

This document must not be seen by the candidates whatsoever

## CONFIDENTIAL INSTRUCTIONS TO SCHOOLS

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

## following;

- 1. Exactly 3cm length of solid A
- 2. A bout 80cm<sup>3</sup> of **solution B**
- 3. About 120cm of **solution D**
- 4. Means of labeling
- 5. One 50ml burette
- 6. One 25ml pipette
- 7. One pipette filler
- 8. Two 250ml conical flask
- 9. One 100ml clean beaker
- 10. One clean metallic spatula
- 11. One  $-10^{\circ}$ C to  $110^{\circ}$ C thermometer
- 12. Six clean test tubes
- 13. One test tube holder
- 14. Two boiling tubes
- 15. One test tube holder
- 16. One 10ml measuring cylinder
- 17. One 250ml volumetric flask
- 18. A bout 1g of **solid E**
- 19. About 0.2g of solid F
- 20. About 1g of solid G
- 21. About 2cm<sup>3</sup> of calcium hydroxide solution in stopped test tube.
- 22. Clean glass rod
- 23. A bout 1g of solid sodium carbonate.
- 24. A bout 500cm<sup>3</sup> of distilled water in wash bottle.

## Access to

- 1. Bunsen burner.
- 2. 2M aqueous sodium hydroxide with dropper
- 3. 2M aqueous ammonia supplied with dropper
- 4. 2M hydrochloric acid
- 5. Aqueous potassium dichromate (VI) supplied with dropper.
- 6. Methyl orange indicator supplied with dropper.
- 7. Phenolphthalein indicator supplied with dropper.



## NOTES

- Solution B is provided by adding 27cm3 of 98% concentrated sulphuric(vi) acid (sp gr 1.84) to 500cm3 of distilled water and making the solution 1 litre by adding more distilled water.
- 2. Solution **C** is provided by dissolving 12g of sodium hydroxide pellets in 500cm3 of distilled water and then adding more water to make 1 litre of the solution.
- 3. Calcium hydroxide solution is prepared by adding excess calcium hydroxide powder in cold distilled water and keeping the mixture overnight in a stopped container. The mixture is filtered in the morning of the experiment and supplied in a stopped test tube.