

**THE UNITED REPUBLIC OF TANZANIA
NATIONAL EXAMINATIONS COUNCIL**

**032 CHEMISTRY ACTUAL PRACTICALS FOR ORDINARY LEVEL
OF SECONDARY EDUCATION**

1.0 IMPORTANT

The National Examinations Council has prepared a checklist of apparatus and chemicals for Chemistry Actual Practicals. As a Head of the school **make sure that all the apparatus and chemicals indicated in this checklist are available** in the school laboratory. Some of these will be used for Certificate of Secondary Education Examination (CSEE) 2017 Chemistry practicals. There will be no one month Advance Instructions which will be provided for Chemistry practicals. However, 24 Hours Advance Instructions will be provided.

2.0 LIST OF APPARATUS AND CHEMICALS

In addition to the normal fittings of a Chemistry laboratory, each candidate will require some of the listed apparatus and chemicals as will be prescribed in the 24 hours advance instructions.

2.1 Apparatus

- 1 pipette (20 cm³ and 25 cm³)
- 1 burette (50 cm³)
- 3 titration flasks
- 1 beaker (100 cm³)
- 2 beakers (250 or 300 cm³)
- 1 spatula
- 4 test tubes (pyrex)
- 1 Petri dish/watch glass
- 1 white sheet of paper (A₄)
- 1 measuring cylinder (100 cm³)
- 1 measuring cylinder (10 cm³)
- 1 stopwatch
- 1 heat source/burner
- 1 test tube holder
- 1 test tube rack
- 1 Qualitative Analysis Guidance sheet
- 1 thermometer (0 – 100 °C)

2.2 Chemicals

- 500 cm³ of distilled water
- 3 g sodium hydroxide (NaOH)
- 3 g sodium chloride (NaCl)
- 3 g sodium thiosulphate (Na₂S₂O₃)
- 10 cm³ methyl orange indicator (MO).
- 10 cm³ phenolphthalein indicator (POP)
- 3 g lead nitrate (Pb(NO₃)₂)
- 3 g copper carbonate (CuCO₃)
- 3 g calcium chloride (CaCl₂·6H₂O)
- 3 g ammonium chloride (NH₄Cl)
- 3 g sodium hydrogen carbonate (NaHCO₃)
- 2 g sulphuric acid (H₂SO₄)
- 3 g calcium carbonate (CaCO₃)
- 2 g hydrochloric acid (HCl)
- 3 g anhydrous sodium carbonate (Na₂CO₃)
- 2 g nitric acid (HNO₃)
- 2 g oxalic acid (2(COOH)·2H₂O)
- 3 g potassium hydroxide (KOH)
- 3 g zinc sulphate (ZnSO₄)
- 3 g copper(II) sulphate (CuSO₄·5H₂O)
- 3 g ferrous sulphate (FeSO₄·7H₂O)