

Candidate's Name:

Signature:

Random No.					Personal No.		

545/1
CHEMISTRY
Paper 1
Jul./Aug. 2026
2 hours



For Scorers' Use Only

Total Weighted Score		
Initials		

UGANDA TEACHERS' EXAMINATIONS SCHEME

Uganda Certificate of Education
JOINT MOCK EXAMINATIONS

For Scorers' Use Only

INSTRUCTIONS TO CANDIDATES:

This examination paper consists of two Sections; A and B.

It has six examination items.

Section A has two compulsory items.

Responses to section A must be written in the spaces provided.

Section B has two Parts; I and II. Respond to only one item from each part.

Responses to section B must be written in the answer booklet(s) provided.

Respond to four items in all.

Responses to each item in Section B should start on a fresh page.

Any additional item(s) responded to will not be scored.

Item No.	Basis Code	Weighted Score	Scorers' Initials
	T		
	D		
	E		
	C		
	X		
	I		
(3/4)	P		
	S		
	B		
(5/6)	N		
	M		
	Be		
Total weighted Score			

SECTION A

Answer all items from this section.

ITEM 1

Food additives are substances added to food during preparation. They are categorized into different types and need to be evaluated to ensure they are safe before being approved for use.

A food manufacturing company in Iganga intends to use monosodium glutamate (MSG) in one of its products. Before the products can be put on market residents near the company want some one to evaluate the safety of the additive, its nature and compare it with mushrooms the local residents commonly use for the same purpose.



Since they do not know what the food additives exactly do or which one was safer, they decided to seek better help from a knowledgeable person like you to understand more about the additives.

Task

Help the residents to;

- (a) Categorize the food additives mentioned and know one of its functions.

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(b) Explain the effects of using the food additive and how they can be avoided.

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(c) Evaluate the two types of additives mentioned

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Item 2

The durability of cooking utensils depends on the melting point of the material used. A certain company in Mukono intends to manufacture heat-resistant cooking utensils with good thermal conductivity from different materials.



Turn Over

To guide material selection, the research team collected data on the melting points of selected Period 3 solid elements as shown in the table

Elements	Na	Mg	Al	Si	P
Atomic number	11	12	13	14	15
Melting point($^{\circ}\text{C}$)	98	650	659	1410	44

They do not know how to analyse the data above in order to select the best material which can be used for the manufacture of the equipment in consideration of environmental concerns. They have been referred to you for help.

Tasks

Help them to:

- (a) Categorize the substances with reasons basing on the type of structure

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- (b) Understand the trend in the property of substances in the table

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(c) Know the material to be selected among the substances

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(d) Assess the environmental impact of the substance recommended for use,
how it occurs and be mitigated

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Turn Over

SECTION B

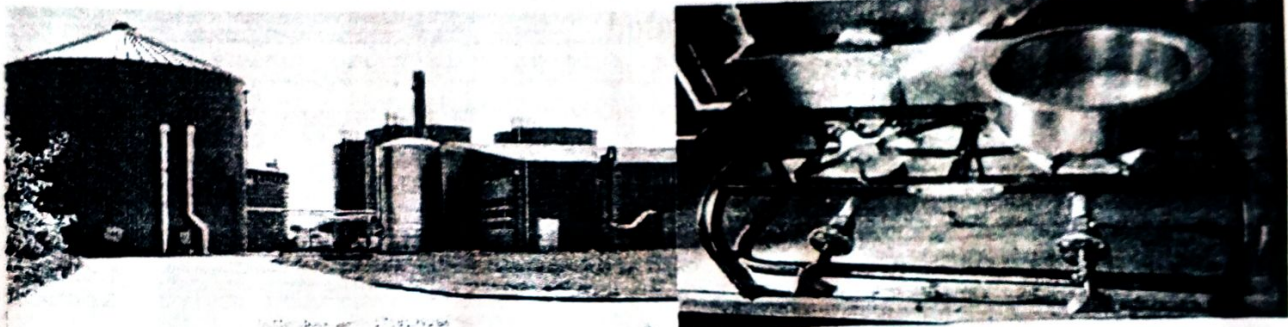
Part I

Answer only one item in this part.

Item 3

Biogas is a renewable source of energy produced from the locally available raw materials

To meet the rising demand for clean energy, reduce fuel costs, and create employment opportunities for the youth in the village, an agro-businessman is considering setting up a biogas production plant.



However, he needs more briefing about how biogas is produced, its additional benefits, and the potential environmental concerns involved in its production.

As a Senior Four learner with a background in the chemistry of energy sources, you have been recommended to brief the businessman.

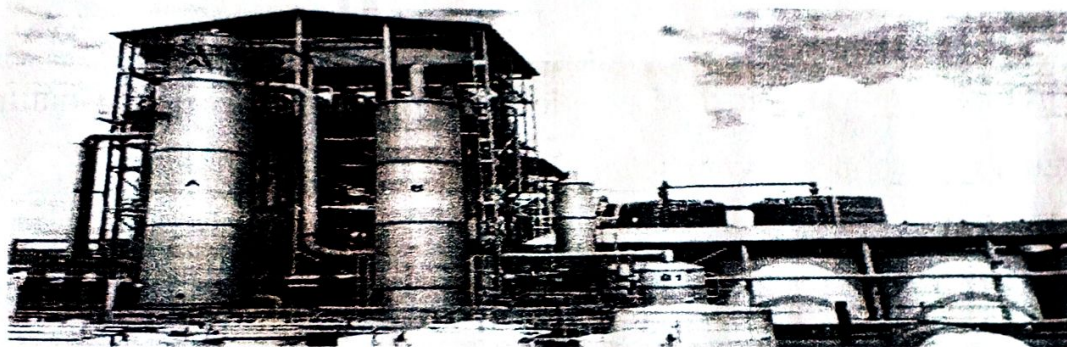
Task

Write a presentation that you will use when briefing the businessman.

Item 4

Ethanol is a versatile organic compound commonly used in many ways and can be manufactured from locally available raw materials.

An Entrepreneurship Club in Tororo municipality has started a small business for producing cosmetic products in which ethanol is a major ingredient. To make their products more affordable, the group is considering making their own ethanol and also provide employment to people, pay taxes to the government, among other social benefits.



However, they are seeking technical information about the process of ethanol production, its other benefits, and possible side effects before they can invest in it.

As a Senior Four learner with chemistry knowledge, you have been chosen to help the group understand what it takes.

Task

Make a write up that will be used to help the club.

Turn Over

PART II

Answer one item from this part.

Item 5

Natural forests influence rainfall patterns and eventually affecting agricultural activities.

Mabira forest has been encroached on by charcoal burners. Environmental experts believe that the heavy reliance on natural forest resources for charcoal burning is contributing to environmental degradation hence climate change. Unfortunately, many citizens are unaware of how their daily use of firewood and charcoal is linked to these climate issues.

The officials want to sensitize people about conservation of the natural resource through a workshop and your school is involved.

Task

Write the chemistry message you can use as a lead discussant to help the citizens understand.

Item 6

Water is a vital natural resource that supports all forms of life.

Despite abundance of water in nature, clean and safe water is becoming increasingly scarce near the shores of Lake Victoria. Unfortunately, many citizens are unaware of how it is important to preserve and protect this natural resource.

This has attracted attention from the ministry of health and thus sensitization debates have been organized in schools around. Your school is among those selected to present.

Task

As a learner of chemistry, make a write up of a message you will deliver

END