

545/1
CHEMISTRY
Paper 1
November 2023
1 ½ hours



WAKISSHA JOINT EXAMINATIONS

End of Year Assessment

SENIOR THREE

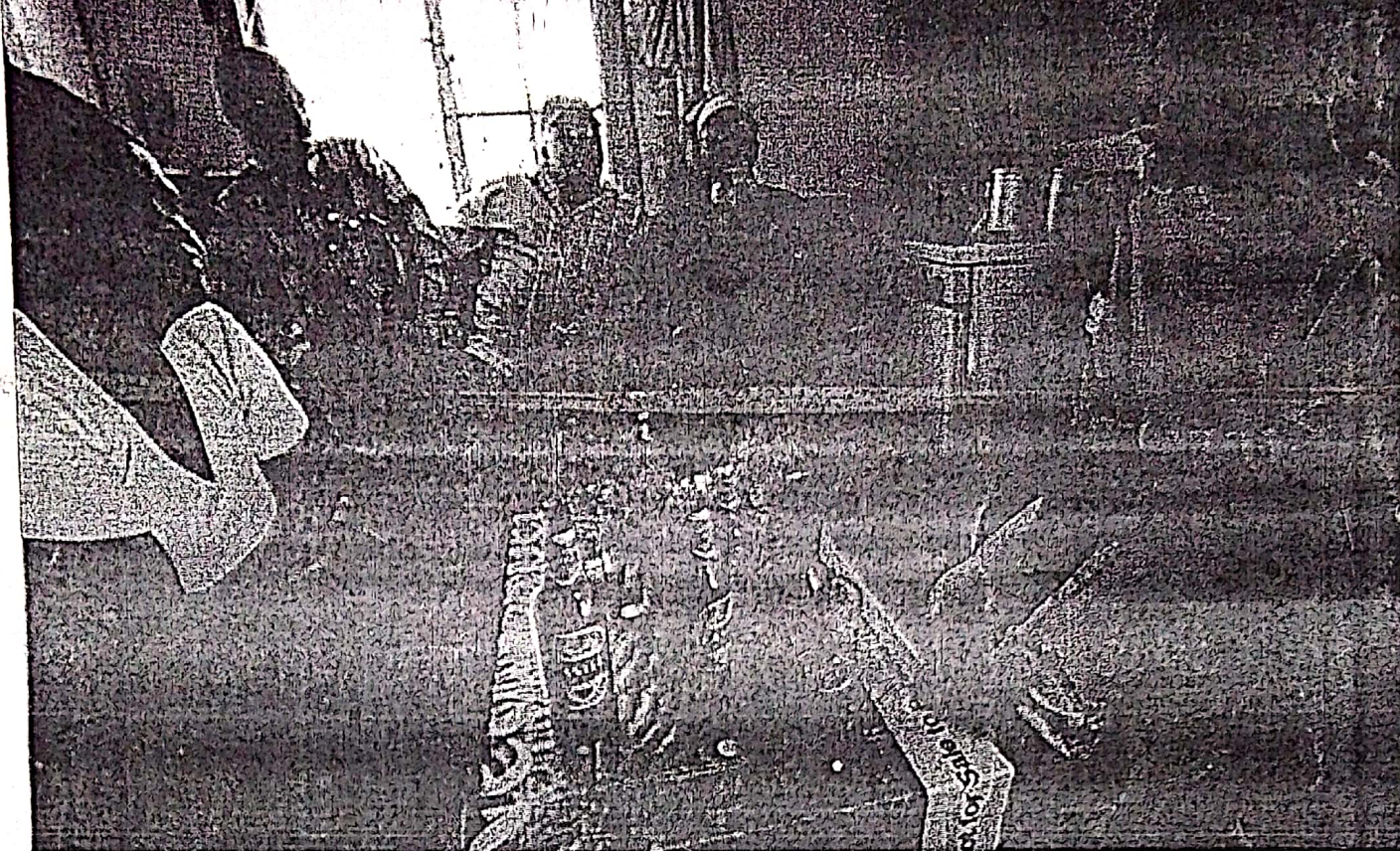
CHEMISTRY

Paper 1

1 hour 30 minutes.

