THE UNITED REPUBLIC OF TANZANIA

ORGANISATION OF HEADS OF NON-GOVERNMENT SECONDARY SCHOOLS (OHONGSS)

KIGOMA REGIONS

FORM FOUR MOCK EXAMINATION

(ACTUAL PRACTICAL)

032/2B **CHEMISTRY 2B**

Time: 2:30 HOURS **YEAR: 2025**

INSTRUCTIONS

1. This paper consists of two (2) questions. Answer all the questions.

2. Each question carries twenty five (25) marks making up a total 50 marks

3. Cellular phone and any unauthorized materials are not allowed in the examination room

4. Write your Examination number on every page of your answer booklets

1. Your are provided with the following

Solution **G**: containing 0.05M sulphuric acid

Solution **H**: Containing 2g of XOH in 500cm3 of the solution

Methyl orange indicator

Procedures

(i) Pipette 20cm3 or 25cm3 of solution **H** into a clean conical flask. Add to it two drops of methyl orange indicator.

(ii) Titrate this solution H against solution G from the burette until the colour change is observed. Note the burette reading.

(iii)Repeat the procedure to obtain three more readings.

(a) Record your results in a table as shown below

(i) Burette reading

Volume of reading(cm^3)	Pilot	1	2	3
Final burette reading (cm^3)				
Initia burette reading (cm^3)				
Volume of acid used(cm^3)				

(ii) The volume of pipette was.....cm^3

(ii) Calculate the mean titre volume

(iii) The volume of solution **H** needed for complete neutralization of.....cm^3 of solution **G** was .....cm^3

(b) Calculate the:-

(i) Molarity of **H**

(ii) Concentration of H in g/dm^3

(iii) Molar mass of XOH

(iv) Atomic mass of X in compound XOH

(V) Identify the element X and write the electronic configuration of its ion.

2. Sample E is a simple salt containing one cation and one anion. Carefully carry out the experiments described in the table below, record your observations and make appropriate references to identify the cation and anion in sample **E**.

S/n	Experiments	Observation	Inference
(a)	Note the appearance of sample E		
(b)	Put a dry spatulaful salt E in a dry test tube and heat it gently. note the changes		
(c)	Put a small amount of solid sample E in a dry test tube and add a small amount of concentrated H2SO4 and warm it gently		
(d)	Dissolve sample E in a clean test tube using distilled water provided. divide the solution in two (2) portions (I)To the first portion, add a small amount of ammonia solution until in excess		
	(ii) To the second portion add a fresh prepared ferrous sulphate (FeSO4) solution, followed by concentrated sulphuric acid down the wall of the test tube		

Conclusion

(i) The cation in E is.....

(ii) The anion in E is.....

(iii)Write down the chemical formula and the chemical name of the compound E

(iv)Write a balanced chemical reaction taking place in experiment 2(b) above.