

CHEMISTRY
PAPER 3
233/3
CONFIDENTIAL

In addition to the fittings and apparatus in the laboratory, each candidate must be provided by the following

- Solid A - 3g of sodium ethandioate
 - Solution B – 0.02M KMnO_4
 - Solution C – 1 M H_2SO_4
 - 3 Conical flasks
 - At least 250cm^3 of distilled water in a wash bottle
 - A thermometer
 - A Bunsen burner
 - Tripod stand with wire gauze
 - A 250 ml volumetric flask
 - 2 labels
 - A burette
 - A 25 ml pipette
 - Solution E - 2m HCl
 - Solution F – 0.15 $\text{Na}_2\text{S}_2\text{O}_3$
 - 50 ml measuring cylinder
 - 100 ml beaker
 - 2 filter papers
 - A stop watch
 - About 1g of solid G – made by mixing BaCl_2 and $\text{Ca}(\text{OH})_2$ in the ratio of 2 : 1
 - A filter funnel
 - 6 Clean test tubes
 - 1 boiling tube
 - About 1g of solid H – oxalic acid
 - Metallic spatula
 - About 0.5g Na_2CO_3
- Candidates should be access to
- Phenolphthalein indicator
 - 0.5M $\text{Na}_2\text{SO}_{4(\text{aq})}$
 - 2M $\text{NaOH}_{(\text{aq})}$
 - Acidified KMnO_4

NB Teachers should ensure that students do not mix potassium manganate (VII) with dilute hydrochloric acid particularly during washing.