

GATITU SECONDARY SCHOOL, P.O. BOX 327 – 01030, GATUNDU.

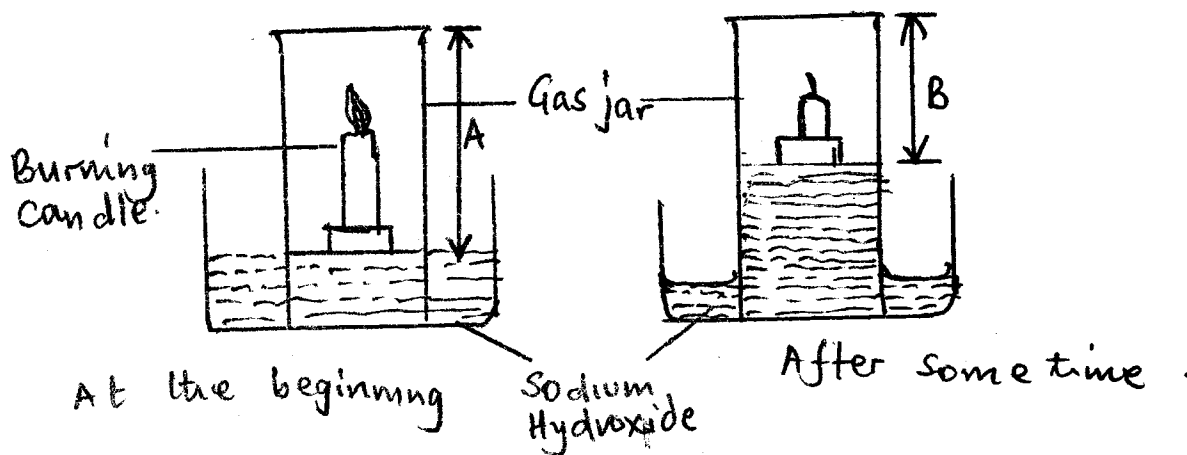
FORM 1 CHEMISTRY. END OF TERM 3 EXAMINATION. 2014

NAME: _____ CLASS: _____ ADM: _____

INSTRUCTION:

1. Write your name, Admission number and class in the spaces here above.
2. Answer ALL questions in the spaces below each question.

1. Below is an experiment set-up to determine the percentage of oxygen in air, Use the set-up to answer the questions that follow.



a) Describe what happens when the burning candle is covered with a gas jar.

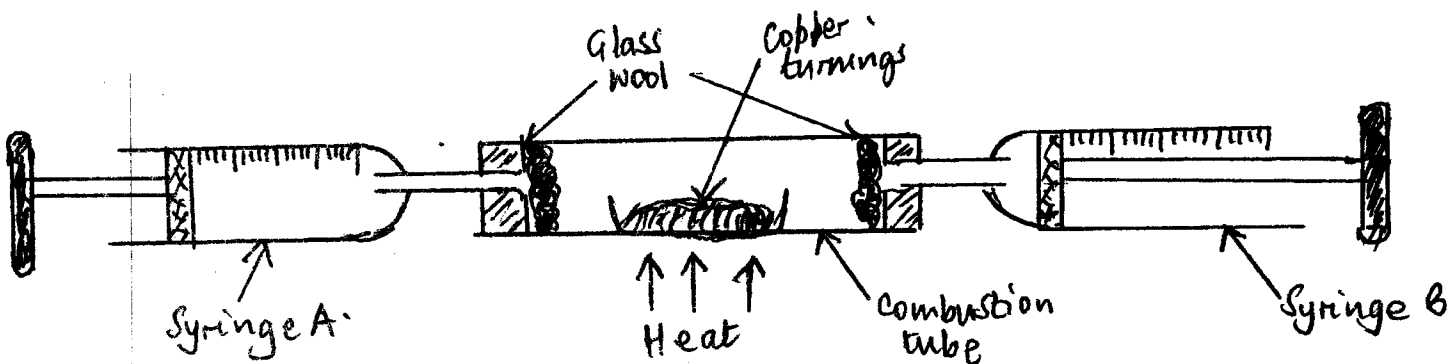
(2mks)

b) Explain why the level of dilute sodium hydroxide rises in the gas jar.

(1mk)

c) Find an expression for the percentage of air used, using A and B values (2mks)

d) Why is sodium hydroxide preferred instead of water in the experiment? (2mks)



Study the set-up above and use it to answer the questions that follow.

a) What is the use of the glass wool plugged in the experiment. (1mks)

b) Why is it advisable to pass air through the copper turnings.
i) Slowly? (2mks)

