

**233/3**  
**Chemistry Paper 3**  
**Practical**

**CONFIDENTIAL**

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In addition to the apparatus and the fittings found in a chemistry laboratory each candidate needs;

- 2. 2 g of Solid A weighed exactly.
- About 40 cm<sup>3</sup> of solution B.
- About 50cm<sup>3</sup> of solution C
- About 60 cm<sup>3</sup> of solution E.
- One beaker (100ml).
- One plastic beaker (100 ml).
- 250 ml volumetric flask.
- Six clean dry test –tubes in a test tube rack.
- One boiling tube.
- One measuring cylinder (10ml).
- One measuring cylinder (100ml).
- Thermometer (110<sup>0</sup> C).
- 0.5 g solid H.
- 0.5g solid M.
- Glass rod.
- About 250cm<sup>3</sup> of distilled water.
- One test tube holder.
- One metallic spatula.
- One label.
- A stop watch.
- One burette (0 – 50 ml).
- PH Chart.

**ACCESS TO:**

- Bunsen burner.
- Water bath.
- 0.5M barium chloride.
- 2M hydrochloric acid.
- 2M sodium hydroxide solution.
- Universal indicator solution.
- Dilute sodium sulphate solution.
- Acidified potassium dichromate (VI) solution.
- Bromine water.

**NOTES**

- Solid A is ethan -1, 2 – dioic acid (oxalic acid).
- Solution B is prepared in open place by adding 63g Ethan – 1, 2 –dioic acid (oxalic acid) in about 500cm<sup>3</sup> distilled water and making upto 1 litre of solution.
- Solution C is prepared by dissolving 40g of sodium hydroxide pellets in about 500cm<sup>3</sup> of distilled water and making upto one litre of solution using distilled water.
- Solution E is prepared by dissolving 1.58g of solid potassium manganate (VII) in about 400cm<sup>3</sup> in 2M sulphuric acid and making upto one litre of solution using distilled water.
- Solid H is sodium sulphite (Na<sub>2</sub> SO<sub>3</sub>).
- Solid M is Oxalic acid (Ethan – 1, 2 - dioic acid).