NAME …………………………………………………………………ADM NO………………………………..

CHEMISTRY

FORM ONE

JULY/AUGUST 2015.

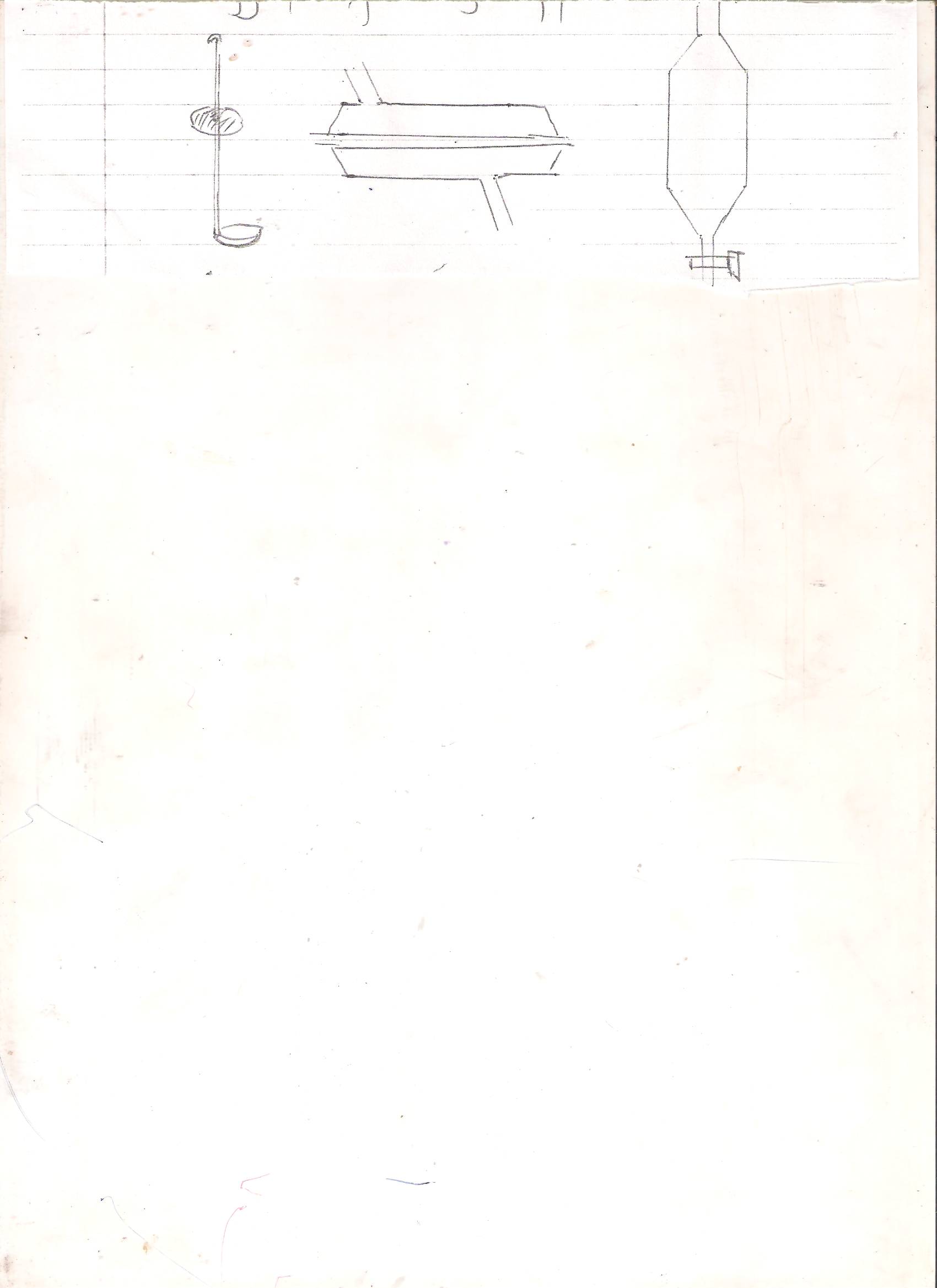
MWAKICAN JOINT EXAMINATION TEAM(MJET) 2015

CHEMISTRY

FORM ONE

INSTRUCTIONS

1. WRITE YOUR NAME AND ADMISSION NUMBER IN THE SPACES PROVIDED.
2. ANSWER ALL THE QUESTIONS.
3. THE PAPER HAS 80 MARKS
4. Identify the following apparatus and their uses.(6mks)



