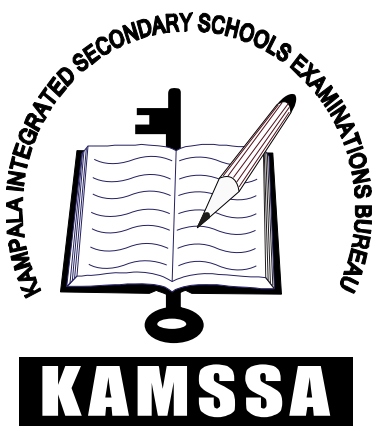


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PRE-REGISTRATION EXAMINATIONS 2024
Uganda Certificate of Education
CHEMISTRY
PAPER 1
2 Hours

INSTRUCTIONS TO CANDIDATES:

- 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.
- 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.

SECTION A
Attempt all items in this section

Item 1

Kayemba is in the process of constructing his house without affecting the environment. He wants to build a strong house. There are various building materials of different quality and properties on the market.

However, he does not know the quality of materials to use.



Kayemba knows that choosing quality materials depends on the nature of the material and has come to you for advice.

Task: Use your chemistry knowledge to;

(a) Explain;

(i) Categories of materials

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(ii) the suitability of the materials

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(b) Advise Kayemba on the choice of the material.

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Item 2

Most of the youths in ADUK village in Eastern Uganda are involved in cutting trees, burning wood and the final products for cooking.

Residents are frustrated with toxic fumes from the activities. They are curious and are requesting to know the nature and composition of the product and why the activities are carried out.



The chairperson has contacted you as a chemistry student for guidance on what she is about to communicate in the meeting.

Task

(a) Guide the chair person;

(i) nature of the product

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(ii) composition of the product

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(b) Her concern is “can these activities have any impact to their community”?

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(c) Are these activities worth benefiting the residents? Inform her.

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SECTION B

Part I

Answer **only** one item from this part

Item 3

A farmer in Kamwenge village has a large piece of land on which he planted bananas and millet for commercial purpose. He realized that a lot of bananas were ripening at the same time and therefore rotted before sell which led to a lot of losses.



Task: Advise the farmer on how he can utilize the ripe bananas and millet to produce a useful product

Item 4.

A technical team of researchers from World Health Organization (WHO), is making research about the Air quality in Kampala, the capital city of Uganda in the past two decades which has

resulted into increased health funding from the Government. The team has involved different stake holders including schools to enable them make a comprehensive research report.

Task: As the chairperson, Green Environment Protection Association (GEPA) at your school, Prepare a detailed report for the team to use as a research tool.

Part II

Answer **one** item from this part

Item 5: At an agrochemical store, different fertilizers are sold. Given two pairs of fertilizers , Pair A consists of ammonium sulphate and Ammonium nitrate where as pair B consists of potassium nitrate and calcium nitrate



Tasks: (a) Provide a methodology approach to a large scale farmer in Ibanda district, Ishongororo-Katogyo which fertilizer in each pair A and B he would buy for maximum yields at his farm, include a reason for in case.

(N= 14, H = 1 , O = 16, S= 32 , K = 39, Ca = 40)

(b) Design a poster you would show to the farmer about the impact of excessive use of above agrochemicals on the farm.

Item 6

Magnesium sulphate injection is used to treat Hypomagnesemia, a health condition of low levels of magnesium in blood , especially administered where it is not possible for medicine to be taken by mouth. Your young sister has been diagnosed with Hypomagnesemia but magnesium sulphate is not in stock at the school pharmacy (health unit) yet needed urgently.



The school pharmacist has advised you to coordinate with your laboratory technician at school and find a way of obtaining a fresh dry sample of magnesium sulphate in the laboratory and later take it to him for use.

Task.

- (a) Write a detailed practical report of how you solved the problem as guided by the pharmacist.
(b) Design poster with a message about the dangers of low levels of magnesium in human body.

END