WAKISSHA JOINT EXAMINATIONS
SCORE GUIDE
End of year Assessment
Senior Three
November 2023
CHEMISTRY 545/2

Basis of assessment	Criteria of assessment	scoring	Total scores
AIM		01	01
Hypothesis		03	03
Apparatus & materials		03	03
Procedure	Relevant procedure Coherent procedure Identification of risks Mutigation	04 04 02 02	12
Observations		03	03
Conclusion		03	03
TOTAL			25

Marking points

AIM; An experiment to determine the nature of water in the source in Kagumba Village.

HYPOTHESIS; Water without chemicals is soft water, water with calcium or magnesium hydrogen carbonate is temporarily hard while the one with calcium or magnesium sulphate is permanent hard water.

APPARATUS & MATERIALS; Beakers, heat source, sodium carbonate, soap solution, measuring cylinder, conical flasks.

PROCEDURE & MATERIALS

- Measured 50 cm3 of substances D,G and K were carefully transferred into different beakers using a measuring cylinder and labeled .
- By means of a measuring cylinder, 20 cm^3 of soap solution were added to each beaker.
- Each beaker was shaken vigorously and then left stand.
- Sample D formed lather while G and K didn't but formed a dirty white substance

- 50 cm^3 samples of G and K were measured again into clean conical flasks and then boiled for about two minutes and were left to cool. Each sample was filtered and the filtrate shaken with 20 cm^3 of soap.

- G formed lather but not K.

- 25 cm^3 of sample K was transferred to a clean conical flask and 20 cm^3 of sodium carbonate solution added. The mixture was shaken vigorously, filtered and the filtrate tested with soap as done before.

- A large froth of lather was seen.

CONCLUSION

D is soft water, G is temporary hard water and K is permanent hard water
Thus people should use the source near them however water from G and K should be softened by boiling G or fractional distillation or addition of sodium carbonate solution to the water before use.

END