**JOINT EVALUATION EXAMINATIONS**

**CHEMISTRY PAPER THREE CONFIDENTIAL**

**1.** **Provide each candidate with**

1. Exactly 5.0 g of impure anhydrous sodium carbonate in a stoppered container and label as solid X.
2. 100 cm3 of 2M hydrochloric acid labeled as solution Y.
3. About 100 cm3 of 0.4M sodium hydroxide
4. 5 g of maleic acid in a stoppered container labeled as solid L
5. 1 burette
6. 1 pipette
7. 10ml measuring cylinder
8. Distilled in wash bottle
9. 6 test tubes
10. 1 boiling tube
11. Red and blue litmus papers
12. 1 clamp and stand

**2. In addition to the above reagents, candidates should access to:**

1. 1M acidified potassium chromate (vi)
2. 1M acidified potassium manganite (vii)
3. Bromine water
4. Methyl –orange indicator

**3. Preparation of solutions**

 **2 M HCl acid**

* Dissolve 172cm3 of concentrated hydrochloric acid in enough distilled water and dilute to one litre

 **Bromine water**

* Dissolve 10 cm 3 of liquid bromine in 100cm3 of distilled water and store in a dark bottle.

 **Acidified potassium chromate (vi)**

* Dissolve 25 g of potassium chromate (vi) in 200 cm3 of 2M Sulphuric (vi) acid and dilute to one litre solution

 **Acidified potassium manganite (vii)**

* Dissolve 3.16 g of potassium manganite (vii) in 200 cm3 of 2 M Sulphuric (vi) acid and dilute to one litre.

 **Methyl orange**

* Dissolve 2 g of methyl orange solid in a litre of dissolved water to form a solution. Filter the resulting mixture