

NAME.....

INDEX NO.....SIGNATURE.....

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**CHEMISTRY PRACTICAL
PAPER 4**

JULY/AUGUST 2016

2 HOURS

WESTERN JOINT MOCK EXAMINATIONS

Uganda Certificate of Education

CHEMISTRY

PAPER 4

2HOURS

INSTRUCTIONS TO CANDIDATES

- Answer all questions
- Record your answers in this question paper in the spaces provided
- Mathematical tables and non-programmable scientific calculators may be used
- Reference

books (i.e.
text books
and books
of
qualitative
analysis
should not
be used

FOR EXAMINERS USE ONLY		
QN 1	QN 2	Total

1. You are provided with solutions **FA₁** and **FA₂**

FA₁ is a solution of 0.2M hydrochloric acid **FA₂** is a solution of M_2CO_3 containing 13.8 g per litre of solution. You are required to determine the molarity of **FA₂** and the atomic mass of **M**.

Procedure:

Pipette 25(20) cm^3 of **FA₂** in a conical flask. Add two or three drops of methyl orange indicator. Titrate the mixture with the acid from the burette, until you get the end point. Repeat the procedure until you get consistent results. Record all your readings in the table below.

Results:

Volume of pipette used = cm^3

Burette readings	1	2	3	4
Final reading/ cm^3				
Initial reading/ cm^3				
Volume of FA₁ used/ cm^3				

Volumes used to make average cm^3

Average volume cm^3

Calculations:

- (a). Calculate the molarity of **FA₂**

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(b). Calculate the formula mass of M_2CO_3

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(C). Calculate the relative atomic mass of M

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2. You are provided with substance **W** which contains two cations and one anion. Carry out the following experiments to identify the cations and anions.

EXPERIMENT	OBSERVATIONS	DEDUCTIONS
(a). Dissolve two spatula end -fulls of W in 4cm^3 of water in a test tube . Shake well. Then add 4cm^3 of dilute sodium hydroxide. Filter. Keep both the filtrate and residue		
(b). Divide the filtrate into five parts (i). To first part add dilute sodium hydroxide solution drop wise until in excess		
(ii). To second part add		

ammonia solution drop wise until in excess		
(iii). To third part add three drops of lead (II) nitrate solution		
(iv). To the fourth part add dilute nitric acid followed by barium nitrate solution		
(c). Wash the residue then add dilute hydrochloric acid until there is no change		
(d). Divide the solution formed into two parts. (i) To first part add sodium hydroxide drop wise until in excess.		
(ii). To second part add Ammonia solution drop wise until in excess		

(e) Identify.

(i). The cations.....

(ii) The anion.....

END