A B C

**Apparatus uses**

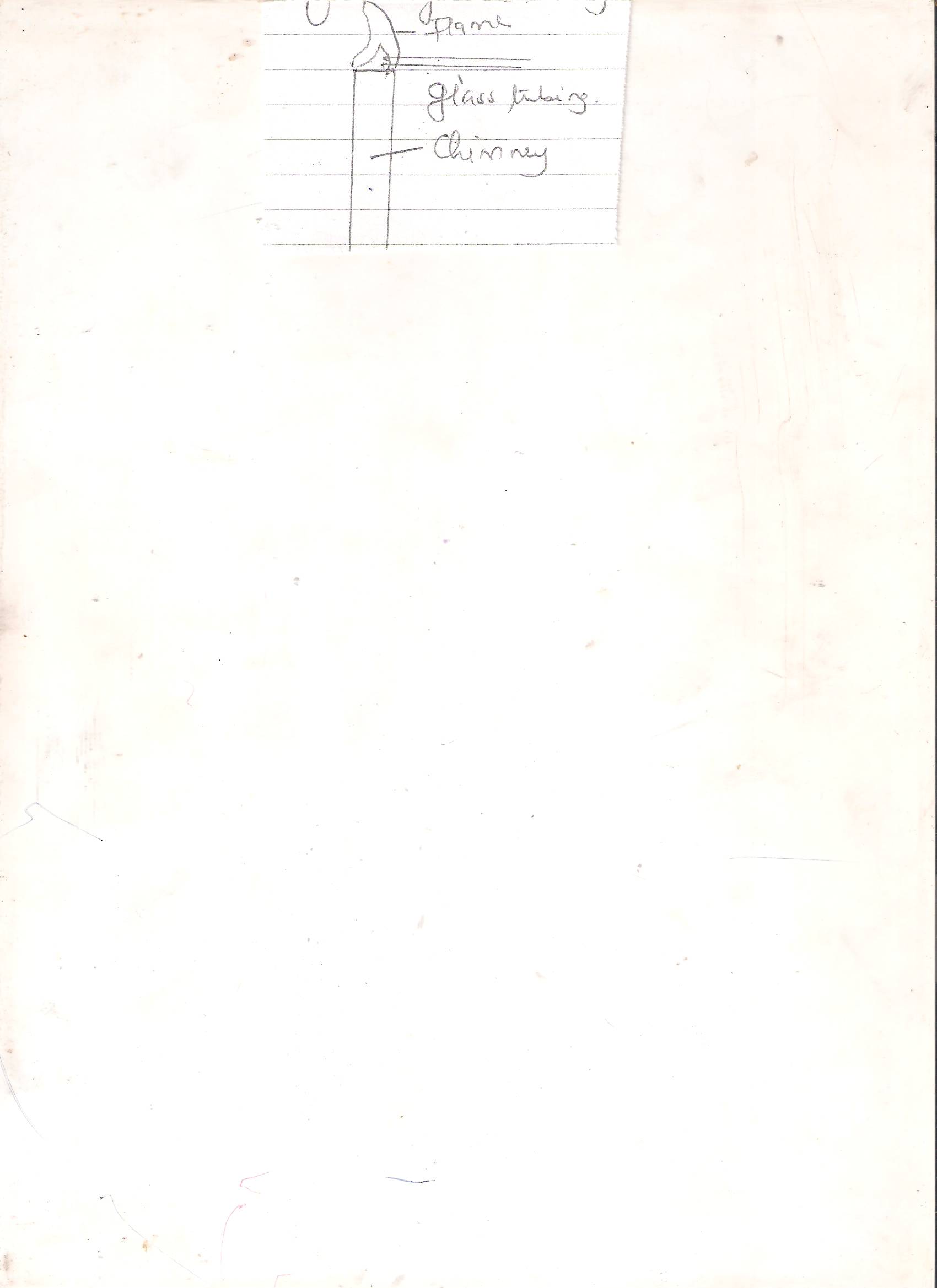
1. -
2. -

6MKS

-

1. State four preventive measure of drug –abuse.(4mks)
2. a.State under which conditions are the following flame formed in the laboratory. 2mks
3. Luminous…………………………………………………………………..
4. Non- luminous…………………………………………………………..

b.In an experiment, a form one student at Kiranja Secondary School placed an end of narrow glass tubing in the inner core of non-luminous flame and lit at the tip of the glass tubing as shown below .



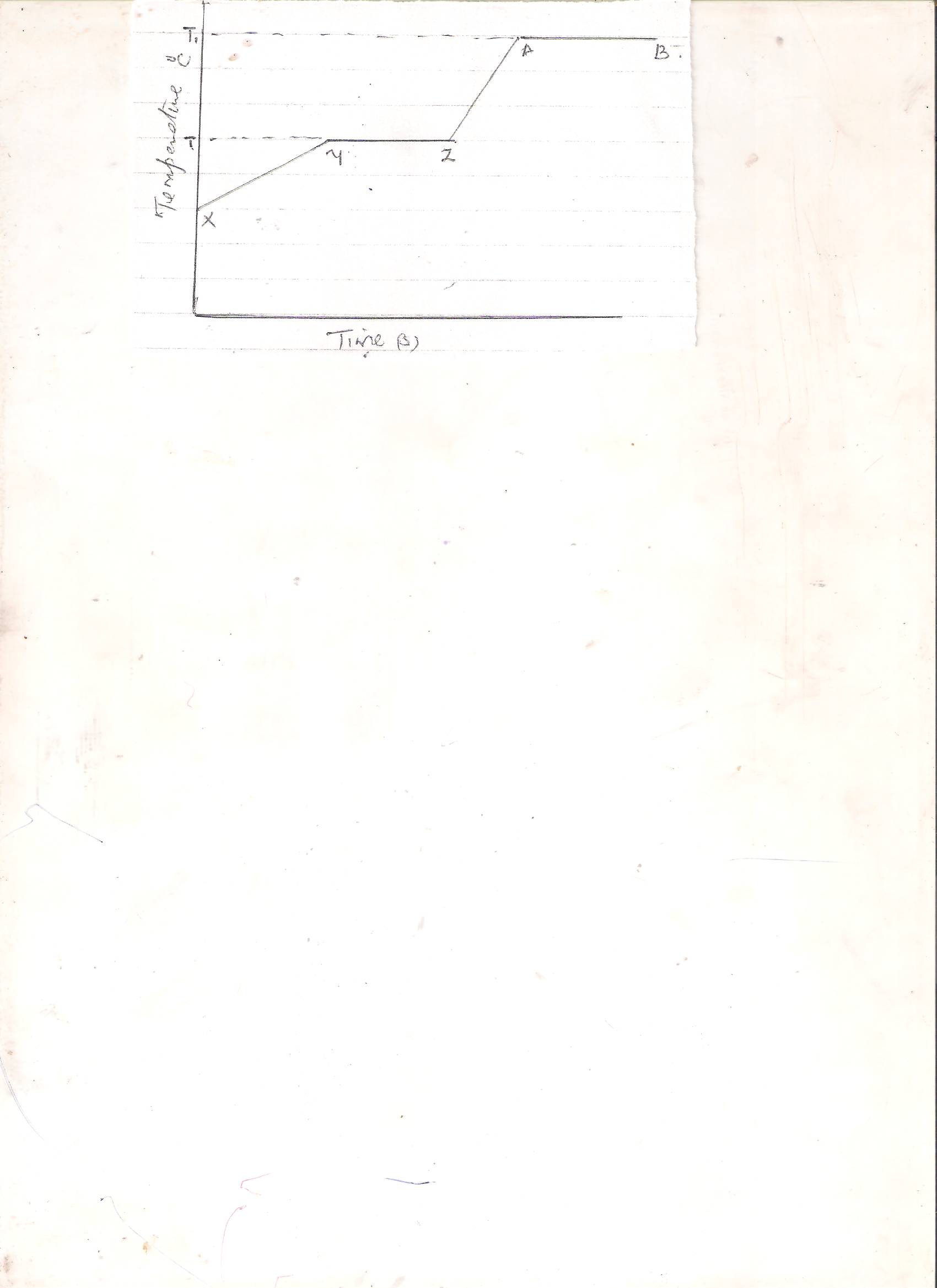
State and explain the observation made at the tip of the glass tubing. (2mks)

