

CLEVERLAND HIGH SCHOOL
CHEMISTRY PAPER ONE
END OF YEAR EXAMINATION 2023
SENIOR THREE
TIME: 2 HOURS

Answer all questions in this paper

1. One of the main important things on earth is energy. Energy is normally provided from different chemical compounds like some shown below.
Most of these are obtained from natural sources like trees and animals through different ways.



- a) With examples, discuss the different types of such chemical compounds. (10 marks)
- b) Explain how you can make any one of the chemical compounds shown above. Show the advantages and disadvantages of that particular chemical compound. (10 marks)
2. Patrick was sent by the mother to get paraffin from the nearby shop. He therefore went for the paraffin and got it. But on the way back he found his friends with whom he played. But as they played along the way, he mistakenly poured some of the paraffin and due to fear he decided to fill the bottle with water. When he reached home he denied to have done anything with the paraffin along the way and that it was as it was given to him from the shop.
- a) With aid of a diagram, explain how the mother can easily know that the paraffin was tampered with by the boy. (05 marks)
- b) As a chemist, design an experiment to separate the water and paraffin. (10 marks)
- c) Give a reason why you can use the method you have suggested in 2.b) above. (02 marks)
- d) To which group of organic compounds is the paraffin belonging? (01 mark)
- e) Where and how is paraffin obtained? (02 marks)

3. Many people in Uganda have used polythene papers and bags in different ways that are good and bad. The observation by some group of student researchers in a school noted the following data as they were checking out the number of polythene bags in the school compound, in classes and around classes.

Number of days	Number of polythene bags found
1	16
2	30
4	5
6	12
7	4
8	1

- On a graph page, plot the finds of the students and on it sketch a line graph (07 marks)
 - Explain with examples what might have caused the changes between
 - Day 1 and 2 (02 marks)
 - Day 2 and 4 (05 marks)
 - Design a poster showing the reasons why the use of polythene papers should be removed from use in Uganda and ideas of what can be used instead. (06 marks)
4. One of the properties of water is that it is a good solvent. However this has also become a danger to human and animal lives. The figure below shows water affected with lead poisoning. Doctors comment that no safe levels of lead are required in the body because lead is poisonous to man and cannot be affected by even boiling. This lead enters water through lead water pipes, lead utensils, petrol, lead from soil and air etc. The world health organization (W.H.O) limits the acceptable levels of lead in water to 0.001mg/100g of water.



- a) (i) From a certain research, it was found the water in the area contained 0.0013mg lead when 1000g of the water was used as a sample. Determine the solubility of lead in the water sources of the area in mg per 100g of water. (03 marks)
- (ii) Are the people in the village safe according the world health organization rating of the acceptable levels stated by W.H.O.? Why? (01 marks)
- b) What can be done to reduce lead poisoning in water in Uganda? (06 marks)
- c) There are many other pollutants in water but mainly in towns, the water is polluted by mainly sewage. The N.W.S.C has done a lot on the treatment of waste water containing sewage.
- i) Outline the steps used by the N.W.S.C to obtain safe water from sewage containing waste water.(05 marks)
- ii) Besides the water, what other benefits do Ugandans get from the treatment of sewage containing water? (05 marks)

END