

Candidate's Name:

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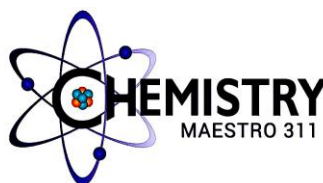
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CHEMISTRY

Paper 1

July 2025

2 hours



CHEMISTRY DEPARTMENT EXAMINATIONS BOARD

Uganda Certificate of Education

CHEMISTRY

Paper 1

2 hours

INSTRUCTIONS TO CANDIDATES:

*This paper consists of **two** sections; **A** and **B**.*

*It has **six** examinations items.*

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

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

*Answer **four** items in all.*

*Answers to section **A** **must** be written in the spaces provided while those of section **B** **must** be written on the answer sheet(s) provided.*

*Any additional items(s) answered will **not** be scored.*

Use where necessary;

$C = 12, H = 1$

SECTION A

Answer **both** items from this section in the spaces provided.

Item 1

In an attempt to find an alternative fuel for cooking, some industrial workers came up with a new substance **Q** which on further analysis, was found to be containing 79.9% carbon, while the remaining percentage being hydrogen, it also had a vapour density of 15.

The workers are confused about how to determine the molecular formula of substance **Q**.

The environmentalists have cautioned the industrial workers not to continuously burn substance **Q** citing that its combustion could potentially lead to deterioration of environment quality.

Task:

As a chemistry learner;

(a) Explain the **category** of substance **Q**.

(b) Give the **properties** of substance **Q** that make it useful in our everyday life.

(c) Why should the industrial workers adhere to the advice of the environmentalists?

(d) Help the industrial workers to determine the molecular formula of substance Q

Item 2

Mrs. Anita decided to bake a cake for her daughter's birthday using a cake mix. She bought a new cake mix which was pre-packaged in a box as shown in figure 1 below.



While following the recipe to make the cake, she noticed that the box had a written on list of ingredient components of cake mix where some had unfamiliar names.

Later that evening, Anita's daughter ate several slices of the made cake citing its nice aroma.

However tomorrow morning, Anita's daughter complained of a mild stomach ache, but Anita dismissed this claiming that it was due to over eating and that the cake mix she used to make her cakes doesn't pose any threat onto human health.

Task:

Using your chemistry knowledge;

- (a) **Classify** the ingredient components of the cake mix.

- (b) Explain to Anita how the ingredient components of the cake mix made it possible for her daughter to eat several slices of the cake.

- (c) Assess Anita's dismissal of her daughter's complaint, also evaluate the ingredient components in the cake mix.

SECTION B

Part I

Answer **one** item from this part in the answer booklet(s) provided.

Item 3

Ibrahim is a farmer who grazes his goats on grass pastures near a village swamp. He further cleared all papyrus reeds and napier grass from the swamp and replaced them with rice farming as shown in figure 2 below.



Many challenges arose and many of village members furiously claimed that this was due to Ibrahim's actions which he kept on denying.

The village elders decided to organize an emergency meeting to create an environmental awareness to Ibrahim and rest of village members. You are one of the village members to attend the meeting.

Task:

Use your chemistry knowledge to make a write-up about environmental awareness that you will present during the meeting.

Item 4

Kyengera town is full of kiosks where residents roast meat on daily basis. The town is facing an increasing number of cigarette smokers where most of them drive old cars that release fumes to the atmosphere.

Environmentalists have warned that if the residents of kyengera town are to continue with this life style, the town might face several environmental challenges in the near future.

This has raised concern amongst the members of the kyengera town council who thus organized a radio talk show to create awareness about likely consequences of continuous life style of the residents. You have been invited to present on the radio talk show.

Task:

As a chemistry learner, make a write-up you would present during the radio talk show.

Part II

Answer **one** item from this part in the answer booklet(s) provided.

Item 5

Following the discovery of large mineral ore deposits in Kericho rocky area, the government has rolled a project plan to construct an aluminium manufacturing plant in the area.

Area members have vowed not to allow this project to proceed fearing that it will lead to stopping of stone quarrying which they have been carrying out to survive for past several decades.

Others claimed that they don't know how aluminium production process will be carried out and that manufacturing plant has no associated social benefits but instead will lead to a decline of their environmental quality. You are among the officials which government sent to address the concerns of the area members.

Task:

Prepare a brief write-up you will use while addressing the area members.

Item 6

The secretary of Kanungu district development coordination and monitoring committee was sent by the committee to gather some data about the progress of government's project initiated ten years ago by constructing a caustic soda manufacturing plant in Kanungu district.

Upon reaching the area where the plant was constructed, the plant manager explained to the secretary the steps followed when manufacturing caustic soda. The secretary further surveyed nearby residents where many claimed despite the fact that the plant had led to multiple social benefits, it posed several negative impacts to their environment.

When the secretary returned, he shared with you the data he had collected and then went for other business.

You have been approached by the committee chairman requiring you to give him a brief write-up containing information which the secretary had shared with you,

Task:

Using your chemistry knowledge, prepare a write-up you will give to committee containing the necessary information.



CHEMISTRY DEPARTMENT EXAMINATIONS BOARD
UGANDA CERTIFICATE OF EDUCATION
JULY, 2025

Candidate's Name:

Signature:

Subject: **Paper Code**/

FOR SCORERS' USE ONLY

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Basis code												
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