1. State one application for each of the following methods of separating mixtures.
2. Filtration (1mk)
3. Fractional distillation(1mk)
4. Solvent extraction.(1mk)
5. a.State two ways for determining the purity of substance.(2mks)

-

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b.The diagram below represents heat curves of a pure surface of solid .Study it and answer the questions that follows.



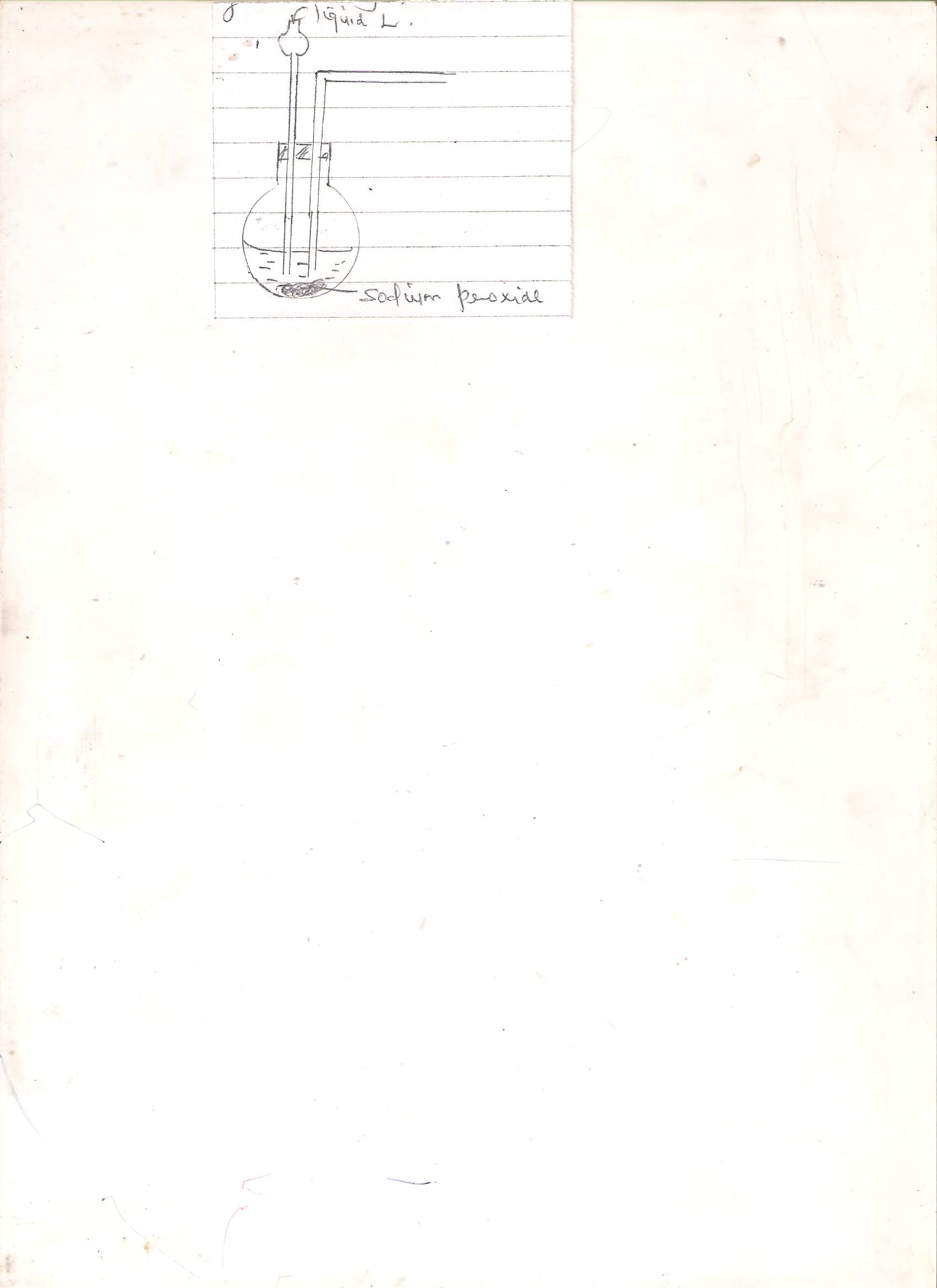
1. Region YZ and AB have one thing in common .State it and explain.(2mks)