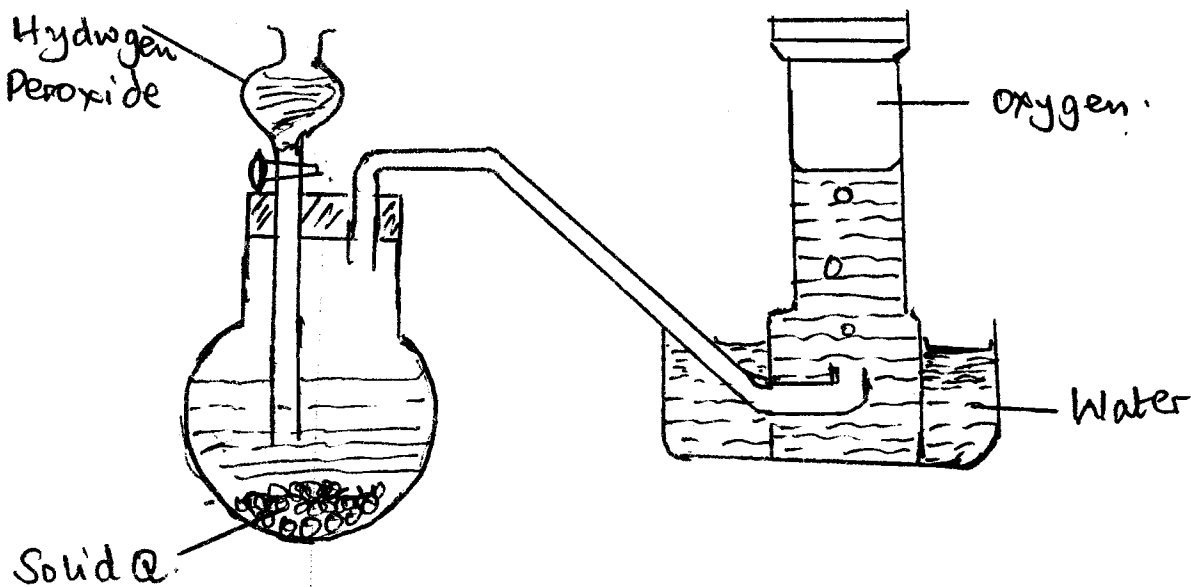
ii) Repeatedly until there is no further change in volume? (2mks

c) What observations are made in the combustion tube? (2mks

d) Use the following data to calculate the percentage of oxygen in air.
Volume of air before the experiment 100cm^3
Volume of air after the experiment 79cm^3 (3MKS

Write the word equation for the reaction which takes place in the combustion tube. (2mks

3. The diagram below is a set-up for laboratory preparation of oxygen.



a) Name solid Q and state its purpose.

Solid Q _____ (1mk)

Purpose _____ (1mk)

b) Write a word equation for the reaction that takes place. (2mks)

c) State how one can test for oxygen. (2mks)

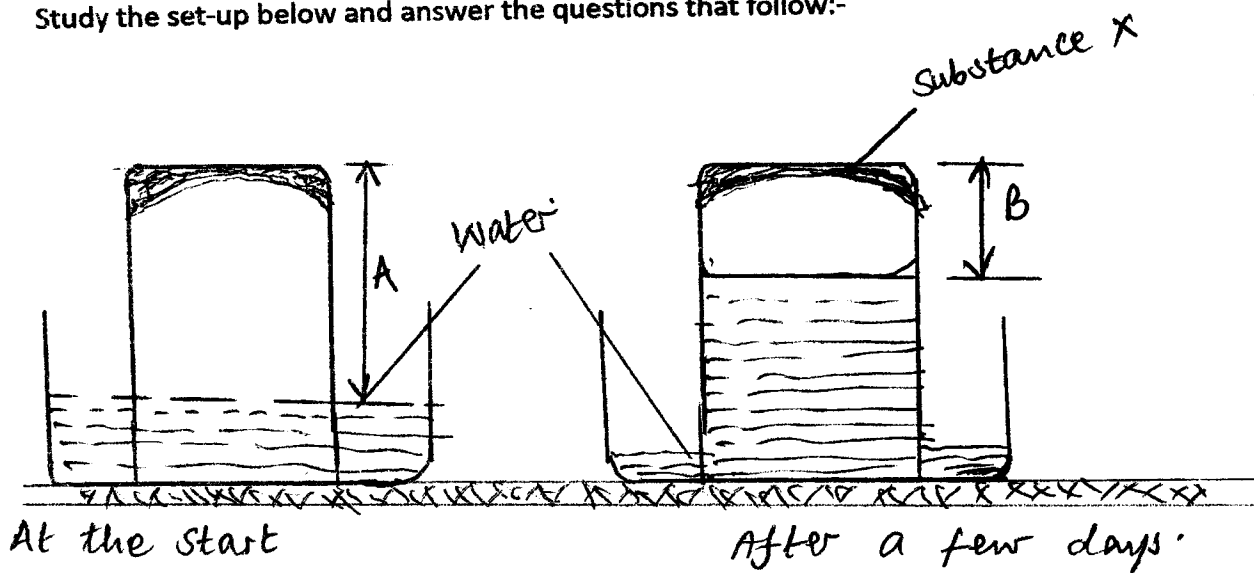
di) State any THREE physical properties of oxygen.

(3mks)

ii) State any three chemical properties of oxygen.

