EXAMINATION NO.:_____

THE MALAWI NATIONAL EXAMINATIONS BOARD

MALAWI SCHOOL CERTIFICATE OF EDUCATION EXAMINATION

SAMPLE PAPER

CHEMISTRY

Subject Number: M036/II
Time Allowed: 2 hrs

PAPER II

(40 marks)

Question Number	Tick if answered	Do not write in these columns		Marker's name
1				
2				
3				
4				

Instructions

1. **This paper contains 6 printed pages. Please check.**
2. Before beginning, fill in your **Examination Number** at the top of each page of the question paper.
3. Write your answers on the question paper.
4. This paper consists of **two** Sections, **A** and **B**.
5. Section **A** consists of two descriptive questions on practical work to be answered in 1 hour. Marks will be given for accurate and orderly presentation of facts supported by relevant diagrams.
6. In Section **B** there are **two** practical questions to be answered in **1 hour**.
7. You should spend 30 minutes on each question. The 30 minute period allowed for each question includes 3 minutes to tidy up the apparatus and have it checked by the supervisor.
8. Marks for Section **B** will be given for observation, accuracy and interpretation of results.
9. In the table provided on this page, tick against the question number you have answered.

SECTION A (20 MARKS)

1. In an experiment on the periodic table, Form 3 students collected the information shown in **Table 1.**

Table 1

Property	Element X	Element Y	Element Z
Hardness	Hard to cut	Easy to cut	Easy to bend
Reaction with air	Needs strong heating	Easier to burn	Burns at once
Reaction with chroline	Burns and gives smoke	Burns easily giving smoke	Burns very well and gives lots of smoke
Reaction with water	H_2 + Pink solution + heat	H_2 + Pink solution + heat	H_2 + Pink solution + Pink flame/heat

a. (i) Arrange the elements in order of increasing reactivity.

_____

(2 marks)

(ii) Identify any **one** misleading result and give the correct expected result.

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(2 marks)

(iii) Explain why the reaction with water produced a pink solution.

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(3 marks)

b. Tada[redacted]

1. b. **(Continued)**

(ii) Name any **two** variables which could be controlled in this experiment.

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(2 marks)

2. Describe an experiment that could be done to find the concentration of HCℓ using 0.1 M NaOH by titration.

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(10 marks)

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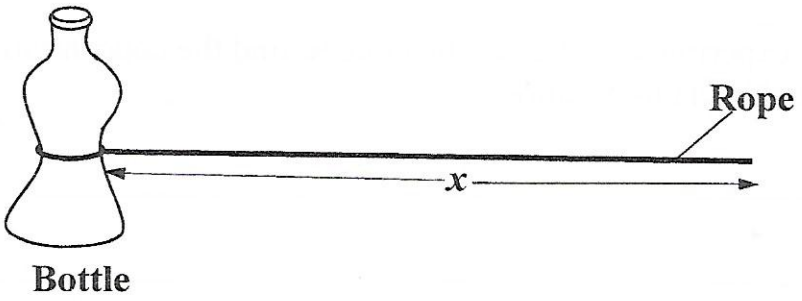
SECTION B (20 MARKS)

3. You are provided with a rope, 1 metre ruler and an empty bottle.

Arrange the apparatus as shown below:



a. Measure the rope such that x is 60 cm.

b. Turn the rope around the bottle once.

c. Measure the length of the remaining straight rope.

d. Record the measurement in the table below:

Table 2

Number of turns	0	1	2	3	4
Length of rope (cm)	60				

e. Repeat steps **b** to **d** for the turns shown in **Table 2**.

f. Plot a graph of length of rope against number of turns.