ii.State the physical state of substance at the following region

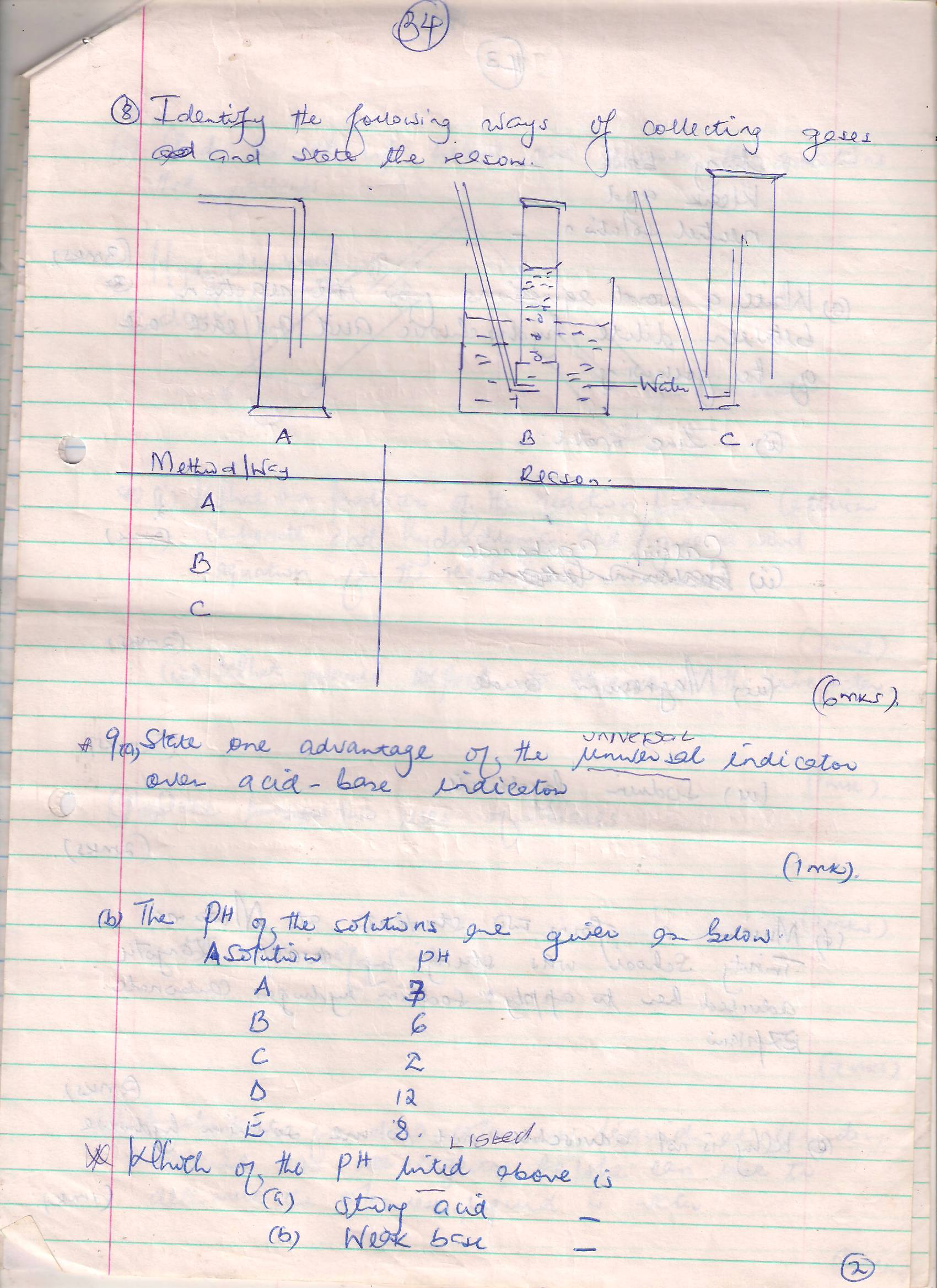
XY. (2mks)

ZA (1mk)

1. Define the following terms.
2. Solution 1mks
3. Saturated solution 1mks
4. The following is a set up to prepare oxygen gas .Study it and answer the questions that follows.



1. Identify the mistake made when setting up the apparatus. (2mks)
2. If the mistake was corrected, complete the diagram showing how to collect dry oxygen gas. (3mks)
3. Identify liquid L . ( 1mk)
4. Write word equation for reaction at round- bottomed flask. (2mks
5. State two physical properties of oxygen.2mks)
6. Identify the following ways of collecting gases and state the reason.



