

CHEMISTRY PAPER 1

SENIOR THREE

BOT 1 2026

2Hrs

NAME.....

SIGNATURE.....STREAM.....

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.

Use where necessary;

Ca = 40, C = 12; O = 16.

For Scorers' Use Only

| Item No. | Basis code | Weighted Score | Scorers' Initials |
|----------------------|------------|----------------|-------------------|
| 1 | T | | |
| | D | | |
| | E | | |
| 2 | C | | |
| | X | | |
| | I | | |
|(3/4) | P | | |
| | S | | |
| | B | | |
|(5/6) | N | | |
| | M | | |
| | Be | | |
| Total Weighted Score | | | |

c) State the dangers associated with the product and how the mitigation can be done.

For Scorers' Use Only

| | |
|-------------------|----------|
| Basis code | D |
| Score | |

d) State the:

i) Similarities of the products used

ii) Differences between the two products used

For Scorers' Use Only

| | |
|-------------------|----------|
| Basis code | E |
| Score | |

Item 2

Lime (calcium oxide) is widely used in agriculture to reduce soil acidity. It is produced by strongly heating limestone (calcium carbonate), which decomposes into lime and carbon dioxide hence *affecting the environment* once poorly handled.

A local agricultural company plans to supply lime to schools for treating acidic soils. In collaboration with S.3 learners in the school, 10g of limestone was heated such that scaling up production for wider use is possible.

Some issues remained unclear to the S.3 learners and so you have been contacted for help.



Task:

As a learner of chemistry;

a) Help to;

i) Explain the category of the gaseous product of the reaction to the S.3 learners;

For Scorers' Use Only

| | |
|-------------------|----------|
| Basis code | C |
| Score | |

ii) Calculate the mass of solid product that was formed.

b) Clarify

i) the properties of the solid product that make it useful in daily life:

For Scorers' Use Only

| | |
|-------------------|----------|
| Basis code | X |
| Score | |

- ii) The impact of **one** of the products above on the environment and how it can be mitigated.

For Scorers' Use Only

| | |
|-------------------|----------|
| Basis code | I |
| Score | |

SECTION B

Part I

*Respond to only **one** item in this part in the answer booklet(s) provided.*

Item 3

Oxygen is a crucial gas used in welding, medical support and other various industries. While oxygen production has improved lives globally, its large-scale manufacture can pose environmental, safety and social challenges.

A new oxygen production plant has been established in your town to supply of oxygen gas welding.

However, the population in the area have requested to be informed about the process leading to the production of oxygen, the economic and social benefits of the manufacturing plant and how any side effect(s) is/ are to be mitigated. A radio talk show has been organized to address the request by the population and your school has chosen you as their representative.

Task:

Write details of the key issues you will present during the talk show.

Item 4

Iron is an important metal used in construction and manufacturing. It is obtained from iron ores through smelting.

An investor planning to set up an iron extraction plant in the area, wants to support local secondary schools by offering scholarships. He is looking for learners who can best educate the community on its process of production, the social and economic benefits of the plant to the community and how any side effect(s) is/ are to be mitigated. A Senior Three learner from a needy background has come for consultation, about the extraction process, hoping to win the scholarship.

Task:

As a senior 3 learner of chemistry, write a guide on all aspects of the industrial process that can help your friend to win the scholarship.

SECTION B

Part II

Respond to only **one** item in this part in the answer booklet(s) provided.

Item 5

A youth group has a washing bay along the river. As they wash vehicles, the waste water drains into the river.

When senior one students from a nearby school went for a chemistry study to tour the river, they found the youth busy with their routine work. One of the students noticed that the water-body around the washing bay looked abnormal. The student expressed worry about the safety of the people around the river and drew the attention of the area local authority. In response, the local authority has called for a meeting with the youth. You have been selected to give a sensitization talk.

Task:

Write details of the key issues you will address during the sensitization talk.

Item 6

Air is an important natural resource that should be conserved. There is improper waste management in some homes and schools involving open dumping and burning of garbage. These activities affect the **air** quality. A head teacher has tasked the school Science Club to organize a sensitization campaign aimed at mitigating the challenge. The theme of the campaign is ***Be an air quality champion***. You have been chosen to speak to the rest of the students regarding the theme.

Task:

Make a write-up of the message you will present.

END