INSTRUCTIONS TO LEARNERS:

- Attempt **all** items.
- Write responses in the booklet provided.



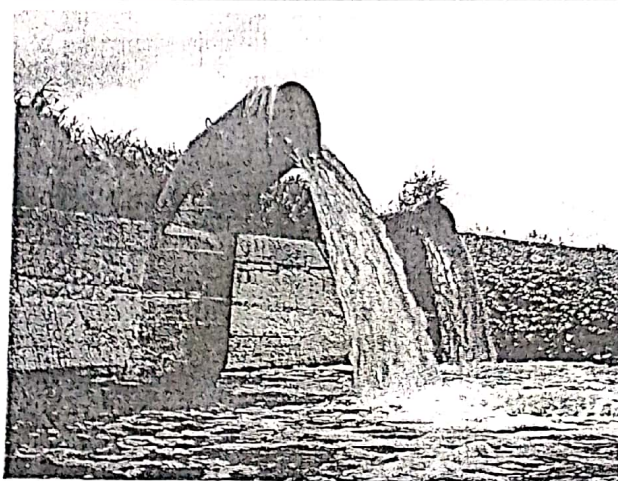
During the lock down Mr. Kayima, organized a house party and served alcohol (ethanol) which was made by fermentation process. They started drinking from morning but unfortunately alcohol got over, and all the bars were closed. They asked the village members the substances used to prepare alcohol and they were told that its either starch or sugar.

- a) If you are one of the invited guests, which two substances would you look for in the community that can be the source of;
 - (i) Starch that can be used to prepare alcohol
 - (ii) Sugar that can be used to prepare alcohol

(01 score each)
- b) As a chemistry student, how can you prepare ethanol by fermentation of starch so that the guests continue enjoying. (10 scores)
- c) Identify four ways in which ethanol is useful to the community apart from being used for drinking. (08 scores)

2. The ministry of health in Uganda carried out research to find out the major causes of cholera and diarrhoea. They found out that during the rainy season, many people in different parts of Uganda most especially those living in swampy areas suffer from cholera and diarrhoea caused by inappropriate disposal of sewage.

Some people release sewage in water used by people as shown below which leads to diseases.



- a) As a chemistry student, if you are appointed as a technical person at a Sewage treatment plant, briefly explain the steps you would use to treat sewage so that the problem of cholera and diarrhea can be minimized. (14 scores)
- b) Apart from saving Ugandans from diseases, which other benefits do Ugandans get when Sewage is treated. (06 scores)
3. Last year, Mr. Mpagi one of the mechanical engineers in Masaka city used to leave his working tools outside because he did not have enough room to house them.
After some time, the tools turned brown in colour and they could not work effectively as they were before.
Using the knowledge of chemistry, you have acquired;
- (a) Give the chemical name of the brown coating on the metals and explain how it develops. (8 scores)

Turn Over

- (b) State the effects of the brown coating on the metals and how to minimize it. (6 scores)
- (c) As a chemist, how do you think the development of reddish-brown coating on the metals contributes to the economy of Uganda. (6 scores)

4. Tom was sent by his father to buy a full bottle of paraffin at 4000/=. On his way back, he found his friends and they started playing. Accidentally one of them knocked the paraffin bottle and poured by a half.

Due to fear of reaching home with half a bottle of paraffin, Tom added water into the bottle of paraffin to fill it up. When he reached home, his father saw two layers in the bottle.

As a chemistry student,

- (a) Give a reason why the father saw two layers in the bottle and name the type of liquids formed in the bottle. (4 scores)
- (b) Write the procedure Tom should take in order to recover the paraffin to be used at home. (16 scores)

END