

Candidate's Name:

Signature:

545/1
CHEMISTRY
Paper 1
2024
2 hours

CHEMISTRY DEPARTMENT EXAMINATIONS BOARD

Uganda Certificate of Education

CHEMISTRY

Paper 1

2 hours

INSTRUCTIONS TO CANDIDATES:

*This paper has **six** examination items which are divided into **two** sections; **A** and **B**.*

*Section **A** has **two compulsory** items. Answers to section **A** **must** be written in the spaces provided.*

*Section **B** has **two parts; I and II**. Answer **one** item from **each** part.
Answers to section **B** **must** be written in the answer booklet(s) provided.*

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

*Any additional item answered will **not** be scored.*

Silent non-programmable scientific calculators maybe used.

SECTION A

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

Item 1

Tom was suffering from an acute fever and thus he was rushed to the village where his grandmother lives. His grandmother collected some products from the bush which she crushed and gave the extract obtained to Tom and later he got healed.

The following week, Tom's young brother was found to be symptomized with severe stress, anxiety and suicidal thoughts. He was taken to a rehabilitation facility where he was given some products over a time and he also later returned to his normal state of mind.

Task:

As a chemistry learner;

(a) Categorize the products given to Tom and his young brother.

(b) Explain how the products exerted their effects onto Tom and his young brother.

(c) Advice Tom and his young brother about the likely consequences of over depending on such products.

Item 2

Senior 2 students of Kalongwe secondary school heated and decomposed a given mass of marble chips under normal room conditions. They observed that there was liberation of a colourless gaseous product which they decided to collect in a container. They found out that the gaseous product was occupying 6 litres of a container by volume.

Task:

Using your chemistry knowledge;

- (a) Explain the categories of substances involved in the decomposition reaction.

(b) Determine the quantity of particles in the gaseous product.

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(c) Advice the students about the impacts of their action to human life.

SECTION B

Part I

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

Item 3

Following the collapse of Kilembe mines limited company in 1982, the government has cleared a local investor to re-ignite the activities of this company in Kasese district in order to tap off the remaining reserves of copper in this area. The investor has promised to set up a copper extraction plant with negligible environmental impacts.

However, the locals would like to know how the extraction process will be conducted.



You have been appointed by the area member of parliament to prepare a presentation to sensitize the locals via a radio talk show about how the extraction process will be done and how the plant will impact their area.

Task:

Design a presentation that you will deliver during the radio talk show.

Item 4

Following the repeated outcry of farmers nationwide about the acidic nature of their farmlands, the government has opted to set up a lime manufacturing plant to produce lime that will be used to neutralize the acidic soils. The plant is set to be constructed at the outskirts of Jinja city but the residents are deeply concerned about how production process will be carried out and how the plant will impact their city.



The government has chosen you to sensitize the residents about their concerns via a televised talk show.

Task:

Prepare a brief message you will deliver during the talk show.

Part II

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

Item 5

The officials of National Environment Management Authority have recently conducted a country wide survey from which they have found out that new environmental challenges have emerged. These include increased desertification, death of fish and foggy atmosphere. The officials claim that all of this is caused by human activities on natural resources.



The officials have planned to choose various youths who will sensitize the nation via a national workshop soon to be organized with the main theme being “**ENVIRONMENTAL CONSERVATION SHOULD BE EVERYONE’S FIRST PRIORITY**”.

Task:

Prepare a sensitization message about the theme that you would deliver in case of being chosen by the officials.

Item 6

Due to increased human population in Lyantonde district, many natural forests have been cleared for charcoal making; swamps have also been reclaimed for settlement and rice farming. These human activities have left district officials wondering.



The district officials have organized a sensitization workshop to create an environmental awareness to the people of Lyantonde district.

Task:

Prepare a short presentation you will deliver during the workshop upon invitation.