

Class	stream

NameSignature

545/1

CHEMISTRY

(Theory Paper1)

1Hour 30 minutes

Uganda Certificate of Education

END OF YEAR EXAMINATIONS 2022

C.B.C CHEMISTRY

(THEORY)

Paper 1

1hour 30 minutes

Instructions to Students

- Attempt all questions provided in this paper. Answer to be written in ball ink pen in the spaces provided.
- **Any answer** sheets inserted in this question paper will not be marked.

For Examiner Use Only

Question	Score
1	
2	
3	
4	
Total score	

1. Particles of matter behave differently when in different physical states.

a) Define the term “**Matter**”. [2marks]

.....

b) Solids have a fixed volume and a definite shape.

Gases have no fixed volume and take up the shape of the container.

Describe the volume and shape of liquids. [1mark]

.....

c) Complete the table below to show the number of particles, arrangement and movement of particles in each physical state. [6marks]

State	Separation of particles	Arrangement of particles	Movement of particles
Solid			
liquid	Touching one another	Randomly arranged	Move over one another
Gas			

d) Name the following changes of state.

(i) Ice turning into water

..... [1mark]

(ii) Solid carbon dioxide turning directly into gaseous carbon dioxide at room temperature.

[1mark]

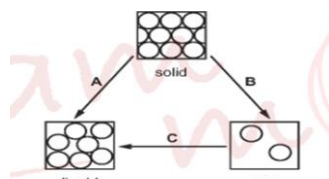
.....

(iii) Cloudy rain turning into hailstones.

[1mark]

.....

e) Matter can exist as solid, liquid or gas. The arrows show some changes of state.



i) Name the changes of state represent on the diagram. [3marks]

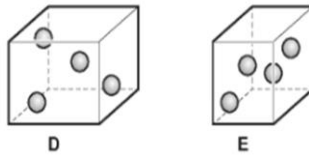
A **B** **C**

ii) Explain why energy has to be supplied to turn a liquid into a gas.

.....

 [2marks]

f) The diagrams below represent the same number of particles of a gas in two containers **D** and **E**, which have different volumes. The two containers were placed at the same temperature.



In which of the two containers will the pressure be higher? Explain your answer. [2marks]

.....

2. In the science natural world, are substances which when subjected to heat changes or added to water may undergo changes, which are either temporary or permanent changes.

a) Distinguish between **temporary** changes and **permanent** changes. [2marks]

.....

b) (i) The following investigations were conducted by some students during one of their study findings about the above changes in (a) in the laboratory.

Study and complete the table below.

[4marks]

Investigations	Type of change
Heating and cooling of zinc oxide	
Heating and cooling copper (II) carbonate.	

Passing a magnet through a mixture of iron fillings and sulphur	
Burning of ethanol in a lamp	

- (ii) Suggest an explanation why you chose the type of changes stated in (b) (i) above. [2marks]

.....

3. Process of recycling polymers depends on the nature of materials being either **biodegradable** materials or **non – biodegradable** materials.

- a) What do you understand by the term “**polymer**”? [2marks]

.....

- b) Classify the following materials as biodegradable and non-biodegradable by completing the table below. [6marks]

Materials	Biodegradable or Non – biodegradable	
Plastics		
Cotton		
Nylon		

4. **Ceramics** are made mainly from clays, one of the natural chemical compounds.

- a) Identify the major components in clays that are used for making ceramics.

.....
[2marks]

- b) Outline two main properties of clays that make it a suitable compound for making ceramics. [2marks]

.....

END