Method/Way Reason

A

B

C

(3mks)

1. a. State one advantage of the universal indicator over acid- base indicator.(1mk)

b.The pH of the solutions are given as below

Solution pH

A 7

B 6

C 2

D 12

E 8

Which of the pH listed above is (5mks)

1. Strong acid -
2. Weak base –
3. Strong base-
4. Weak acid-
5. Neutral solution-

c.Write a word equations for the reaction between dilute hydrochloric acid and each one of the following

i. Zinc metal (2mks)

ii. Calcium carbonate (2mks)

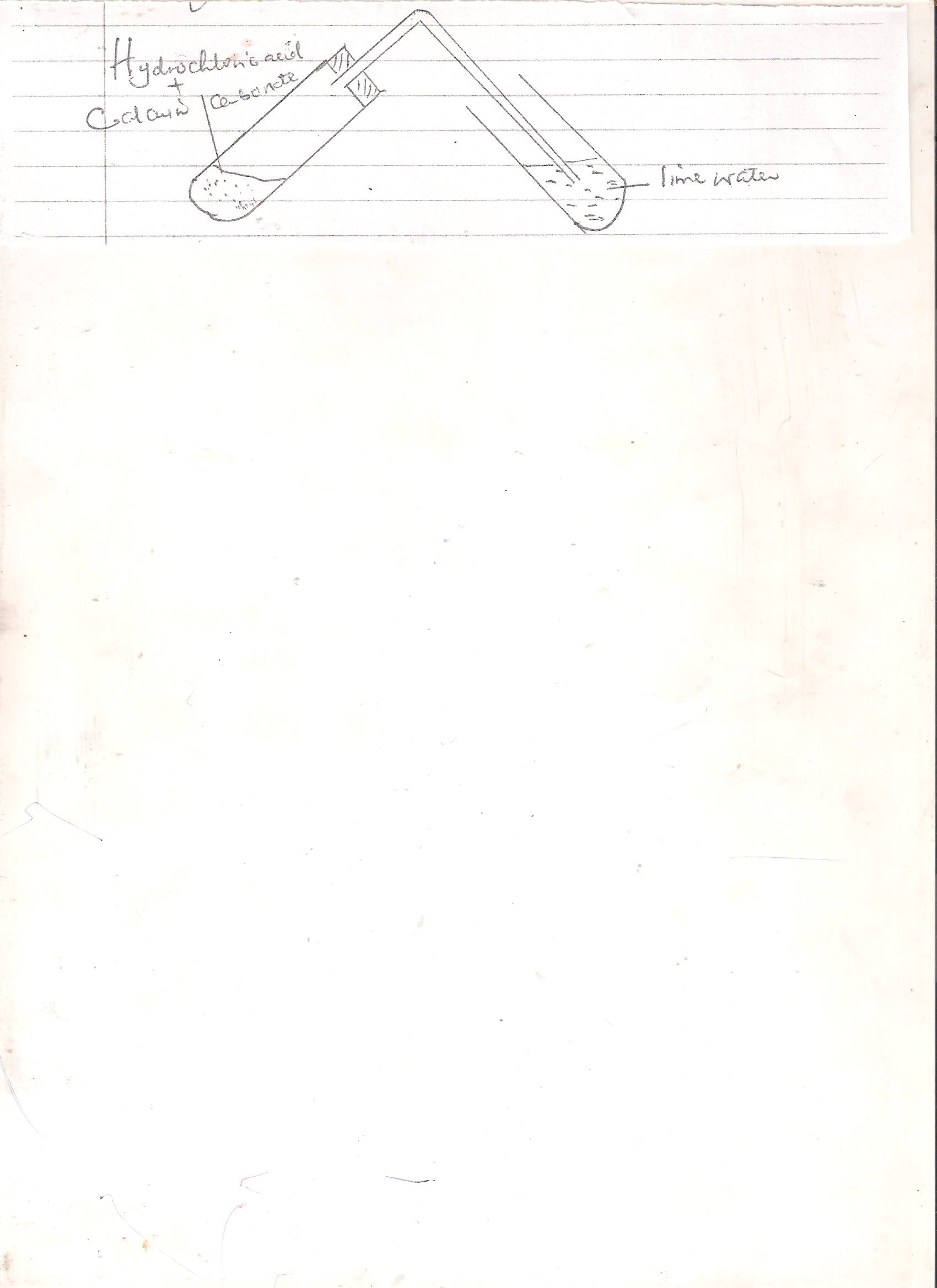
iii.Magnesium Oxide(2mks)

IV.Sodium hydroxide (2mks)

d.Miriam a form two student at Mutuma Trinity School was stung by wasp.Kanyotu advised her to apply sodium hydrogen carbonate .Explain. (2mks

e.Why is not advisable not to use sodium hydroxide.(1mk)

f.Study the set-up below and answer the questions that follows.



1. What are the products of the reaction between calcium carbonate and hydrochloric acid(give a word equation for the reaction). (2mks)
2. What would expect to observe in the limewater? (1mk)

g.i)State two uses of bases.(2mk)

ii)Two uses of acids. (2mks)

1. A student found a colourless liquid at laboratory. Describe two reagents he/she can use to determine the colourless liquid is water.(2mks)
2. a.State two differences between permanent change and temporary physical changes.

**Permanent change Temporary physical changes**

(4mks)

b.Study the following chemical equations (2mks)

