

KIYALA HIGH SCHOOL
MID-TERM TWO ASSESSMENT TEST 2024

CHEMISTRY

S.3

Time: 2 Hours

INSTRUCTIONS:

- This paper consists of three assessment items.
- Section **A** has one *compulsory* item.
- Section **B** has *two* items, Attempt *all* the items
- Use of *illustrations* and *drawings* will earn you more scores.
- Any additional item answered will not be *scored*.

SECTION A

*Answer the **item** in this section*

Item 1

Most of the youth in Kanapa village in eastern Uganda are involved in cutting trees, burning the wood and products for cooking.

Residents are frustrated with toxic fumes from the activities, they are curious and beseech to know the nature and composition of the product and why the activities.



The chairperson has contacted you as a chemistry student for guidance on what she is about to communicate in the community meeting.

Task

- a)** Guide the chairperson on;
i) Nature of the product. **(3 scores)**

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- ii)** Composition of the product. **(3 scores)**

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- b)** Her concern is “can those products have any impact to their community?”. If so can this impact be reduced? Advise her.

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- c)** Can these activities benefit the residents? Take her through.

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SECTION B

Attempt **all item** from this section.

Item 2

At Ocoican high school, during a chemistry practical lesson, students were investigating the nature of solutions obtained from different fertilizers used by Tukum residents by identifying their **PH** values.

The residents had complained about poor yields of their crops yet they had used some fertilizers constantly. The results obtained were recorded in the table below.

Solutions	V	W	X	Y	Z
PH values	8.2	7.0	2.0	11.2	5.6

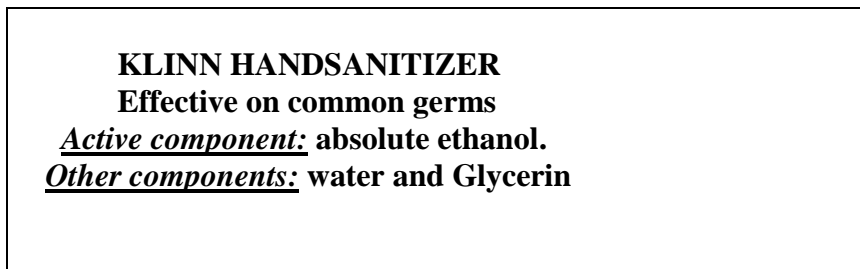
Task

- a) Classify the fertilizer solutions above depending on their nature.
- i) Nature of **V** *(1 score)*
 - ii) Nature of **W** *(1 score)*
 - iii) Nature of **X** *(1 score)*
 - iv) Nature of **Y** *(1 score)*
 - v) Nature of **Z** *(1 score)*
- b) Name the ions that determine the **PH** values of fertilizer solutions **X** and **Y**.
- i) **X** *(1 score)*
 - ii) **Y** *(1 score)*
- c) During an investigation, sodium carbonate was added to solution **X** and **Z**. the students observed that solution **X** liberated more effervescence than solution **Z**.
As a chemistry student, explain this observation. (include equation for the reaction).
(5½ scores)
- d) Discuss the reaction of the following substances with dilute acids (hydrochloric acid) and write the equations of reactions.
- i) Magnesium metal.
 - ii) Copper (II) oxide.
 - iii) Calcium carbonate
 - iv) Copper metal.

(7½ scores)

Item 3

A student found a container of hand sanitizer with a label shown below.



Task

- a)* State one use of hand sanitizer. *(1 score)*
- b)* Explain why the liquid is not regarded as a pure substance. *(3 scores)*
- c)* Describe the practical method that could be used to separate the components in the hand sanitizer. *(10 scores)*
- d)* Describe a chemical test that can be carried out to show the presence of water in hand sanitizer. *(5 scores)*
- e)* Explain why it is not advisable to keep a hand sanitizer near a source of fire. *(3 scores)*

Compiled by Solomon