TERM 2 - 2023
CHEMISTRY
FORM FOUR (4) – 233/3
CONFIDENTIAL

In addition to the apparatus found in a laboratory, each candidate will require;

1. 110cm^3 of solution C1
2. 150cm^3 of solution C2
3. 60 cm^3 of solution C3
4. 80 cm^3 of solution C4
5. 80 cm^3 of solution C5
6. 50 cm^3 of solution C6
7. 1.0 g of Solid D1
8. 0.5 g of Solid M1
9. A white tile
10. A test tube rack with 1 boiling tube and 8 test tubes
11. A burette
12. A 25 ml pipette
13. A pipette filler
14. A test tube holder
15. A stopwatch
16. A filter funnel
17. Two conical flasks
18. A 100 ml GLASS beaker
19. Distilled water in a wash bottle
20. A metallic spatula
21. Eight labels
22. A clean dropper
23. A wooden splint
24. A 1cm x 1cm aluminium foil
25. Red litmus paper.

Access to the following bench reagents

1. Universal indicator with a full range pH chart.
2. Acidified potassium dichromate (VI)
3. Bromine water
4. 2M sodium hydroxide solution
5. 2M aqueous ammonia
6. Aqueous barium nitrate
7. Source of heat

Note:

- Solution C1 is a 0.01897 M KIO_3 solution.
- Solution C2 is a 0.1 M sodium thiosulphate.

- Solution C3 is 0.167 M acidified potassium iodide. Prepared by dissolving 27.722 g of potassium iodide in 200 cm^3 of distilled water. It is acidified by adding 400cm^3 of 2M sulphuric (VI) acid then distilled water is added to make up to a litre of solution.
- Solution C4 is starch indicator solution. Prepared by dissolving 20 g of starch powder in 100 cm^3 of distilled water.
- Solution C5 is an acidified mixture of potassium iodide and sodium thiosulphate. It is made by dissolving a solid mixture containing 1.0 g of potassium iodide crystals and 1.0 g of sodium thiosulphate crystals in about 200 cm3 of distilled water. It is acidified by adding 400cm^3 of 2M sulphuric (VI) acid then distilled water is added to make up to a litre of solution.
- Solution C6 is hydrogen peroxide solution. It is prepared by taking 200 cm3 of 10 volume hydrogen peroxide and adding 800 cm3 of distilled water to make a litre of solution.
- Solid M1 is 1.0 g of maleic acid in a stoppered container.
- Solid D1 is 1.0 g of a mixture of 0.5 g of zinc (II) nitrate and 0.5 g of zinc (II) sulphate crystals.

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