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Chemistry  
Paper 1  
2025  
2 hours



# Apex Examination Council

PRE-REGISTRATION EXAMINATIONS 2025  
Uganda Certificate of Education  
CHEMISTRY  
Paper 1  
Time: 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 answered will not be scored.

## SECTION A

### Item 1

Maria's daughter Ivy was so excited when her mother bought for her an Hb-pencil to accomplish her drawing. After sharpening the pencil, Maria was surprised to see a black mineral. It is believed that the mineral is an alternative of T in the periodic table below.

								K
				T				
							O	
E								

Maria asked Ivy for more clarification.

Ivy only stated that the mineral has hexagonal layered structure but Maria is not contented with the information given to her. Ivy has now come to you to seek further details about the mineral.

**Task**

As a chemistry learner;

a) Inform Ivy about the category of the mineral. (2 scores)

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b) Clearly explain to her how any two properties and uses of the mineral relate to its structural features. (4 scores)

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c) Advise on the implications of the mineral to the environment. (2 scores)

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d) Evaluate T in relation to E, K and O using a binary key. (1 score)

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**Item 2**

In a certain family, there struck a wrangle between the father, mother and their son James who is currently studying S.2 at Rwenzori High School in Kasese. The discussion was about the effectiveness of the new laundry soap they purchased for their house hold. The son claimed that every time he washed his uniform shirt using the soap father bought, stains could remain in the shirt even when he followed the guidelines of using the soap. The father claimed that it was an issue with the person washing while the mother claimed it was due to water James used during washing. James decided to investigate the chemistry behind this challenge.

**Task**

a) As a learner of chemistry

(i) Explain to James the category of the soap he used during washing. (3 scores)

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(ii) Describe to the son how the detergent he used works. (3 scores)

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(iii) Advise the family on the potential reasons why some stains may not be fully removed by the detergent and suggest possible alternative cleaning method. (3 scores)

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## SECTION B

### Part I

**Answer one item from this part in the answer booklet(s) provided.**

#### Item 3

Many people in villages make a living by manufacturing local waragi (Ethanol). However, the government is against the business due to associated challenges. The district's LC5 Chairperson wants to sensitize the community about the large-scale production process and its impacts to enable them understand the government position.

#### Support material



The district's LC5 Chairperson has contacted you as a student with the knowledge of chemistry in your village to provide the relevant information.

#### Task

Make a write up to use upon meeting the community. (11 scores)

**Item 4**

The president of Uganda wants to donate fire extinguishers to schools to reduce on the dangers associated with the fire outbreak but the Carbon dioxide produced locally is not enough to support the program. He is looking for an investor to set up a Carbon dioxide processing industry in Jinja district. Advise the investor. (11 scores)

**Part II**

**Answer one item from this part in the answer booklet(s) provided.**

**Item 5**

Jinja City's rapid urbanization and industrialization have led to contamination of River Nile's water. This has generated a significant risk to the City's water supply and bacterial contaminants which threaten health of livelihoods.

The city Mayor together with NEMA officials have started on the sensitization workshops organized in different communities.

You have been invited to advise the City Mayor in his presentation.

**Task**

As a learner of Chemistry; make a write up you would like the city Mayor to deliver during the workshop.

**Item 6**

Due to increased population of people in Mbale district, many natural forests have been cleared to provide charcoal for use as fuel and natural swamps have been reclaimed to create space for settlement.

These activities have left district officials wondering and as a result, the government is planning to create awareness to the people in Mbale district through sensitization workshops organized in different villages.

**Task**

As a chemistry learner, prepare a short presentation to deliver during the workshop when invited.

**END**