

**CHEMISTRY 233/3****PAPER 3**

*This document must not be seen by the candidates whatsoever*

**CONFIDENTIAL INSTRUCTION TO SCHOOLS**

*In addition to the apparatus and fitting found in the laboratory, each candidate will require the following.*

1. 2g solid **D**
2. 3 boiling tubes (pyrex recommended)
3. 10ml measuring cylinder
4. Distilled water
5. Filter funnel
6. Filter paper
7. 6 test tubes
8. 10ml liquid **F** (absolute propan-2-ol)
9. Watch glass
10. Wooden splint
11. 2g sodium carbonate
12. Burette
13. Pipette and pipette filler
14. Thermometer
15. 250ml volumetric flask
16. 1 label
17. 3 conical flasks 250ml
18. 4.5g of solid **P** (accurately weighed)

*In addition the student should have access to:*

19. Water bath (maintained at about 80<sup>0</sup>C)
20. 2M sodium hydroxide
21. 2M sulphuric (VI) acid
22. 2M hydrochloric acid
23. 2M Barium nitrate
24. 2M potassium dichromate
25. 2M Ammonium hydroxide
26. 2M Nitric acid
27. Bromine water.

## Notes

1. Solid **D** is prepared by mixing 1g of **D**<sub>1</sub> and **D**<sub>2</sub>.
2. Potassium dichromate (VII) is prepared by dissolving 20g in 400cm<sup>3</sup> of 2M sulphuric acid then topping up to one litre of solution.
3. Water bath should be maintained at about 80<sup>0</sup>C using a low flame to avoid breakage of the beaker. The beaker should be of 400cc or 500cc (purex glass)
4. Solid **D**<sub>1</sub>, **D**<sub>2</sub>, **P** and solution **F** are obtained at KISCEN ENT. Opposite Railway Mosque.