

NAME:.....

SCHOOL.....

SIGNATURE:.....

545/1
CHEMISTRY
Paper 1
(Theory)
November 2024
2 hours



WAKISSHA JOINT EXAMINATIONS

Uganda Certificate of Education

End of Year Assessment

SENIOR THREE

CHEMISTRY

Paper 1

Theory

2 hours

INSTRUCTIONS TO CANDIDATES

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

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

Section B has two Parts; I and II. Answer one item from each part. Responses to this section must be written in the answer booklet(s)/sheets provided.

Answer four items in all.

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

FOR EXAMINERS' USE ONLY			
Section	Item	Score(S)	Examiner's Signature
A	1		
	2		
B	Part I	3	
		4	
	Part II	5	
		6	
Total			

SECTION A

Answer all the items in this section.

Item 1

Community members in a certain area are frustrated because they use much soap to wash their clothes. However, they have heard of other products on market that work better yet they do not have any idea.

Task

As a chemistry learner, you have been selected to handle the issue at hand.

(a) Help the community members to identify the other product.

(b) Briefly explain how the product in (a) above works.

(c) What are the side effects of using the product in (a) and the mitigations?

(d) How is the product in (a) similar to soap?

Item 2

A person with a small hardware in a trading center had to put some construction materials outside. After sometime, the person got surprised when some materials outside had developed brown coating and remained wondering what could have happened.

Task

Task

Using a knowledge of chemistry help the trader to;

- (a) Discover the name of the brown coating.

- (b) Know the properties of the brown coating.

- (c) Realise the side effect of the brown coating and the mitigation measures.

SECTION B

Part I

Answer one item from this part.

Item 3

Following the outbreak of Covid – 19, the cost for sanitizer increased suddenly and the community members could not afford. A medical personal was invited and advised them to use a cheaper alternative of using locally made Ethanol since sanitizer contains mainly Ethanol. The challenge is that the community members do not know how to produce ethanol locally.

Task

As a chemistry learner, you have been invited to address the community challenge. Make a write up for your presentation.

Item 4

Maize growers in a certain village had a very poor yield. When they consulted the Agricultural officer, he took soil sample for Analysis. They were told that they needed to use nitrogen-based fertilizer in order to improve on their yield. However, the farmers did not know the process of production as regards to the fertilizer.

Task

As a chemistry learner, make a write up you would use to sensitize the farmers.

Part II

Answer one item from this part.

Item 5

During periods of heavy rainfall, residents of certain village suffer from cholera, dysentery and typhoid. This is attributed to drinking water directly from boreholes and wells. The health inspector advised the residents to resort to tap water which is safe for drinking. They remained in dis-belief. You have been invited to sensitize the residents up on the health inspectors idea.

Task

As a chemistry learner, prepare a written message you will present.

Item 6

Global warming has become a major concern worldwide. This has been associated to cutting tress for charcoal burning, timbers for construction, firewood among others.

Task

As a S.3 chemistry learner, use the knowledge of chemistry to make a write up to address the concern.

END

Name: _____

School: _____ Signature: _____

545/2
CHEMISTRY
Paper 2
(Practical)
November 2024
2 Hours



WAKISSHA JOINT EXAMINATIONS

Uganda Certificate of Education

End of Year Assessment

SENIOR THREE

CHEMISTRY

Paper 2

(Practical)

2 Hours

INSTRUCTIONS TO CANDIDATES;

This paper consists of one compulsory item.

Answers to this item are to be written in the spaces provided in this booklet. Use blue or black ink.

All working must be clearly shown. Graph paper will be provided.

Mathematical table and silent non-programmable scientific calculators may be used.

You are not allowed to use reference books (i.e. text books, booklets on qualitative analysis etc.)

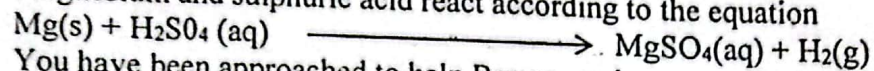
Candidates are advised to carefully read the item, make sure they have all the apparatus and chemicals they may need and then plan appropriately before starting.

Item 1

Mr. Brown a farmer dealing in cotton has been doing well but of recent his yields have deteriorated due to the soils lacking Epsom salt.

Episom salt contains magnesium sulphate an important ingredient in this fertilizers to stimulate root growth and development. Brown is intending to start a local factory to prepare the fertilizer on a small scale by reacting magnesium metal and dilute sulphuric acid but is not aware on how the rate of the reaction can be improved at room temperature.