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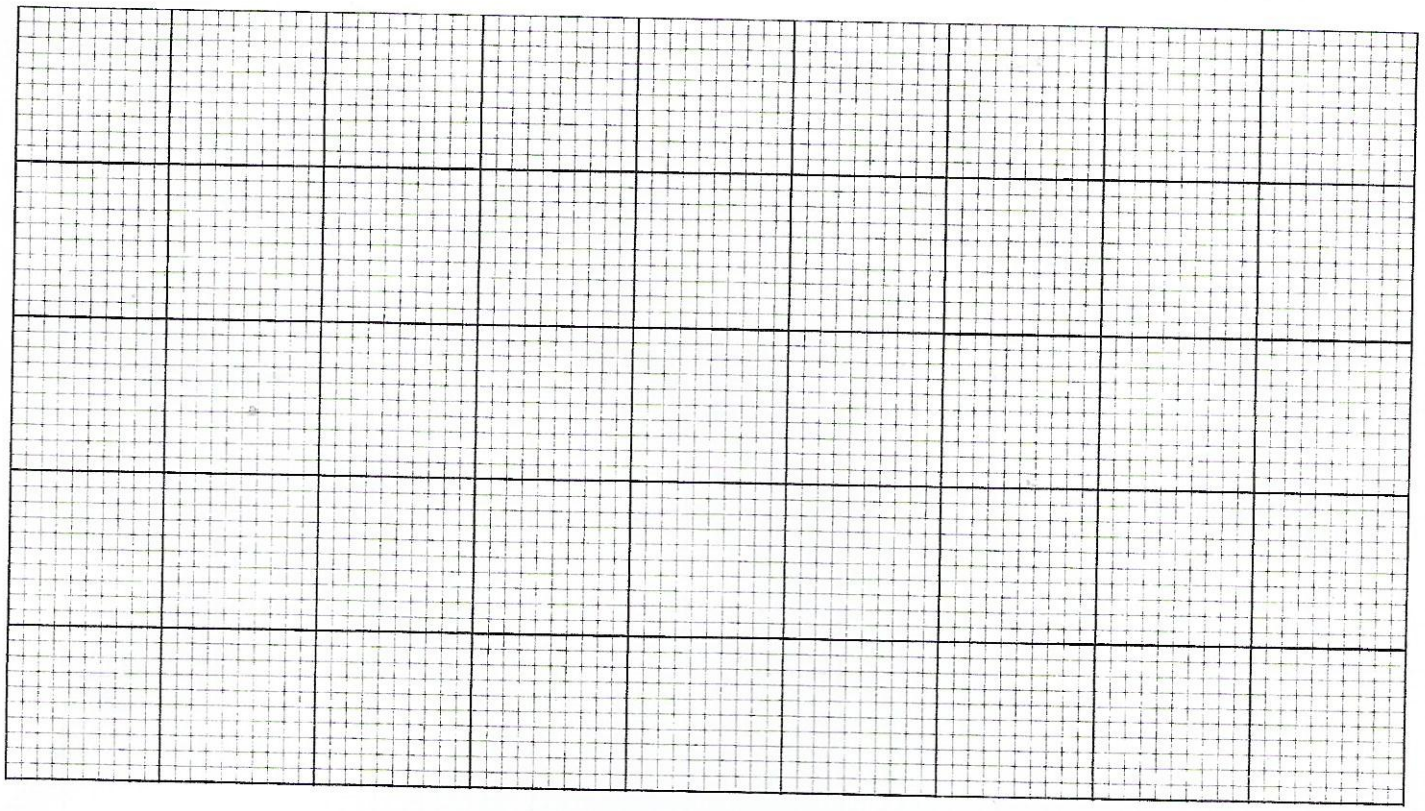
3. (Continued)



(10 marks)

4. You are provided with a burette, water in a beaker and a dropper.

   a. Pour 20 cm^3 of water in the burette.

   b. Using a dropper, add 5 drops of water into the burette.

   c. Note the new volume and record it in the table below:

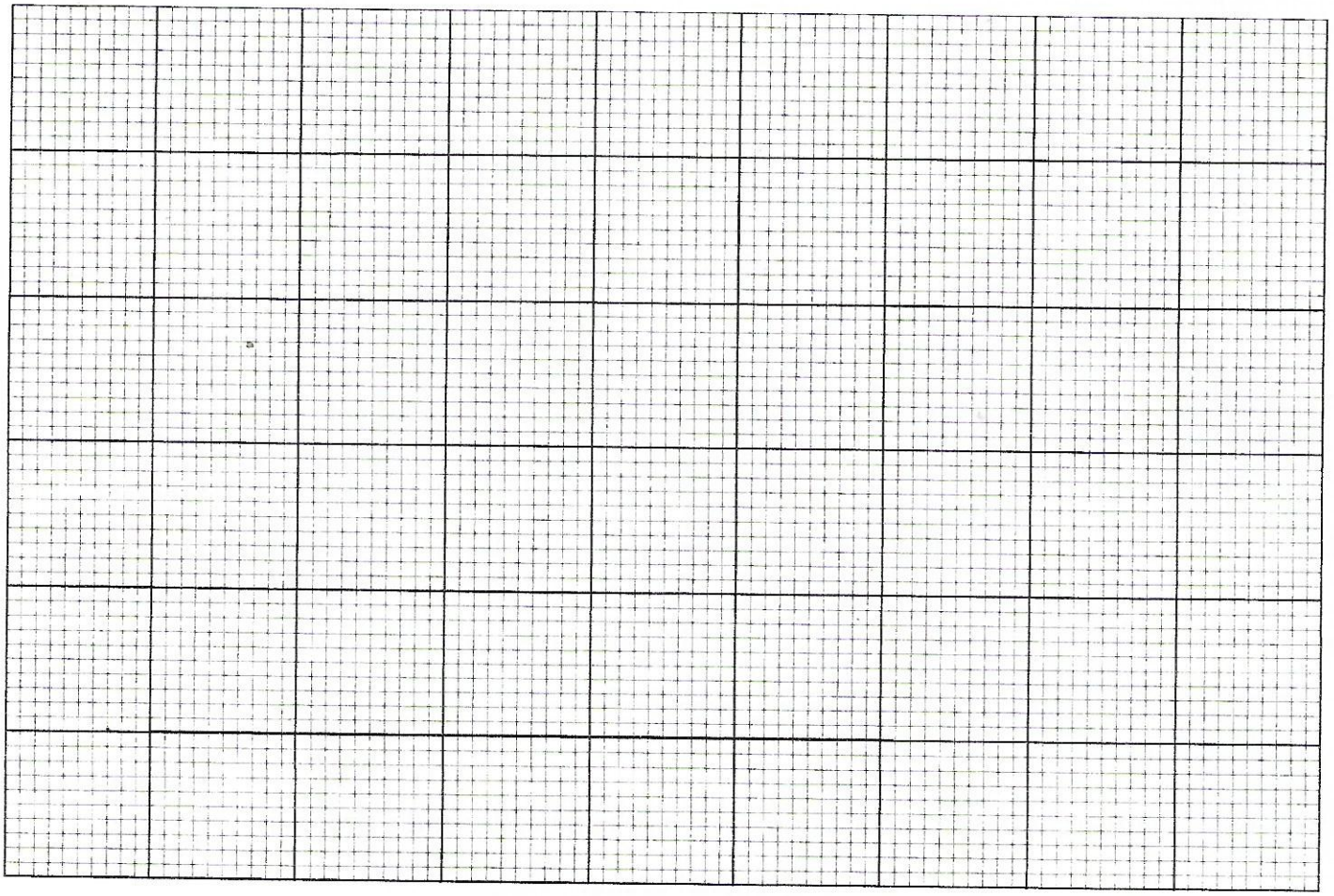
Table 3

Number of drops	0	5	10	15	20
Volume (cm^3)					

   d. Repeat steps **b** and **c**, by adding 5 drops at intervals.

   e. Plot a graph of volume against number of drops.

Continued/…



(10 marks)

END OF QUESTION PAPER

NB: This paper contains 6 printed pages.