

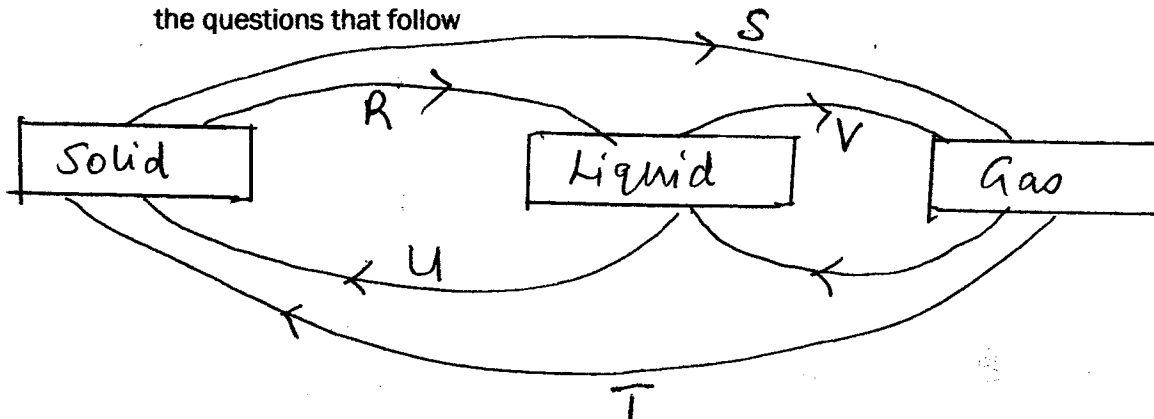
NAME \_\_\_\_\_ ADM. NO: \_\_\_\_\_ CLASS \_\_\_\_\_

**Instructions**

1. Write your name, admission number and class in the spaces provided here above.
2. Answer all the questions in the spaces provided below each question.

70 marks.

1. The diagram below shows the relationship between physical states of matter. Study it and answer the questions that follow



- a) Identify the process T (4mks)

R: \_\_\_\_\_

V: \_\_\_\_\_

W: \_\_\_\_\_

U: \_\_\_\_\_

- b) Name two substances which can undergo the process represented by S and T (2mks)

\_\_\_\_\_  
\_\_\_\_\_

2a) Write a word equation for the reaction between magnesium with:

- i) Oxygen

\_\_\_\_\_

ii) Chlorine

iii) Sulphuric (iv) acid

(6mks)

b). Name the element present in the following compounds.

(1mk)

i) Carbon (iv) oxide

ii) Copper (ii) Nitrate

(11/2mk)

iv) Zinc Carbonate

(11/2mk)

c) Give the symbol of the following elements (5mks)

i) Zinc

ii) Magnesium

iii) Oxygen

iv) Hydrogen

v) Chlorine

3a) From the following list of compounds: zinc oxide, solid Carbon (iv) oxide, Sodium Carbonate, acid, iron (iii) chloride.

i) Identify two that sublime (2mks)

ii) Identify two that react to form salt and water only (2mks)

iii) Write a word equation between sodium carbonate and nitric acid (2mks)

b) Draw and name the apparatus you would use in the separation of a mixture of kerosene and water. (3mks)

Name \_\_\_\_\_

Diagram

4a) State three general characteristics of acids. (6mks)

i) \_\_\_\_\_

ii) \_\_\_\_\_

iii) \_\_\_\_\_

b) State any three general characteristics of bases. (6mks)

(i) \_\_\_\_\_

(ii) \_\_\_\_\_

(iii) \_\_\_\_\_

c) Use the following table to answer the question that follows

Solution	A	B	C	D	E	F	G	H
PH	1.0	4.0	5.0	6.5	7.0	7.5	8.0	11.0

- i) Select the strongest acid (1mk)
- ii) Select the strongest Base (1mk)
- iii) Which solution is distilled water (1mk)
- iv) Which solution is likely to be :
- Lemon juice (1/2mk)
  - Common salt (1/2mk)
  - Rain water (1/2mk)
  - Soap solution (1/2mk)
  - Ash solution (1/2mk)
- v) Which solution in II have no effect on litmus paper (1mk)

5. The following data gives the P<sup>H</sup> values of A, B and C.

Solution	P <sup>H</sup>
A	13.9
B	6.7
C	1.5

i) Which solution would give pink colour after adding a few drops of phenolphthalein?  
(1 mk)

ii) Give the possible identity of the above solution (1mk)

b) Which solution would produce carbon (iv) oxide when reacted with copper (II) carbonates. (1mk)

6a) Write word equation for the reaction between dilute hydrochloric acid and each one of the following  
(8 mks).

i) Zinc metal

ii) Calcium hydrogen carbonate

iii) Magnesium oxide

iv) Potassium hydroxide

v) Which of the reactions above are neutralisation reactions? (2mks)

b) Dilute sulphuric acid was added to a compound of magnesium P. The solid reacted with the acid to form a colourless solution Q and a colourless gas R which forms a white precipitate when bubbled through calcium hydroxide water.

i) Name:

Compound P.

Solution Q

Colourless gas R

ii) Write a word equation for the reaction that took place. (2mks)

c) State the observation that would be made if

i) a similar compound of calcium was used instead of magnesium (2mks)

ii) Explain the above. (2mks)