

CONFIDENTIAL CHEMISTRY 233/3
BARINGO COUNTY EDUCATIONAL IMPROVEMENT EXAM 2011

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

- 90 cm³ of solution **H**
- 50cm³ of solution **F**
- 7cm³ of Liquid **T**
- One burette (0 – 50cm³)
- Six clean dry test tubes
- One Stop watch / stop clock
- One 250 cm³ Volumetric flask
- One 10cm³ measuring cylinder
- One boiling tube.
- One 100 cm³ beaker
- One label
- 6 cm length of solid **E**
- 0.5g of solid **P**
- one Filter paper
- One Filter funnel
- About 0.3g of powdered sodium carbonate
- P^H Chart
- Pipette and pipette filler
- Two conical flasks
- Distilled water in a wash bottle.
- One **metallic** spatula
- A ruler. (0 - 30cm)

Access to:

- Concentrated Sulphuric (VI) acid supplied with a dropper
- Universal indicator solution supplied with a dropper
- Phenolphthalein indicator supplied with a dropper
- 2M aqueous ammonia solution supplied with a dropper
- 2M sodium hydroxide solution supplied with a dropper.
- Acidified potassium chromate (VI) supplied with a dropper
- Freshly prepared 1M iron (II) sulphate supplied with a dropper
- **Absolute ethanol** supplied with a dropper.
- Source of heat

(a) Solution **F**: Dissolve 172 cm³ of concentrated hydrochloric acid in about 600cm³ of distilled water and make up to one litre.

(b) Solution **H**: Dissolve 15 g of sodium hydroxide pellets in 600cm³ of distilled water and make up to one litre.

(c) Solid **E** is magnesium ribbon

(d) Solid **P** is a mixture of Zinc nitrate and lead (II) oxide in the ratio 2 : 1 by mass.

(e) Liquid **T** is Glacial ethanoic acid.