The information contained in this paper is to enable the Head of the school and the teacher in charge of chemistry to make adequate preparations for this year's mock chemistry practical examination. **NO ONE ELSE** should have access to this paper or acquire knowledge of its contents. Great care should be taken to ensure that the information contained herein **DOES NOT** reach the candidates either directly or indirectly. The teacher in charge of chemistry should NOT perform any of the experiment in the same room as the candidates nor make the results of the experiment available to the candidates or give any other information related to the experiment to the candidates.

**Requirements for candidates**

In addition to the apparatus and fittings found in a chemistry laboratory, each candidate will require the following

1. About 100cm$^3$ of solution **M**
2. About 80cm$^3$ of solution **K**
3. One burette 0-50ml
4. One pipette 25ml
5. Two conical flasks 250ml
6. Solid **D** (exactly 4.0g)
7. One thermometer -10 to 110$^o$C)
8. One measuring cylinder 100ml
9. Two boiling tubes
10. About 0.5g of solid **N**
11. Empty beaker 100ml
12. Filter funnel
13. 3.0g of solid **W** in a stoppered container
14. Six test tubes
15. Test tube holder
16. One blue and one red litmus paper
17. One 10ml measuring cylinder
18. 500ml distilled water in wash bottle
19. Means of labeling
20. Pipette filler

**ACCESS TO:**

1. Phenolphthalein indicator with a dropper
2. Methyl orange with a dropper
3. Source of heat (Bunsen burner)
4. 2M ammonia solution with a dropper

5. 0.5M Ba $(NO_3)_2$ solution dropper
6. Solution P, sodium carbonate solution with a dropper
7. 2M hydrochloric acid supplied with a dropper

**Note**

1. Solid **N** is $ZnSO_4.\ 7H_2O$
2. Solids **D** and **W** are oxalic acid
3. Solution **K** is prepared by dissolving exactly 6.4g of sodium hydroxide in 400ml of distilled water and make up to one litre by adding more distilled water
4. Solution **M** is prepared by measuring 16.5ml of concentrated hydrochloric acid in 400ml distilled water and dilute it by adding more distilled water to a total volume of one litre

**NOTE**

The teacher in charge should perform the experiments for questions 1 and 2 and draw the table of the results for table I,II in question one and table in question two respectively. The results should be sent together with the students scripts for marking.

Name of teacher who performed the experiments:……

T.S.C No:……

Date :……

Sign :……..