**MID TERM SERIES-TERM 1-2023**

**CHEMISTRY PAPER 3 (233/3)**

 **FORM FOUR (4)**

 **TIME: 2 1/2 HOURS**

 **CONFIDENTIAL REPORT**

**INSTRUCTIONS TO SCHOOLS**

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

A.

1. One burette 0 – 50 ml

2. One pipette 25.0 ml and a pipette filler

3. Two clean and dry conical flasks (250ml)

4. Six clean and dry test-tubes

5. pH chart (Full range)

6 One boiling tube

7. About 500cm3 of distilled water supplied in a wash bottle

8. One 250ml volumetric flask supplied with a stopper.

9. One 10ml measuring cylinder

10. One 50ml measuring cylinder

11. About 60cm3 of solution A

12. About 100cm3 of solution B

13. About 100cm3 of solution C

14. 100ml glass beaker

15. White piece of plain paper marked with **a cross** on it with a blue print

16. Thermometer

17. Stop watch/stop clock

18. One sticker / label

19. About 0.5 of solid sodium carbonate

20. About 2g of solid R

21. About 0.5g of solid V

**B Access to:**

1. Universal indicator solution (full range)

2. Phenolphthalein indicator

3. Bunsen burner, tripod stand and wire gauze

4. 2.0M sodium hydroxide solution supplied with a dropper

5. Acidified potassium manganate (VII) supplied with a dropper

6. 0.5M aqueous lead (II) nitrate solution supplied with a dropper

7. 2.0M ammonia solution supplied with a dropper.

8. 2.0M barium chloride solution

9. 2.0M lead nitrate solution

10. Bromine water

11. Potassium iodide solution

**Note:**

1. Solid R is a mixture of lead (II) carbonate and sodium sulphite in the ratio of 1:1

2. Solid V is oxalic acid

3. Solution A is prepared by dissolving 172cm3 of Conc. Hydrochloric Acid (Density 1.18g/cm3) in

400cm3 of distilled water and diluting with distilled water to make one litre solution.

4. Solution B is prepared by dissolving 15.8g of sodium thiosulphate (Na2S2O3) in 600cm3 of

distilled water and diluting with distilled water to make one litre solution.

5. Solution C is prepared by dissolving 4g of sodium hydroxide pellets in 600cm3 of distilled and

diluting with distilled water to one litre.

6. Acidified potassium manganate (VII) is prepared by dissolving 3.0g of potassium manganate

(VII) in 400cm3 of 2.0M H2SO4 and diluting with distilled water to one litre.