

CHEMISTRY SEMINAR QUESTIONS 2024

Item 1.

Makanga and Mwebesa, who are neighbours in the village joined the same school whose source of water is a borehole. Makanga was disappointed that his shirt was turning brown and yet his friend had managed to keep his shirt white. He tried using a lot of water to rinse his shirt but the dirt marks always remained. He noticed that his detergent was different from the one Mwebesa was using.

Task

As a chemistry learner,

- (a) explain the categories of the product the two boys were using
- (b) help Makanga and Mwebesa understand how the product works
- (c) advise the two boys on the challenges associated with the use of the product

Item 2.

Mwine, is a renowned environmental advocate. He is thinking of installing the door and window frames for his house under construction. He knows that to have good quality frames, he should select the right materials with suitable qualities and properties. Mwine, is still confused with the choice and has approached you for some advice.

Task

Use your knowledge of chemistry to:

- (a) Explain
 - (i) the categories of materials
 - (ii) the suitability of the materials
- (b) Advise Mwine on the choice of materials

Item 3.

Both Catherine and Sandra own shops that sell home-made cookies and bread. People in the community prefer Sandra's cookies. To save her business, Catherine decided to buy some cookies and bread from Sandra and realized that they had an appealing aroma, taste, appearance and lasted longer on the shelf. She is desperately seeking for help to improve her sales.

Task:

As a learner of chemistry:

- (a) explain the ingredients that are lacking in Catherine's cookies and bread
- (b) describe the suitability of these ingredients in the foods
- (c) what advice would you give to the consumers of Sandra's bread and cookies?

Item 4.

Nalumansi was visiting her grandmother in the village when she developed a body ache. Her grandmother picked some leaves from various plants which she squeezed and gave her. Nalumansi was hesitant at first and insisted on going to a health centre but when she took the liquid concoction, she felt significantly better.

Task:

As a learner of chemistry:

- a) help Nalumansi's grandmother understand what Nalumansi expected
- b) explain to Nalumansi why she felt better after she took the concoction
- c) advise Nalumansi and her grandmother about the problems associated with the use of the product

Item 5.

Kenya recently placed an embargo on the exportation of steel products used in the construction industry which has caused a rise in the cost of the products in Uganda. In order to solve the shortage, the ministry of mineral development has asked investors to set up iron production plants that will utilize the iron ores within the country.

The members of parliament on the minerals development committee would like to know how the process of production will be carried out without affecting the environment.

Task

As a chemistry learner, write a presentation that you will deliver before the committee members.

Item 6.

After a sharp decline in their palm oil sales, a women's group in Kasese town was advised by the District Development Officer to try out making soapy detergents which have an assured market in the region. They secured funding through one of the government development initiatives and one of the women in the group is willing to donate her piece of land on which they can set up the factory.

The neighbours are worried about the factory activities encroaching on their land and making it unproductive. The science club has appointed you to enlighten the neighbours.

Task

Prepare a write-up you will use during the presentation

Item 7.

Sodium hydroxide is a chief raw material used in the manufacture of soap. The manager of a soap making plant wants to start producing sodium hydroxide locally in order to cut costs. He is planning to set up a sodium hydroxide production plant near Lake Katwe in Kasese District.

Unfortunately, the residents have raised concerns about the environmental effects of the plant and the loss of their land to the investor.

The science club in your school has organized to put out a sensitisation message for the public about the production of sodium hydroxide through an article written in the local newspaper.

Task

As the learner in charge of Chemistry in the science club, write a brief message that will be published in the newspaper.

Item 8.

At the onset of the COVID pandemic, the ministry of health advised citizens to use alcohol-based sanitizers as one of the standard procedures to protect themselves. Therefore, the members of a youth group in Mayuge decided to put up plant that makes ethanol from the surplus of sugarcane that cannot be used by the sugar processing plant.

A field officer from a prominent NGO is visiting to learn how the youths make use of the excess sugarcane with minimum effect on the environment.

Task

Using the knowledge you have learnt in chemistry, write a short speech you will present on behalf of the youths.

Item 9.

Due to an increase in the population in a hilly part of Kaliro district, vegetation has been cleared on a large scale to create space for settlement and agriculture. Many trees have been cut down to be used as fuel and there is an increase in the use of fertilisers in agriculture. Some have resorted to stone quarrying as a source of income to supplement the food from the gardens. The residents have noticed that the village wells are drying up and the appearance of the water is changing. The concerned members of the village council have sought help from district officials who have organized sensitization workshops in different villages.

Task

As a chemistry learner, prepare a short presentation you will deliver during the workshops.

Item 10.

The government of Uganda, together with Total Energies and CNOOC have collaborated to construct a pipeline to the port of Tanga through which to transport crude oil from Hoima. The underground pipeline is expected to cross four major rivers and several wetlands in Uganda. Environmental advocates around the world are against the oil exploration and pipeline construction because they will affect many resources on which the communities rely.

A group of advocates has organized a rally with the theme **LET NATURE BE**. Officials from the central government, Total Energies, National Environment Management Authority (NEMA), school leaders and members of the public are expected to attend the event.

Task

On behalf of the school leaders, write down a presentation you will make when called upon.

Schools presenting items

Item	School
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Notes to schools:

1. Come up with support materials that can bring out the scenario.
2. Tell us:
 - (a) the part of the paper the item is coming from;
 - (b) how it is approached; and
 - (c) give response;
3. Time allowed for each presentation is ten (10) minutes maximum
4. Teachers are advised to:
 - (i) let learners share the presentation of an item
 - (ii) discuss the supplementary items sent to your schools with the learners.