

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

**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) 2018 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 APPARATI AND CHEMICALS

In addition to the normal **fittings** and **reagents** in a CSE 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 Apparati

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

2.2 Chemicals

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| ✓• 500 cm ³ of distilled water | ✓• 2 g sulphuric acid (H ₂ SO ₄) ✓ |
| ✓• 3 g sodium hydroxide (NaOH) ✓ | ✓• 3 g calcium carbonate (CaCO ₃) ✓ |
| ✓• 3 g sodium chloride (NaCl) | ✓• 2 g hydrochloric acid (HCl) ✓ |
| ✓• 3 g sodium thiosulphate (Na ₂ S ₂ O ₃) ✓ | ✓• 3 g anhydrous sodium carbonate (Na ₂ CO ₃) |
| ✓• 10 cm ³ methyl orange indicator (MO). ✓ | ✓• 2 g nitric acid (HNO ₃) ✓ |
| ✓• 10 cm ³ phenolphthalein indicator (POP) ✓ | ✓• 2 g oxalic acid ((COOH) ₂ ·2H ₂ O) ✓ |
| ✓• 3 g lead nitrate (Pb(NO ₃) ₂) ✓ | ✓• 3 g potassium hydroxide (KOH) ✓ |
| ✓• 3 g copper carbonate (CuCO ₃) | ✓• 3 g zinc sulphate (ZnSO ₄ ·7H ₂ O) |
| ✓• 3 g calcium chloride (CaCl ₂ ·6H ₂ O) | ✓• 3 g copper(II) sulphate (CuSO ₄ ·5H ₂ O) ✓ |
| ✓• 3 g ammonium chloride (NH ₄ Cl) | ✓• 3 g lead chloride (PbCl ₂) ✓ |
| ✓• 3 g ammonium hydroxide (NH ₄ OH) | |

- ✓• 3 g sodium hydrogen carbonate (NaHCO_3).
- ✓• 3 g potassium ferrocyanide
- ✓• 3 g silver nitrate (AgNO_3) ✓
- ✓• 3 g magnesium sulphate (MgSO_4)
- ✓• 3 g barium chloride (BaCl_2)
- ✓• 3 g potassium dichromate.