(3mks)

4. Study the set-up below and answer the questions that follow:-



a) Describe what happens when the set-up was left for some few days. (2mks)

b) What is the chemical name for substance X (1mk)

5a) Solution may be classified as strong base, weak base neutral strong acid or weak acid. The information below gives some solutions and their PH values. Study it and answer the questions that follow:-

| SOLUTION | PH |
|----------|-----|
| A | 0.5 |
| B | 7 |
| C | 14 |
| D | 9 |

Classify the solutions in the table using the stated classifications. (4mks)

- A _____
- B _____
- C _____
- D _____

b) A student was supplied with a colourless liquid suspected to be water.
 i) Describe one chemical test that could be carried out to show that the liquid was water.
 (2mks)

- ii) How could it have been shown that the liquid was pure water. (2mks)
- 6a) Name the six components of air. (3mks)
- b) Which is the part of air that is referred to as the active part of air. (1mk)
- c) State three commercial uses of the above gas. (3mks)

7. Hexane and ethanol are miscible liquids. Ethanol is soluble in water while Hexane is insoluble. Explain how water can be used in the separation of hexane and ethanol. (Density of water is 1.00g/cm^3 , ethanol = 0.79 g/cm^3 , hexane 0.66g/cm^3 .) (5mks)

8a) Define the following terms

i)Element

(2mks

ii)Compound

(2mks

iii)Mixture

(2mks

- b) Write the word equation of:
- i) Iron reacting chemically with surplus (2mks)
- ii) Carbon reacting with excess oxygen. (2mks)
- iii) Magnesium reacting with oxygen. (2mks)
- 9.a) Write the symbols of the following element (5mks)
- i) Lithium
- ii) Calcium
- iii) Copper
- iv) Iron
- v) Silicon

b) Write the names of the elements whose chemical symbols are shown below. (3mks)

i) Co

ii) K

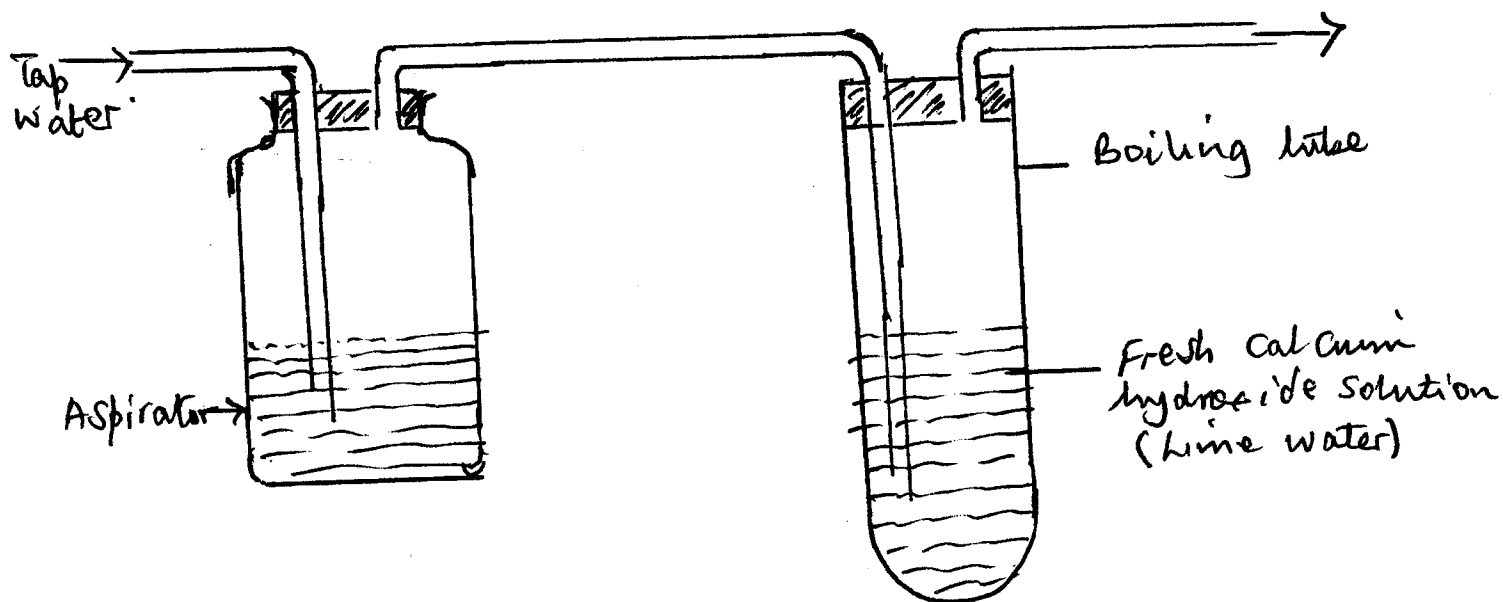
iii) Pb

10.a) Name two products formed when white phosphorous is left exposed in air. (2mks)

i)

ii)

b) The diagram below shows a set-up used to show the presence of carbon (IV) oxide in air. Use it to answer the questions that follow.



- i) **Why is it necessary to allow water to flow into the aspirator.** (2mks)
- ii) **State the observation made in the building tube with calcium hydroxide solution.**
(2mks)
- iii) **What happens when air is passed through anhydrous calcium chloride in a 'U' tube**
2mks