heat

1. Zinc oxide zinc oxide

(white) yellow

1. Potassium Potassium + Manganeese (iv) + oxygen

Manganate(vii) Manganete(vi) oxide

1. Hydrated copper(ii) Copper (ii) oxide + Water

Oxide

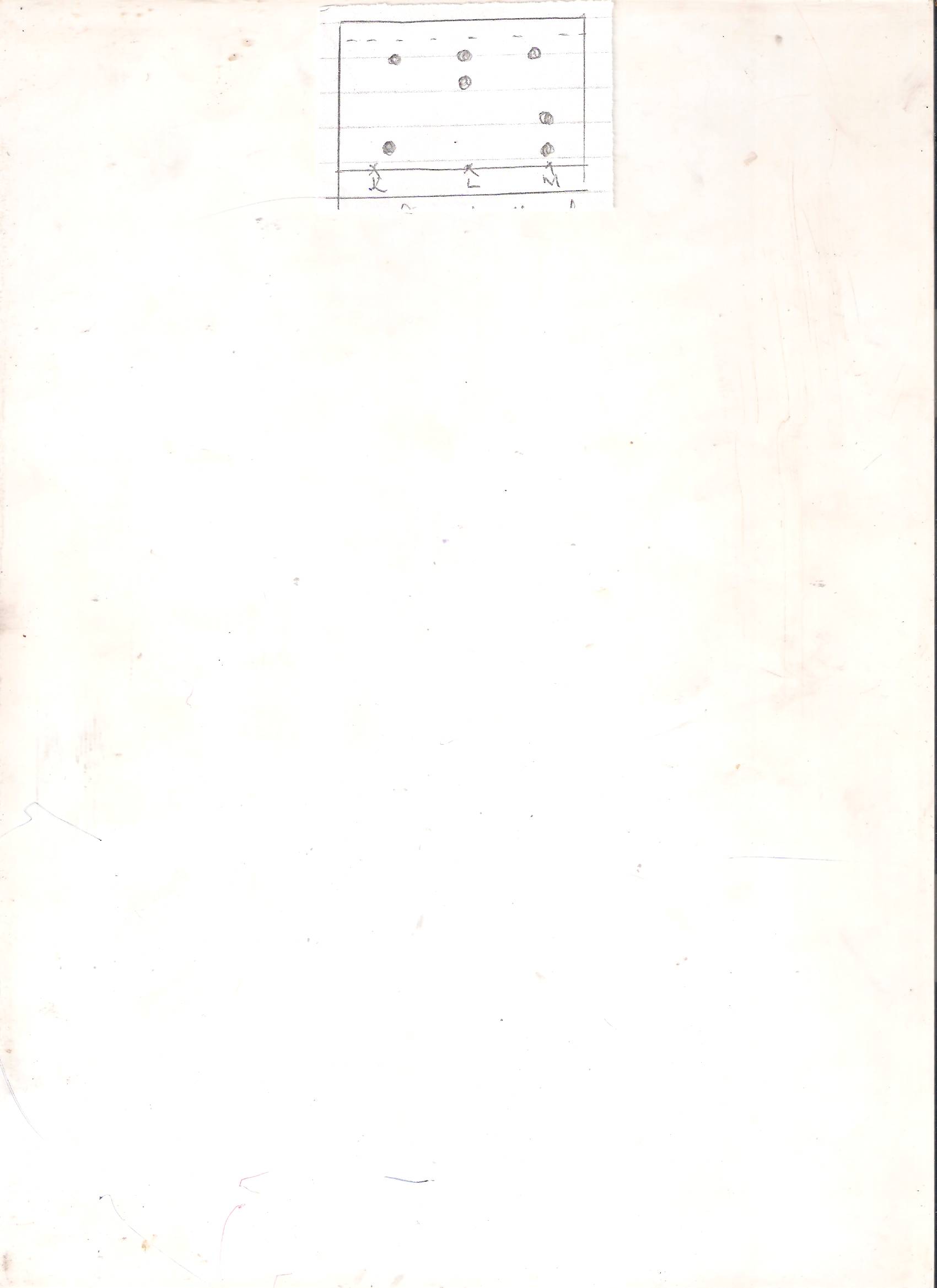
***Identify the changes in (3mks)***

Reaction I

Reaction II

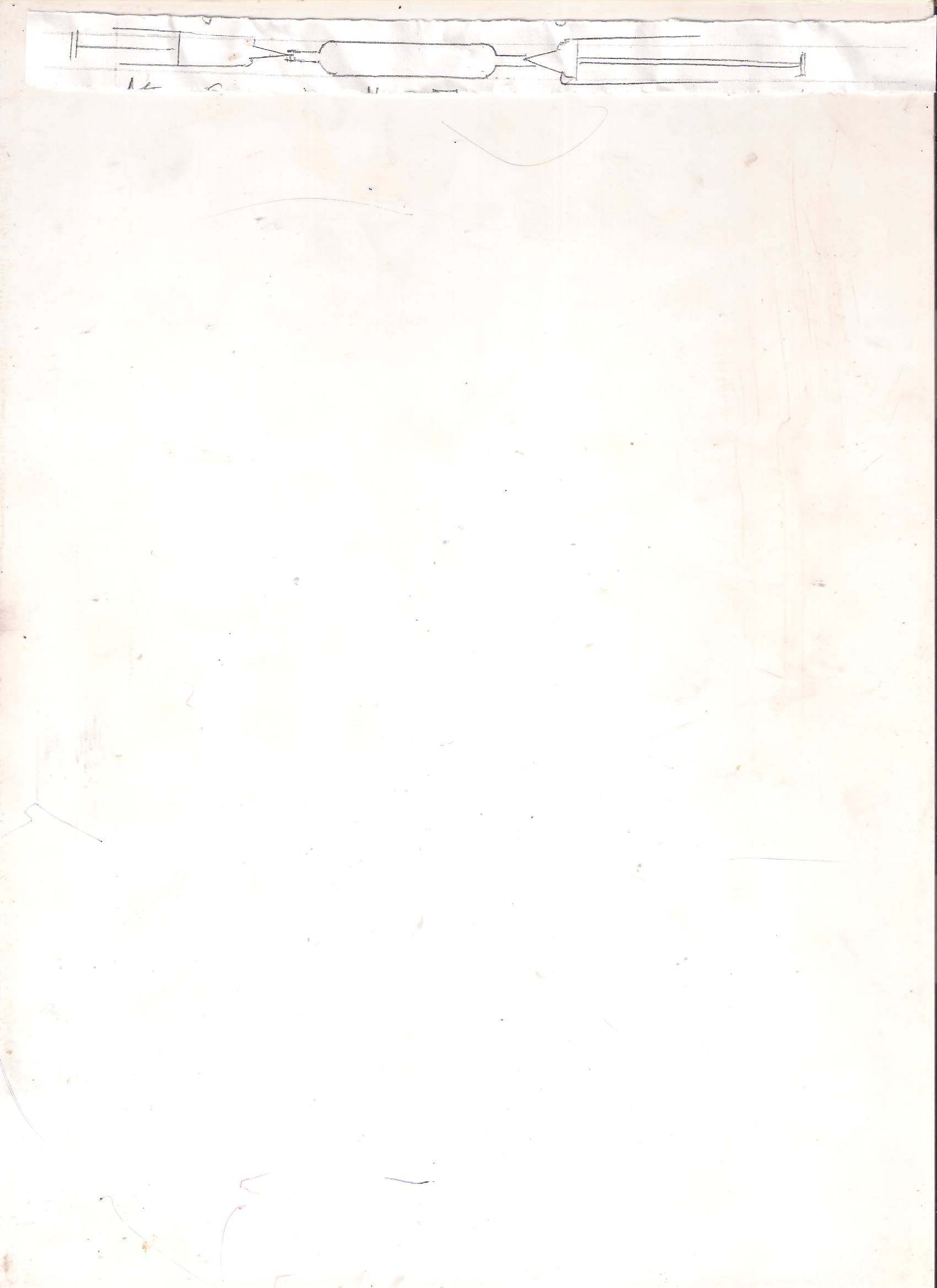
Reaction III

1. The diagram below represents a paper chromatogram for three brands of juices suspected to contain banned food colourings.



The results showed the presence of banned food colourings in L and M.One the same diagram.

1. Give the spots which show the banned food colourings.(2mks)
2. Show solvent front.(1mk)
3. State two applications of chromatography.(2mks)
4. The apparatus below were used to determine the volume of oxygen in air. About 200cm3 of air were passed repeatedly and slowly from syringe A to syringe B, over heated copper turnings as shown in the diagram.



Copper turnings

After sometime the volume of air syringe A was 160cm3 and syringe B 0cm3.

1. Calculate the percentage of oxygen in the initial sample of air.(2mks)
2. Write down a word equation for the reaction that took place in the combustion tube.(1mk)
3. What are possible sources of error in the experiment.(2mks)
4. Explain why the air is passed slowly and repeatedly.(1mk)

**MWAKICAN JOINT EXAMINATION (MJET)- 2015**

**CHEMISTRY 2ND TERM END OF TERM 2015 FORM ONE**

**MARKING SCHEME.**

1. A- Deflagrating spoon – (1mk) used for holding substances being burned.(2mks)

B-Liebig condenser- used to condense vapour into liquid (2mks)

C-separating funnel-(1mk)- used for separating immiscible liquids(2mks)

1. i) Proper use of all medicinal drugs

ii) never starting to use any illegal drug.

iii) Keeping away from those who use or sell drugs

iv) using all our time productively by doing school works, games and sports.(4mks)

1. a)i)When air hole is closed.

ii) When air hole is opened (2mks)

b)At end of glass tubing they was a flame. Reason is because, the tube was placed in region containing unburnt gases (almost colourless region)2mks

