



**JINJA MODERN SECONDARY SCHOOL**

**Uganda certificate of education**

**S.3 MID TERM 2 EXAMINATIONS**

**CHEMISTRY**

**Paper 1**

**2 hours**

**Name:**

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**Signature**.....

**INSTRUCTIONS**

*This paper consists of two sections A and B. It has **six** examination items*

*Section A has **two compulsory items** .*

*Section B has two parts **I and II**. Answer one item from each part.*

*Answers to section A must be written in the spaces provided while those of section B must be written on the answer booklets provided.*

*Any additional items responded to will **not** be scored.*

## SECTION A

### Attempt all items in this Section

1. Andrew, on attending a graduation ceremony that was organized by his friend, saw a popular industrial beverage known as GIN among the drinks being served. He became curious and requested to be served this drink. He became drunk after taking it.

As a chemistry learner,

- (i) Identify the categories of beverages Andrew would have known before choosing the product

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- (ii) Help Andrew know the properties and the functions of the substance in the product.

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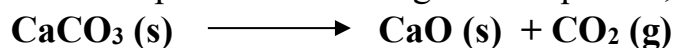
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(b) Advise the Andrew on the challenges associated with the excessive consumption of the product.

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2. An industry wanted to produce lime for treatment of acidic soils. The production of lime involves heating limestone strongly which results into its decomposition according to the equation;



The industry is also interested to know how much gas is evolved during the process since the gas is useful.

Before the production, the experiment was performed where 25g of limestone were heated until there was no further change. You have been contacted for help.

**Task;**

(a) Use your chemistry knowledge to:

(i) Explain the categories of the products.

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(ii) Suggest the properties of the gaseous products that make it useful in daily life.

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(i) Calculate the volume of the gaseous product measured at room temperature that was formed. ( 1mole of a gas occupies 24dm<sup>3</sup> at room temperature)

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(ii) Explain the impact of one of the products on the environment.

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## SECTION B

### Part One

**Attempt one item from this Part.**

3. People in most remote villages of Uganda often suffer from scarcity of some synthetic products. Sometimes their only available suppliers hike prices for these products. A women's group in Kisoga village, Mukono district is planning to manufacture a soapy detergent as a new business project to reduce on their expenses and to increase their annual gross sales. The group is planning to set up a soapy detergent production plant with minimal environmental concerns in this village.

Some locals of this village are also complaining that their valuable land is about to be taken up by these women in order to set up their production plant. However, the science club members in your school would like to know how the process of production will be carried out.



The head of science club has appointed you to sensitize the club members.

#### **Task;**

Prepare a write up that you will use during the presentation.

4. Air is a mixture of different components. It contains 78% Nitrogen. Due to a great demand for artificial insemination, there was an increased demand for Nitrogen in facilities to be used for semen preservation. The government supply of nitrogen is not enough and is planning to set up an nitrogen production plant with minimal environmental impact.



However, the science club members in your school would like to know how the production process will be carried out.

**Task;**

As a chemistry learner, prepare a write up you will use during the presentation.

**Part two**

**Attempt one item from this Part.**

5. Peter, the cattle keeper, grazes his cattle on a community land. During the dry season, he practices bush burning and also takes his cattle to drink water from the community water source. Peter's practices have raised concern in the community. The area chairperson has organized a meeting to create awareness for Peter and the community.

**Task;**

As a chemistry learner, make a write up of the message the chairperson will present to the community.

6. During her holidays, Eve visited her aunt who works at a stone quarry. She noticed that explosives were being used to blast big rocks to form small stones (aggregates) and there was a lot of dust rising into the air.



Besides the social benefits, Eve was concerned about what would happen to the site and the community if the activity continued over time.

**Task;**

As chemistry learner, make a write up to respond to Eve's concern.

**END,**