

FOCUS A365

Another Manyamfranchise.Com Evaluation Test

Name.....

Index No...../.....

School.....

Candidates Signature.....

Date

Kenya Certificate of Secondary Education (K.C.S.E)

CHEMISTRY

Paper 3

PRACTICAL

2 ¼

Instructions to candidates

- Write your name and Index Number in the spaces provided above.
- Sign and write date of examination in the spaces provided above.
- Answer **ALL** questions in the spaces provided in the question paper.
- You are not allowed to start working with the apparatus for the first 15 minutes of the 2 ¼ hours allowed for this paper. This time is to enable you to read the question paper and make sure you have all the chemicals and apparatus that you may need.
- All workings **MUST** be clearly shown where necessary.
- Mathematical tables and silent electronic calculators may be used.

For Examiners use only.

Question	Maximum Score	Candidates Score
1	12	
2	12	
3	16	
TOTAL SCORE	40	

Question 1

(20marks)

You are provided with;

- Solid **A** in a boiling tube
- Solution **B**, sodium hydroxide
- 0.125M.monobasic acid, solution **C**

You are required to;

- Determine molarity of solution **B**
- Determine solubility of solid **A**

Procedure I

- Using a measuring cylinder ,place 50cm³ of solution **B** into an empty 250ml beaker. Add 100cm³ of distilled water to the solution. Labe this solution as solution **D**.
- Fill the burette with solution **C**
- Using pipette filler, place 25cm³ of solution d into a 250ml conical flask. Add two drops of phenolphathalein indicator.
- Titrate solution **D** with solution **C**
- Record your results in table 1 . repeat the titration two more times and complete table 1.

	I	II	III
Final burette reading (cm ³)			
Initial burette reading (cm ³)			
Volume of solution C used (cm ³)			

- (a) (i) Calculate average volume of solution **C** used. (4mks)
(1mk)
- (ii) Calculate moles of solution **C** used in the experiment. (1mk)
- (iii) Calculate moles of solution **D** used. (1mk)
- (iv) Calculate molarity of solution **D** (1mk)
- (v) Calculate molarity of solution **B**. (2mks)

(1mk)	(1mk)
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(ii) To the second portion, add ammonia solution dropwise until in excess.

(iii) To the third portion, add a few drops of Lead(II) nitrate solution

Observation	Inferences
(½ mk)	(½ mk)

(iv) To the fourth portion, add a few drops of barium nitration solution followed by dilute nitric (v) acid.

Observation	Inferences
(1 mk)	(1mk)

(b) Place the residue into test tube and add 10cm³ of dilute nitric (v) acid and shake until the solid dissolves.

Observation	Inferences
(½ mk)	(½ mk)

(i) To the first portion, add sodium hydroxide dropwise until in excess.

Observation	Inferences
(1 mk)	(1mk)

(ii) To the second portion, add ammonia solution dropwise until in excess.

Observation	Inferences
(1 mk)	(1mk)

(iii) To the third portion, add a few drops of sodium sulphate solution.

Observation	Inferences
(½ mk)	(½ mk)

3. You are provided with solid L . Carry out the tests below and record your observation and inferences in the space provided.

(a) Heat half spatula of solid L in a non-luminous flame of a Bunsen burner.

Observation	Inferences
(1 mk)	(1mk)

(b) Add 5cm³ of distilled water to the remaining solid L and shake well. Divide the solution into two portions.

(i) To the first portion, add a few drops of acidified potassium manganate (VII) and warm

Observation	Inferences
(1 mk)	(1mk)

(ii) To the second portion, add a quarter spatula and fill of sodium hydrogen carbonate.

Observation	Inferences
(1 mk)	(1mk)