



**TEACHER.CO.KE SERIES 9**

**233/3**

**CHEMISTRY**

**PAPER 3**

**PRACTICAL**

**CONFIDENTIAL**

Each candidate should have the following:

1. 120cm<sup>3</sup> solution A, 0.1M sodium hydroxide label solution A.
2. 120cm<sup>3</sup> solution B, 0.2M hydrochloric acid label solution B
3. Exactly 2.0g solid C – calcium hydroxide label solid B
4. Phenolphthalein indicator.
5. Methyl orange indicator.
6. Distilled water 500cm<sup>3</sup> in a wash bottle.
7. Solid Q- 1g mixture of barium chloride and calcium hydroxide in the ratio of 2 : 1.
8. Solid P – 2g hydrated ammonium iron (II) sulphate ( $\text{FeSO}_4 (\text{NH}_4)_2 \text{SO}_4 \cdot 6\text{H}_2\text{O}$ )
9. Red and blue litmus paper. 2 pieces each.
10. Filter paper – 2 pieces
11. Labels – 2 pieces

**APPARATUS**

100ml measuring cylinder.

10ml – measuring cylinder.

Burette ( 0 – 50ml ) on a stand and clamp

Pipette and pipette filler.

Stop watch

1 boiling tube

Test-tubes on a rack – 6 pieces.

Test-tube holder

Spatula.

Filter funnel.

3 conical flasks.

#### **ACCESS TO:**

1. Bunsen burner ( Source of heat )
2. 2M sodium hydroxide.
3. Aqueous ammonia 0.1M
4. 0.5M sodium sulphate
5. 2M nitric acid
6. Barium nitrate solution ( 0.1M)
7. 2M hydrochloric acid

#### **PREPARATIONS**

1. Solution A is prepared by dissolving 4.0g of sodium hydroxide in 600cm<sup>3</sup> of distilled water and diluting it to one litre solution.
2. Solution B is prepared by dissolving 17.2cm<sup>3</sup> of concentrated hydrochloric acid of density 1.19g/cm<sup>3</sup> in 400cm<sup>3</sup> of distilled water and diluting to one litre solution.
3. Solid C is 2.0 g calcium hydroxide.
4. Solid Q is 1g mixture of barium chloride and calcium hydroxide in the ratio 2 : 1.
5. Solid P is 2g hydrated ammonium iron (II) sulphate.
6. 2M sodium hydroxide is prepared by dissolving 80g of sodium hydroxide into 1 litre solution.

7. 0.1M aqueous ammonia is prepared by dissolving 5.6cm<sup>3</sup> Analar grade Ammonia which contains 30 – 35% and make upto 1 litre mark.
8. 0.1M barium nitrate is prepared by dissolving 26.0g in water and making upto 1 litre
9. 2M dilute nitric acid is prepared by adding 128cm<sup>3</sup> of con. Acid to water and make upto 1 litre.
10. 2M hydrochloric acid is prepared by adding 172cm<sup>3</sup> of conc. Acid to water and make upto 1 litre
11. 0.5M sodium sulphate is prepared by dissolving 71.0g in water and make upto 1 litre.