CANDIDATE NUMBER: _____

CENTRAL EAST EDUCATION DIVISION

2023 MALAWI SCHOOL CERTIFICATE OF EDUCATION MOCK EXAMINATION

CHEMISTRY

Thursday, 16th March **Subject Number: M036/II**

Time allowed: 2 hour sessions

8:00 a.m. onwards

PAPER II

(40 marks)

Question Number	Tick if answered	Do not write in these columns	
1			
2			
3			
4			

Instructions

1. **This paper contains 5 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** sessions, **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 relevant diagrams.
6. In section **B**, there **two** practical questions to be answered in **1 hour**.
7. Marks for section **B** will be given for observation, accuracy and interpretation of results.
8. 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 supervision.
9. In the table provided on this page, tick against the question number you have answered.

 TURN OVER!

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SECTION A (20 Marks)

1. With the aid of a well labeled diagram, describe an experiment that could be carried out to electroplate a spoon with silver, the description should include relevant half equations at the electrodes.

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_____ **(10 marks)**

2. Construct **a flow diagram** to identify the following unknown organic compounds: Alkanes, Alkenes, Alkanols and alkanoic acids.

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(10 marks)

SECTION B (20 Marks)

3. You are provided with measuring cylinder, thermometer, sodium hydroxide pellets, beaker, distilled water and stirring rod.

a. Add 20 ml of distilled water in a small beaker.

b. Dip a thermometer in a beaker and record the temperature of the distilled water.

c. Add **5** pellets of sodium hydroxide in the beaker containing distilled water and stir well.

d. Measure and record the temperature of the solution in the table below:

Table 2

Temperature of distilled water (^oC)	
Temperature of the solution (^oC)	

2 marks)

e. Calculate temperature change

_____

_____ **(2 marks)**

f. What type of reaction is depicted above?

_____ **(1 mark)**

g. Give a reason for your answer.

_____ **(1 mark)**

h. Draw the energy level diagram to illustrate the type of reaction above.

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(4 marks)

4. You are provided with solutions **X**, **Y**, and **Z** in beakers and universal indicator solution in a dropper bottle.

a. To each of the three beakers add two drops of universal indicator.

b. Note the colour change of the solutions and record in the table of results.

c. Use the pH scale chart below to complete the table of results.

Colour	red	orange	Light orange	yellow	green	Green blue	Light blue	Dark blue	violet	purple
pH	1 - 2	3 - 4	5	6	7	8	9	10	11 - 12	13 – 14

Table 1

Substance being tested	**Colour obtained on adding universal indicator**	**pH value**
X		
Y		
Z		

(6 marks)

a. Classify the tested acids and bases as weak or strong.

X _____

Y _____

Z _____ **(3 marks)**

b. Mention any ***one*** variable that should be kept constant.

_____ **(1 mark)**

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END OF QUESTION PAPER!