1. a)Filtration: obtaining clean water for use in homes (1mk)

Fractional distillation: Crude oil to obtain fraction such as diesel, petroleum, cooking gas.

Recycling of used oil

Liquid air in the manufacture of nitrogen and oxygen (any 1mk)

c) Solvent extraction- extraction of

1. oil form nuts and seeds
2. natural dyes from plants
3. some herbal medicine from plants
4. caffeine from tea and coffee
5. in dry cleaning to remove dirt. (any 1mk)
6. a.By determining i)boiling point

ii)melting point they should be constant (constant must be there)2mks

b.i)YZ and AB(1mk)- the temperature is constant(1mk)

ii)XY-solid(1mk)

ZA-liquid(1mk)

1. a. Solution-uniform mixture of solvent and solute(1mk)

B.saturated solution-solution that cannot dissolve any more solute at a given temperature (1mk)

1. a.The delivery tube is dipped in sodium peroxide .

no gas can be collected(1mk)

b.Note the gas is passed either through (3mks)

I.concentrated sulphuric (vi) acid

ii) Anhydrous calcium (ii) chloride

c.Water(1mk)

d.sodium peroxide + water sodium hydroxide + oxygen(2mks)

e.i)it is colourless

ii)Has no effect on moist litmus paper

iii)It relights glowing splint

iv)it is slightly soluble in water(any 1mk)2mks

1. a. Downward delivery-denser than air

Over water- not insoluble in water

Upward delivery – less denser than air(3mks)

1. a. Universal indicator shows strength of an acid or alkali, while acid-base indicator only shows the colour change.(1mk)

b.i) C ii) E iii)D iv) B v) 7 (5mks)

c.i) Zinc + Hydrochloric acid Zinc chloride + hydrogen gas(2mks)

ii) Magnesium oxide + hydrochloric acidcalcium chloride + water + carbon (iv) oxide (2mks)

iii) Magnesium oxide + Hydrochloric acidmagnesium chloride = water (2mks)

iv) Sodium hydroxide + hydrochloric acid sodium chloride + water (2mks)

c.Stung by wasp is slightly acidic .sodium hydrogen carbonate is weak base, hence neutralize the acidic.(2mks)

e.Sodium hydroxide is a strong base(1mk)

f.i) calcium carbonate + dilute hydrochloric acid calcium chloride + water + carbon (iv) oxide (2mks)

ii)white ppt is observed(1mk)

g.(i) manufacture of anti- acid tablets.

