EXAMINATION NO.: _____

SOUTH EAST EDUCATION DIVISION

2024 MALAWI SCHOOL CERTIFICATE OF EDUCATION MOCK EXAMINATION

CHEMISTRY

Subject Number: M038/II

Thursday, 14 March

Time Allowed: 2 hour sessions

10:00 am onwards

PAPER II

Practical

(40 marks)

Instructions:

1. **This paper contains 6 printed pages. Please check.**
2. Before beginning, fill in your full name at the top of the question paper.
3. Write your answers in the spaces provided on the question paper.
4. This paper has **two** sections, **A** and **B**.
5. Section **A** contains 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.

Question number	Tick if answered	Do not write in this column	
1			
2			
3			
4			

Turn over/…

SECTION A (20 Marks)

1. With the aid of a well labelled diagram, describe how you could determine that during the reaction between sodium metal and water, the gas produced is hydrogen.

(10 marks)

continued/…

2. Describe an experiment which could be carried out to arrange metals namely **X**, **Y** and **Z** in order of their reactivity.

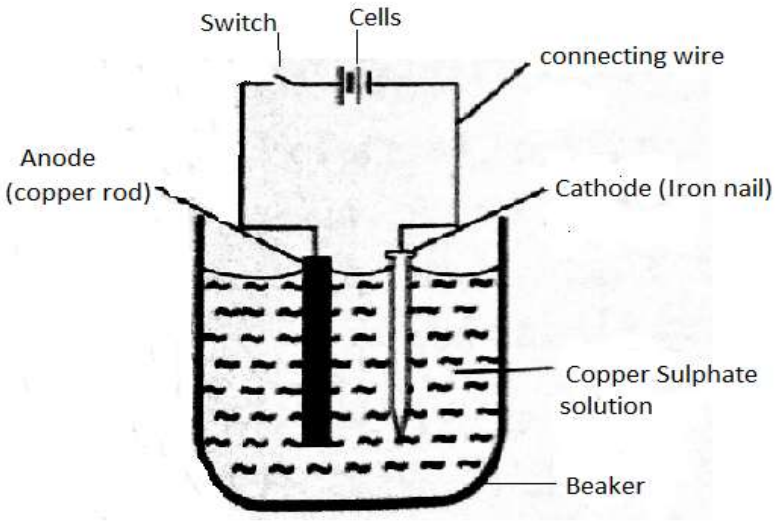
(10 marks)

continued/…

SECTION B (20 Marks)

3. You are provided with 2 cells, collecting wires, switch, copper metal, iron nail, copper sulphate solution and beaker.

a. Arrange the apparatus as shown in the diagram below,



b. Put 60cm^3 of copper sulphate solution into the beaker.

c. Close the switch.

d. Leave the set up to stand for 5 minutes.

e. Open the switch and remove the copper metal and the iron nail from the solution.

f. What has happened to the copper metal and the iron metal?

Copper metal:

_____

(1 mark)

Iron nail:

_____

(1 mark)

g. With the aid of an equation, describe the process which was taking place at the cathode.

_____

_____

_____

_____

(4 marks)

Continued/…

h. Write the half equation for the reaction which was taking place at the anode.

_____

(1 mark)

i. Name the process demonstrated in this experiment.

_____

(1 mark)

j. State any **two** uses of the process taking place in the experiment.

_____

(1 mark)

4. You are provided with 3 test tubes in a rack, unknown organic substances labelled **A**, **B** and **C** which are ethanol, ethanoic acid and cyclohexane but not in that order. You are also provided with a measuring cylinder, droppers, dilute sodium hydroxide (NaOH), phenolphthalein indicator and distilled water in a wash bottle.

a. On each unknown compound, perform the tests shown in **Table 1** and record your observations in the appropriate spaces. Remember to wash the test tubes after each test.

Table 1

Test	**Substance A**	**Substance B**	**Substance C**
To 3cm^3 of distilled water, add 2cm^3 of unknown substance			
To 15 drops of dilute NaOH in a test tube add 3 drops of phenolphthalein indicator. Now add 3cm^3 of unknown substance.			

(6 marks)

b. Identify the organic compounds labelled **A**, **B** and **C**.

A. _____ (1 mark)

B. _____ (1 mark)

C. _____ (1 mark)

c. What name is given to the test where substances **A**, **B** and **C** are mixed with distilled water?

_____

(1 mark)

END OF QUESTION PAPER

NB: This paper contains 6 pages.