

**233/3 – CHEMISTRY PAPER 3****CONFIDENTIAL**

Each candidate should have the following

1. Exactly 5.0g of solid A – Oxalic acid (supply in a stoppered boiling tube)/
2. Solution B – 0.3M Sodium Hydroxide solution (90cm<sup>3</sup>)
3. Burette 50ml
4. Pipette filler
5. Pipette 25ml
6. Thermometer (-10 – 110)<sup>o</sup>C
7. 10cm<sup>3</sup> measuring cylinder.
8. 2 conical flasks.
9. 250ml volumetric flask.
10. Means of labeling.
11. Solid P – mixture BaCl<sub>2</sub> and CaO in the ratio of 3:1 (measure about 0.5g)
12. Solid Q – about 0.5g of maleic acid.
13. Source of heat
14. Metallic spatula
15. Test tube holder
16. Filter paper
17. Filter funnel
18. 6 test tubes
19. Boiling tube.

**Accessible to the following:**

- 2M Sodium hydroxide solution with dropper.
- 2M Hydrochloric acid with dropper.
- Methyl orange indicator with dropper.
- 4M sodium sulphate solution.
- Acidified potassium dichromate (VI) with a dropper.
- Acidified potassium manganate (VII) with a dropper.
- Bromine water – with a dropper.
- Phenolphthalein indicator.

- Distilled water.