

Term 2 - 2022
FORM 4
CHEMISTRY PAPER 4 (233/3)
CONFIDENTIAL

Instructions to Schools:

The information contained in this paper is to enable the head of the school and the teacher in charge of Chemistry to make adequate preparation for the Chemistry Practical Examination.

NO ONE ELSE should have access to this paper or acquire knowledge of its content. Great care MUST be taken to ensure that the information herein does NOT reach the candidates either directly or indirectly. The teacher in charge of Chemistry should NOT perform any of the experiments in the SAME room as the candidates nor make the results of the experiment available to the candidates or give any information related to the experiments to the candidates. Doing so will constitute an examination irregularity.

REQUIREMENTS FOR CANDIDATES

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

1. 100 cm³ of **Solution A** – Potassium iodate solution, KIO₃.
2. 50 cm³ of **Solution B** – Acidified sodium hydrogen sulphite, NaHSO₃.
3. About 30 cm³ of **Solution C** – Starch indicator solution.
4. 150 cm³ of **Solution D** – Acidified potassium manganate (VII), KMnO₄.
5. 150 cm³ of **Solution E** – 5g/l of dibasic acid, H₂M.2H₂O.
6. About 1g of **Solid F** – Calcium hydroxide in a stoppered boiling tube.
7. About 1g of **Solid G** – Pure maleic acid .in a stopper container.
8. About 0.5g of sodium carbonate.
9. Distilled water.
10. One 50 cm³ burette.
11. One 25 cm³ pipette.
12. One 10 cm³ measuring cylinder.
13. One 100 cm³ beaker.

14. Six, clear dry test-tubes placed in a rack.
15. One stop watch / stop clock.
16. One boiling tube.
17. One spatula metallic.

ACCESS TO:

1. Phenolphthalein indicator supplied with a dropper.
2. 2M Sulphuric (VI) acid supplied with a dropper.
3. Aqueous potassium iodide supplied with a dropper – KI.
4. 2M Ammonia solution supplied with a dropper
5. Source of heat (Bunsen burner).
6. Acidified potassium dichromate (VI) – $K_2Cr_2O_7$.

PREPARATIONS

1. **Solution A** is prepared by dissolving 2g of **solid A** (Potassium iodate) in distilled water and making it up to one litre.
2. **Solution B** is prepared by dissolving 0.40 g of **solid B** (Sodium hydrogen sulphite) in about 200 cm³ of distilled water, and adding 20 cm³ of 1M sulphuric acid, shaking well, and making up to one litre with distilled water.
3. **Solution C** is prepared placing 1.0g of **solid C** (Starch) in 100 cm³ beaker and adding 2 cm³ of distilled water to make a paste and pouring the paste into 100 cm³ of boiling distilled water and boiling the mixture for about one minute and allowing it to cool **solution C** is ***to be prepared in the morning of the examination.***
4. **Solution D** is prepared by dissolving 9g of solid potassium manganate(VII) in about 600 cm³ of 2M sulphuric(VI) acid and adding distilled water to make a litre of the solution.
5. **Solid G** is pure maleic acid.
6. **Solution E** prepared by dissolving 5 g of oxalic acid in 250 cm³ of water and making it to one litre of solution.