

Candidates' Name:

Signature:

Random No.					Personal No.		

(Do not write your school / Center name or Number anywhere on this booklet)

Chemistry
545/1
Theory
July / Aug 2025
2 hours



KAMTEC EXAMINATIONS BOARD
Uganda Certificate of Education

CHEMISTRY

Paper 1

TIME: 2 Hours

INSTRUCTIONS TO CANDIDATES

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

*Section A has **two** compulsory items. Section B has two parts: I and II.*

Respond to 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 booklet(s) provided.

Any additional item(s) answered will not be scored.

For Examiner's Use Only							
Item Number	1	2	3	4	5	6	Total wtd Scored
Wtd Score							
Score's Initials							

Turn over

SECTION A
(Has *two* compulsory items)

Item 1.

Fruits like oranges, mangoes and others are used in the preparation of juice because they are an important source of vitamin C which boosts the body's immune system.

The Entrepreneurship Club of Nkizo secondary school produces juice which they sell to students. However, they have realized that the product sales decline in cold weather and if it stays for days, it develops an unpleasant taste and smell. They have tried to use ascorbic acid obtained indirectly from Lemon, but the problem is persistent. They have been advised to add sodium benzoate, but the club president is worried of its side effects and other members are interested in how the two products are different.

Your friend has directed the president to you as a knowledgeable person for guidance.

Task:

(a) Identify the category of the alternative product.

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(b) State the function of the alternative product.

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(c) Explain the challenge associated with continuous use of the alternative product

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- (d) Guide the club members to make an evaluation of the alternative product and the one they have been using.

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Item 2.

The choice of materials used in daily life depends on their properties and interaction with other substances in the environment. The table below shows part of the periodic table showing substances of which some are important in construction purposes, sulphuric acid manufacture among others.

I							VII
	II	III	IV	V	VI	VII	
P		Q			T		

Students were presented with the above table to choose the most appropriate substance that can be used to manufacture construction materials like windows and door frames and explore the dangers the material might have on the environment. Your friend has contacted you as a knowledgeable person to give the student guidance.

Task:

- (a) Explain the category to which the substance belongs.

Turn over

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(b) Suggest the properties that make the substance suitable for the function.

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(c) State any other daily life application of the substance.

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(d) Suggest the danger of the material from the substance to the environment and a mitigation measure.

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SECTION B

(Part I- Attempt one item from this part)

Item 3.

The iron sheets are part of the token that the Government promised the reformed Karamojong warriors who voluntarily handed over their guns to it and embraced peace. They are to be used to construct their homes.

To avail them, a private investor has been cleared up to set up a plant that extracts iron from iron ore in Kabale district. A workshop involving students and community members was organized to create awareness on the issue.

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However, students were concerned about the specific industrial manufacture procedures involved in the removal of solid impurities and purification of the product after obtaining it. Community members rose concerns on how the impacts due to industrial wastes would be handled and how they would benefit from the manufacturing plant. Your head teacher has recommended you to be part of the sensitization team.

Task: Make a write up that would be used.

Item 4.

Uganda is heavily reliant on agriculture making it an agro-based country. A large portion of its population and economy are involved in the agricultural sector, with crops like coffee being the major export commodities boosting the country's economy.

However, the community members need to increase their produce by applying nitrate fertilizer. The government intends to supply the product however, it needs to create awareness among farmers on the industrial manufacture procedures involved, mitigation of industrial waste impacts and the importance of the Plant to the community members. Your school has recommended you to be part of the sensitization team to create awareness.

Task: Make a write up that can be used during the sensitization program.

(Part II- Attempt one item from this part).

Item 5.

During bricklaying, water is an important resource used to bind soil or clay to make bricks, which is a necessary requirement for setting up homes, hospitals and other buildings. This has made many people dealing in the activity to operate around water bodies to ensure constant water supply. However, the activity of brick laying has a proven impact on the environment.

Turn over



A campaign to sensitize the masses on how the activity can be continued sustainably has been started by schools. You have been chosen to represent your school in the campaign.

Task: Make a write-up you would use during the campaign.

Item 6.

One of the most important sources of energy in industries is coal. It enhances industrial productivity and serves the community's needs. However, overdependence on coal has proven harmful to the environment hence a need to educate the community on mitigative measures.



You have been recommended by your school to be part of the sensitization team to educate the community.

Task: Make a write up you would you use.

END