

**BUNAMFAN CLUSTER EXAMINATION 2022**

**JUNE, TERM ONE 2022**

**233/3**

**CHEMISTRY PAPER THREE CONFIDENTIAL**

**APPARATUS**

1. 100cm<sup>3</sup> of solution A, 0.02M KMnO<sub>4</sub>.
2. 100cm<sup>3</sup> of solution B, 0.06 M ammonium iron(II)sulphate, (NH<sub>4</sub>)<sub>2</sub>Fe(SO<sub>4</sub>)<sub>2</sub>.6H<sub>2</sub>O
3. 100cm<sup>3</sup> of Solution C, 0.04M oxalic acid
4. 1 g Solid M, aluminium sulphate.
5. 0.5g solid P, oxalic acid in a stoppered container
6. Burette
7. Pipette and pipette filler.
8. 2 conical flasks
9. Clamp, boss and stand.
10. 1 boiling tube.
11. 5 clean test tubes
12. Distilled water in wash bottle.
13. Clean Metallic spatula
14. Bunsen burner.
15. PH chart
16. Universal indicator solution.
17. Red and blue litmus paper.

**COMMON REAGENTS**

1. 0.2M Sodium hydroxide, NaOH solution with a dropper.
2. Ammonia solution with a dropper.
3. Barium nitrate solution, Ba(NO<sub>3</sub>)<sub>2</sub> with a dropper.
4. Dilute Nitric (V)acid solution with a dropper
5. Acidified potassium manganate (VII)solution with a dropper.
6. Bromine water with dropper.
7. Sodium chloride solution with a dropper.