Magnesium and sulphuric acid react according to the equation

$$\text{Mg(s)} + \text{H}_2\text{SO}_4(\text{aq}) \rightarrow \text{MgSO}_4(\text{aq}) + \text{H}_2(\text{g})$$


$\text{Mg} + \text{H}_2\text{SO}_4(\text{aq}) \rightarrow \text{MgSO}_4(\text{aq}) + \text{H}_2(\text{g})$
You have been approached to help Brown and you are provided with the following.
BA2 which is sulphuric acid solution.

BA2 which is sulphuric acid solution

Q which is magnesium

Task:

As a chemistry learner,

- (a) Design an experiment you will use to determine the rate of the reaction for the factory to address their concerns (Your answer should include aim, hypothesis, variables, apparatus and materials, procedure, risks and their mitigations)

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Lined paper for writing.

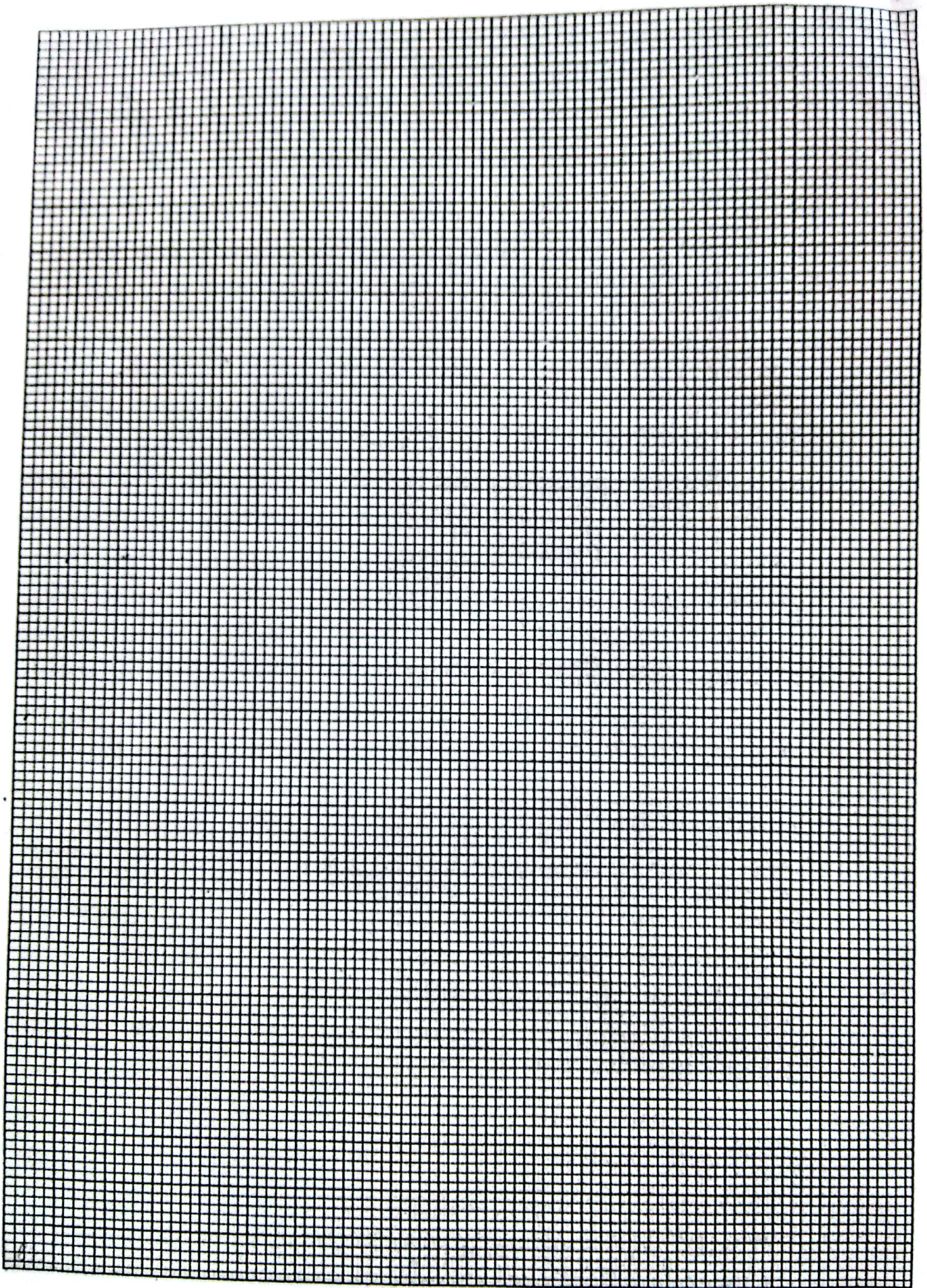
Turn Over
3

- (b) Carry out your experiment and record your results.
(a minimum of six readings is required)

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This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

5



END