

Candidate's Name: .....

Signature:.....

| Random No. |  |  |  |  |  | Personal No. |  |  |
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(Do not write your School Name or Number anywhere on this booklet.)

545/1  
CHEMISTRY  
Paper 1  
Jul./Aug. 2024  
2 hours



WAKISO-KAMPALA TEACHERS' ASSOCIATION (WAKATA)

WAKATA MOCK 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.

Crude oil like many other natural resources is not found everywhere in the parts in the world. In Uganda it is said that the deposit of oil has been discovered in the Bunyoro region. Natural resources are the primary inputs to the most productive processes. These industrial processes are now more important in utilizing natural resources to make useful products. Technology has improved the use of the natural resources in the industrial sectors.

#### Task:

As a chemistry student who understands natural resources,

- (a) Point out the **industrial processes** that make use of natural resources obtained in Uganda (03 scores)

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- (b) Help the fellow chemists to understand more about the importance of industrial processes in utilizing natural resources to make useful substances (02 scores)

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- (c) Identify some dangers arising from industrial processes (02 scores)

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- (d) Which steps can be taken to minimize the above dangers? (02 scores)

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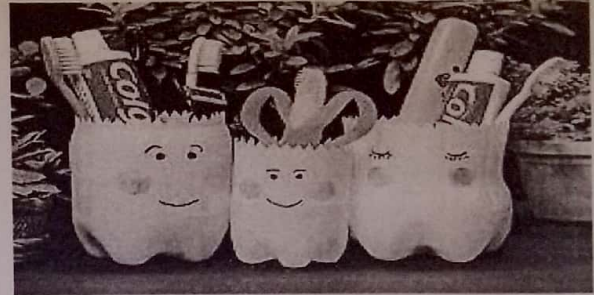
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## Item 2.

In Uganda, plastics are used almost every phase of modern living, they are very popular materials in every situation. This is due to the fact that plastics have special functional properties. However in some countries like Kenya, Rwanda, plastics are not commonly used because plastic waste management is a challenge in our communities today. Poor disposal of plastics is a big threat to human health and soil fertilities.



### Task:

- (a) Point out the special **functional properties** that make plastics popular materials. (03 scores)

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- (b) Identify the threatened posed by plastics to the environment. (03 scores)

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- (c) Suggest the possible measures to the threats identified above. (03 scores)

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## SECTION B

### Part I

*Answer one item from this part.*

#### Item 3

All alcoholic drinks contains ethanol. Many communities in Uganda rely on sale of ethanol as their sources of income. Today ethanol has a wide range of use, like in ethanol cars, ethanol cookers. This is due to safe guard the environment because ethanol is one of the cleaner fuel. **Mr. Ngunywa** is one of the leading producer of ethanol in Magamaga, Jinja district. He prepares it from a variety of plant types like cereals, roots and fruits with the help of a catalyst. You school organized a study tour about manufacture of ethanol to Jinja district and you are among those who went for a tour.



#### Task:

Organize a comprehensive report about the manufacture of ethanol that you can present to the rest of the classmates who did not manage to go for a study tour in Kasese district. In your report include the effect of the production process, its mitigations and the social benefits (11 scores)

#### Item 4.

Agriculture contributes about  $\frac{1}{4}$  of the total earning of the country. This is called Gross Domestic product (GDP), it is the total value of goods and services produced with in the country. This means agriculture contributes a biggest proportion to the economy of Uganda. According to "secondary agriculture book 1 longhorn". It is said that modern and earlier food products are different in methods and skills used. Modern agriculture production utilizes scientific methods so that food is always available. Kakoli village in Budaka district is the leading producer of food crop, but community members found out that crop yields are very low compared to the previous years, because the soils are getting exhausted. To improve on the crop yields, they agreed to come up with the idea of applying fertilizers. However, none of the farmers has any knowledge of manufacturing fertilizers.





### Task:

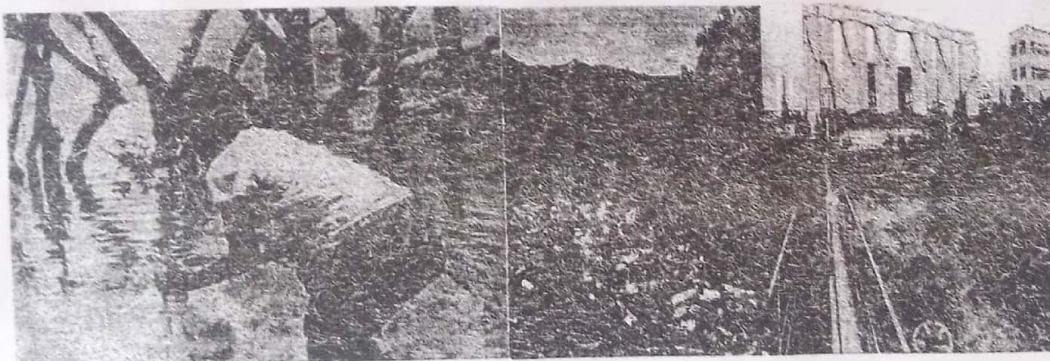
Design a comprehensive presentation to the farmers about the manufacture of fertilizers. In your presentation include the effect of the production process, its mitigations and the social benefits. (11 scores)

### Part II

Answer **one** item from this part.

#### Item 5.

Water is a vital and universal substances that essential for the life on earth. Due to the increasing population and human activities, there is a growing concern about water being impure. Conservation practices and sustainability management of water sources are crucial to address the issues of the highest impurities. Recently during the construction of Kasodo Bridge that connects Pallisa to Kaliro districts, there was a community out cry of water being polluted in rivers and swamps around. This put both human and animals at risk. And water from such sources is not recommended for drinking before treatment.

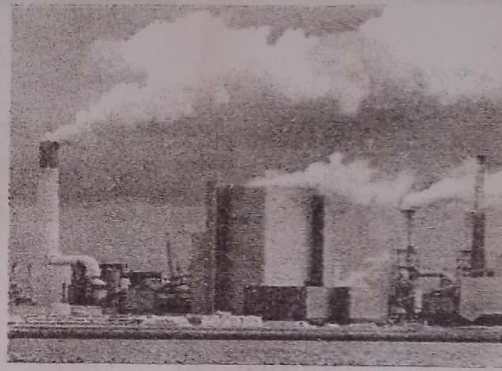


### Task:

Prepare a presentation to address the issue of water being highly polluted. In your presentation elaborate more about the steps involved in water treatment, the main contaminants and evidence for the highest contamination (11 scores)

### Item 6

From October 2023 to March 2024, there was a general rise in the earth's temperatures in East Africa. This affected much humans and animals. The geologists pointed out that this challenge is to continue for years if something is not done. This statement raised a call for conference for climate change. The members noted that man is being blamed for this earth's temperature rise because of his nasty activities. It was also agreed that each member is to sensitize his community members about the importance of conserving our environment, following the phrase "**my environment my responsibility**"



### Task:

As one of the participants of the conference,  
Prepare a comprehensive presentation to the community member to address the environmental challenges. Include human activities, how they affect the environment and how this can be solved. (11 scores)