

545/1  
CHEMISTRY  
Paper 1  
2 hours  
July 2025



**INTER ISLAMIC SCHOOLS  
JOINT MOCKS ASSOCIATION  
(IJMA)**

**Uganda Certificate of Education**

**CHEMISTRY**

**Paper 1**

**2 Hours**

**Name:**.....

**Index:**.....

**INSTRUCTIONS**

- ❖ *This paper consists of two sections A and B*
- ❖ *It has 6 items*
- ❖ *Section A has two compulsory items*
- ❖ *Section B has four items from two parts. Answer one item from each part.*
- ❖ *Answer four items in all*
- ❖ *Answers to section A must be written in the spaces provided while those in B must be answered in the booklet(s) provided*
- ❖ *Mathematical tables and silent non-programmable calculators may be used*
- ❖ *Where necessary: C=12, H=1, O=16., 1 mole of a gas occupies 22.4dm<sup>3</sup> at s.t.p*

| For Assessors' Use<br>Only |   |   |   |   |   |   | Total |
|----------------------------|---|---|---|---|---|---|-------|
| Item                       | 1 | 2 | 3 | 4 | 5 | 6 |       |
| Score                      |   |   |   |   |   |   |       |

## SECTION A

Answer both items in this section.

1. In order to enhance performance, athletes have to be physically well. An athlete in senior two is experiencing chronic pain and inflammation in the muscular skeletal system due to poor training. He has tried different herbal remedies but was not effectively treated. He wants to seek better medication in order to treat it effectively, safely and quickly and thus approached you for guidance.



Task

As a learner of chemistry,

- a) Identify the best alternative product he can use.

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- b) Explain to him the function of the product

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- c) Advise him on the side effects associated with the product.

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d) Make an evaluation of the two products.

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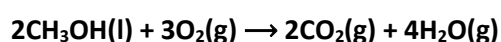
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2. Ethanol is one of the common beverages consumed by many Ugandans. In order to ensure its availability, a bioethanol plant in kakira was set up to produce it from fermented sugarcane with minimal environmental impacts. The plant's furnace burns 10.8kg of ethanol per minute to produce steam and carbon dioxide as per the equation below.



Your fellow students are interested in knowing the amount of gas that is produced in the plant per minute and have approached you for guidance.

Task

Using your chemistry knowledge,

- a) Explain
- i) the categories of the products formed during combustion

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ii) the properties of substances in the same category above.

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b) Calculate the volume of the carbon dioxide produced per minute at s.t.p.

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c) Advise on the impacts of one of the products to the environment.

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## **SECTION B**

### **PART I**

**Answer one item from this part in the answer booklet provided**

3. Chlorine is an important substance that is used as a raw material in the production of various pharmaceuticals. A chemical plant is built to produce chlorine to be used in pharmaceutical industries. The plant aims to achieve zero carbon emissions and also benefit the society at large.

However, many Ugandans lack knowledge on how the production process and its benefits can be achieved with minimal impacts to the environment. Your fellow colleagues are also interested in understanding the same and have approached you for guidance.

#### **Task**

As a learner of chemistry, make a write up that will benefit your classmates and the rest of the Ugandans.

4. Lime is one of the building materials that is used in Uganda. A construction company is planning to build a new highway in a mountainous region, which requires large quantities of lime to stabilize the soil and prevent landslides, therefore a new production plant is to be established to ensure sufficient supply of lime.

However, the science club of the school is interested in understanding how the production process will be done and how the impacts created will be mitigated in order to enjoy the benefits and have approached you for advice.

#### **Task**

Make a write up that will be of a message that will benefit them.

### **PART II**

**Answer one item from this part in the answer booklet provided**

5. Uganda discovered significant oil reserves in Hoima district and has announced plans to build a pipeline to transport oil from albert region to the coast for export. However, the activity will create potential risks to the Albertine water which is a sensitive ecosystem, raising concerns about environmental degradation. The ministry of energy has thus started sensitization of people through radio talks where your school has been invited to make a presentation and you have been chosen among the presenters.

Task

Make a write up of a message that you will present.

6. Rocks and minerals are part of the resources that are of benefit to Ugandans. A construction company is planning to build a new high way through a mountainous region. The project will require blasting and excavation of rocks to create a path for the highway. However, the residents are worried on the potential impacts that will be created, the chairperson of the community has therefore organized a sensitization meeting and your school has been invited. Your teacher has chosen you among the speakers since you have chemistry knowledge.

Task

Make a write up of the message that you will deliver.

**END**