ii)Neutralizing acidity of soil

iii) Manufacture of soaps

iv) Manufacture of fertilizes(2mks)

b.(i) carbonic acid is used in aerated drinks to enhance taste.

ii) Hydrochloric acid is used to clean metal surfaces

iii) Sulphuric acid is used in car batteries, manufacture of fertilizers. any 2mks)

1. Anhydrous copper(ii) sulphate (1/2mk ) when water is added it from white to blue

Anhydrous calcium chloride –it forms colourless solution when water is added.(2mks)

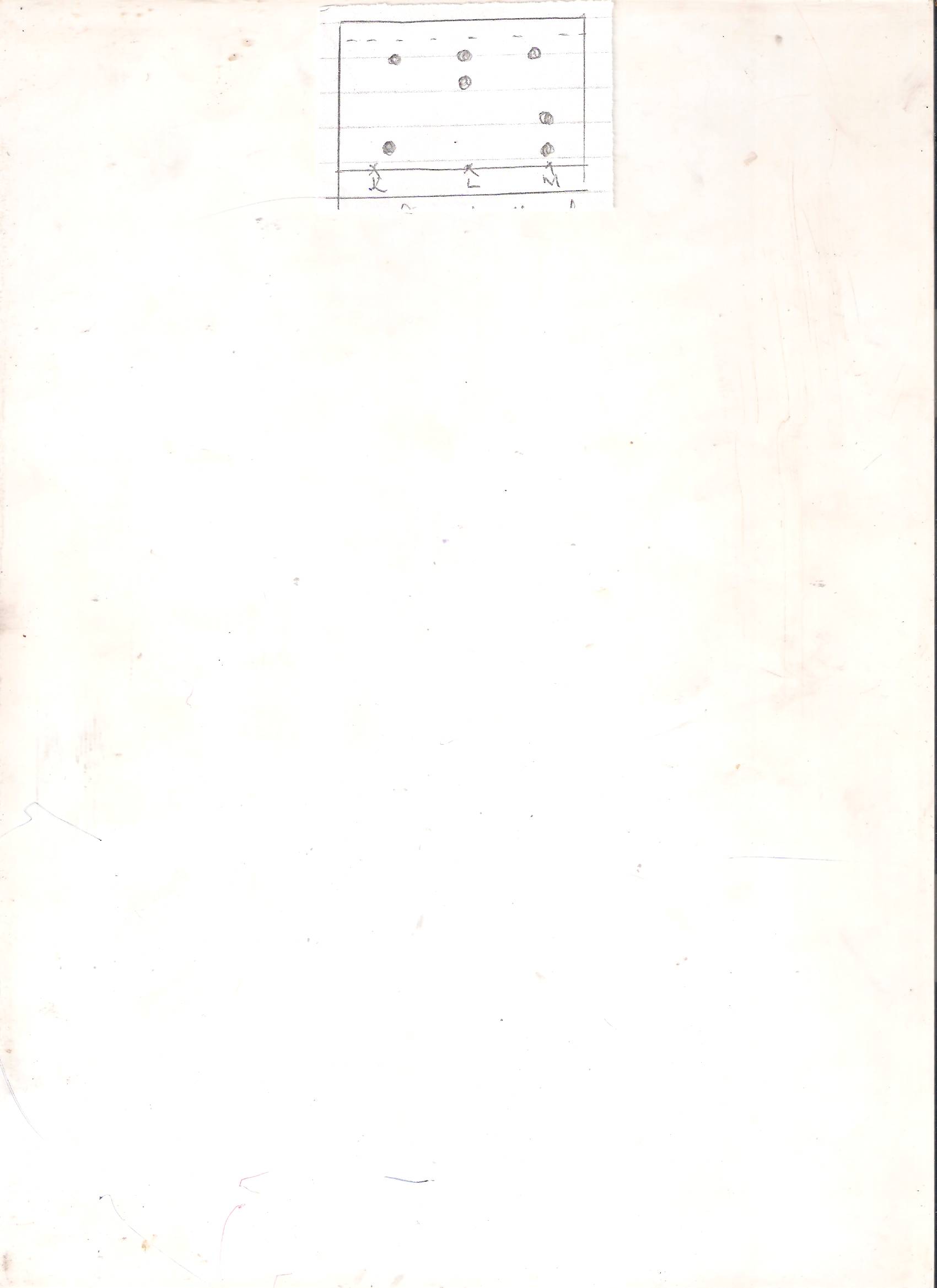
1. **Permanent change temporary change**
2. Not reversible reversible
3. New substance is formed no new substance is formed
4. Heat is released or absorbed heat is not released or absorbed
5. Mass change no change in mass(**4mks)**
6. Reaction I= temporary physical change

II) Permanent chemical change

III) Temporary chemical change(3mks)

1. a.

b. solvent

 banned food colourings

c.1. in spots chromatography ,is used to identify banned substances.

2.in pharmaceutical industry, to test purity drugs

3.In food industry, to identify contaminants from foods and drinks

4.In cosmetic industry, to identify harmful substances (any 2mks)

1. a. x 100Nu

40 x 100

200

= 20% A1 2mks)

b. Copper + Oxygen copper (ii) oxide(1mk)

c.i)The air initially present in the tube is not accounted for.

ii) Not all the oxygen may be used up.

iii) There might be leakage of air.(2mks)

d.Passed slowly – to allow enough time constant repeatedly – ensure that all oxygen is used up..(1mk)