THE UNITED REPUBLIC OF TANZANIA

PRESIDENT'S OFFICE

REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

KIGOMA REGION

FORM FOUR MOCK EXAMINATION JULY 2025

032/2A

CHEMISTRY 2A (PRACTICAL)

(For Both School and Private Candidates)

Time: 2:30 Hours

TUESDAY, 22ND JULY, 2025

10:00 A.M

INSTRUCTIONS

1. This paper consists of two (2) questions. Answer all questions.
2. Each question carries twenty five (25) marks.
3. All writing must be in Blue or black ink, except drawings which must be in pencil.
4. Communication devices and any unauthorized materials are not allowed in the examination room.
5. Write your examination number on every page of your answer booklet(s).
6. You may use the following constants

   Atomic masses: H=1,Na=23, K=39,O=16,S=32.

1 .You are provided with the following solutions:

X1:Contain 5.6_g of TOH in 1 dm^3 of solution.

X2:Contain 4.9g of sulphuric acid dissolved in 1 dm^3 of solution.

MO Methyl orange

Procedure

(i) Titrate the acid solution(in burette) against the base solution(in conical flask) using Methyl orange (MO)as an indicator up to the end point.

(ii) Repeat the step (i) to obtain three more readings in tabular form.

Questions

(a)(i) What is the volume of pipette used?

(ii)What are the colour changes at the end point?

(iii)Calculate the average volume of the acid used to neutralize the base.

(b) Write a balanced chemical equation for the reaction in this experiment.

(c)Showing your procedures clearly, identify element T in the TOH compound.

2. Sample L is a simple salt. Carry out the experiments described below. Record your observations and make appropriate inferences and hence identify the cation and anion present in sample L

Table 1

Experiment	**Observations**	**Inference**
a) Appearance of the sample L		
b) Heat a little sample L in a dry test tube.		
c)Dissolve a little sample L in water and divide the solution into five portions		

(i)To One portion add NaOH till in excess.		
(ii)To the second portion add dilute HCl then heat		
(iii)To the third portion add freshly prepared $FeSO_4$ solution followed by concentrated H_2SO_4 slowly added though the sides of the test tube.		
(iv)To the fourth Portion add ammonia solution till in excess		
(v)To the fifth portion add nitric acid followed by3 drops of silver nitrate solution and then add excess ammonia solution.		

Questions

a) What are the cation and anion in the sample L
b) Write the molecular formula of the sample L.
c) Mention two(2) uses of the sample identified.