations for the reaction of; (3mks)
5. Iron and chlorine
6. Calcium carbonate and hydrochloric acid
7. Magnesium and nitrogen