NAME …………………………………………………………….ADM ………………..

**JUJA GIRLS HIGH SCHOOL**

**MID TERM III EXAMS 2018**

**FORM 2 CHEMISTRY**

INSTRUCTIONS

* ***Answer all questions in the spaces provided.***
1. The figure below represents set up that can be used to prepare and collect oxygen gas.

 

1. Name solid R (1mk)

………………………………………………………………………………………………………………………………………………………………………………………………

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

……………………………………………………………………………………………………………………………………………………………………………………………..

1. Write a word equation for the reaction that takes place. (1mk)

………………………………………………………………………………………………………………………………………………………………………………………………

1. Identify the method of gas collection employed. (1mk)

………………………………………………………………………………………………………………………………………………………………………………………………

1. Why is the method in (d) above suitable for collecting oxygen?. (1mk)

………………………………………………………………………………………………………………………………………………………………………………………………

1. Explain why it is important not to collect any gas for the first few seconds of the experiment. (1mk)

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

1. State the chemical test for oxygen gas. (1mk)

………………………………………………………………………………………………………………………………………………………………………………………………

1. Name a solid which would produce oxygen gas when water is added to it.(1mk)

………………………………………………………………………………………………………………………………………………………………………………………………

1. Name any ***two*** solids which when heated produces oxygen gas as one of the products. (2mks)

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

1. When magnesium is burnt in air, it reacts with oxygen and nitrogen giving a white ash. Write ***two*** word equations for the two reactions. (2mks)

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

1. The set up below was used to study some properties of air.

 Gas jar

 Burning candle

 Sodium hydroxide solution

1. State ***two*** observations made after some time. Give a reason for each observation.(4mks)

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

1. Explain why sodium hydroxide solution was used in this experiment rather than water. (2mks)

……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..

1. Given that the volume of air in the gas jar at the beginning of experiment was 150cm3. Calculate the percentage of air used up if the final volume of air was 120cm3. (3mks)

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

1. Name the main component of the remaining 120cm3. (1mk)

……………………………………………………………………………………………………………………………………………………………………………………………..

1. Identify ***two*** possible sources of error in this experiment. (2mks)

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

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

………………………………………………………………………………………………………………………………………………………………………………………………

b) State ***two*** conditions necessary for rusting to occur. (2mks)

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

c) Write word equations for the formation of rust. (2mks)

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

d) Explain why it is possible for an iron article to rust until it is completely eaten away yet rust forms a coat on the article. (2mks)

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

e) State ***two*** conditions which accelerate rusting. (2mks)

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

f) State any ***two*** methods that may be used to prevent rusting. (2mks)

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

g) State a disadvantage of rusting. (1mk)

………………………………………………………………………………………………………………………………………………………………………………………………

5) You are provided with zinc granules, dilute hydrochloric acid, flat bottomed flask, gas jar, trough of water, delivery tube and bee hive shelf.

 a) Make a complete arrangement of the apparatus to prepare and collect hydrogen gas.(3mks)

 b) Identify the ***two*** methods of gas collection that can be used to collect hydrogen gas. Give a reason why each of the methods is suitable. (4mks)

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

 c) Explain why dilute nitric(V) acid cannot be used in place of the hydrochloric acid.(1mk)

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

 d) Explain why the following metals are not suitable for use in place of zinc. (4mks)

 i) Magnesium ………………………………………………………………………………………………………………………………………………………………………………………………………………

 ii) Iron ………………………………………………………………………………………………………………………………………………………………………………………………………………

 iii)Copper………………………………………………………………………………………………………………………………………………………………………………………………………

 iv) Sodium …………………………………………………………………………………………………………………………………………………………………………………………………………….

1. State any ***two*** drying agents for hydrogen gas. (2mks)

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………