

S.2 Chemistry
Paper 1
Theory

INSTRUCTIONS

- ✧ *This paper consists of four examination items in two sections A and B.*
- ✧ *Write your responses in the gaps left for section A and use the answer booklet provided for responses in section B.*
- ✧ *Respond to all the items in both the sections.*
- ✧ *Untidy work and unreadable handwriting will not be scored.*

SECTION A

Item 1

An Agriculture teacher consulted a chemistry teacher for assistance with some samples of ammonium nitrate salt from his laboratory. The Agriculture teacher wanted to demonstrate the salt to his S.3 Agriculture learners as a resemblance to the ammonium nitrate fertilizer. However the chemistry teacher also lacked the salt in his lab. The chemistry teacher tried to prepare some crystals of ammonium nitrate from an acid by neutralisation of an alkalis in the laboratory. The fertilizer sample was successfully made and the learners used it practically in their project by applying it to the crops. The fertilizer worked well but the Agriculture teacher is still wondering how the chemistry teacher did it!

Task

Help the Agriculture teacher to;

- a) Identify the categories of the two solutions in the laboratory used to make the salt sample.

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- b) Describe how the chemistry teacher prepared the salt in his lab.

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- c) i) Evaluate the two substances used to make the salt in the chemistry lab.

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- ii) Understand the suitability of the salt prepared by the chemistry teacher to work as a fertilizer.

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d) What is the environmental implication of using the salt prepared as a fertilizer?

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Item 2

At Nelson Mandela S.S, the school administration abolished the use of polythen and its related materials in order to maintain maximum sanitation and environmental protection. The canteen attendant complained a lot, asking of what she would use to wrap eats she sales to the students. She was helped by a certain group of learners to make paper bags and other paper materials. But she is still worried of whether these materials will work effectively.

Task

Help the canteen attendant to understand;

a) The categories of materials in contrast for use in the canteen.

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b) The suitability of the newly introduced material by the students.

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c) Evaluate the materials in contrast for use at school.

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d) Understand the impact of using the previous material to the school environment before the introduction of the new one.

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SECTION B

Item 3

Air is a mixture of gases and it is mainly composed of nitrogen at 78% and 21% percentage proportion. In Uganda, there is a challenge of shortage of oxygen in hospitals and nitrogen in fertilizer manufacturing industry. In order to increase the supply of oxygen and reduce the death rate of patients in ICU as well as increasing agricultural productivity, the government is trying to establish an oxygen and nitrogen production plant in your area but the people are ignorant about how the production process will be conducted and how the environment will be managed.

Task

Make a write up of the sensitisation message in this context.

11scores

Item 4

A metal fabricating factory was established at Nakavule village. Local people in this area have chiefly been carrying out livestock farming and fishing. There has reportedly been complaints about the rampant respiratory diseases, reduced crop produce, fish catchment and bad smell produced by water. This has raised concern from the government through the ministry of environment and uncertainties to merge people around there for sensitisation.

Task

Prepare a write up of the sensitisation message that may be used to address the people.

11scores