

BSJE JOINT EXAMINATION

-2024 -

Kenya Certificate of Secondary Education

233/3

Chemistry

Paper 3

July, 2024

CONFIDENTIAL.

In addition to the common laboratory fittings and apparatus, each candidate should have the following:

1. 4.5g of solid **T** in a boiling tube, accurately weighed.
2. About 80cm³ of solution **N**.
3. About 0.5 g of solid **Q** (*Ammonium iron II sulphate*) ($(\text{NH}_4)_2\text{Fe}(\text{SO}_4)_2 \cdot 6\text{H}_2\text{O}$) labeled as **Solid Q**.
4. About 4cm³ of solution **R** (*1M sodium sulphite*) in a test tube labeled **Solution R**.
5. About 10cm³ of substance **S** (*absolute ethanol*) in a stoppered boiling tube labelled **Substance S**.
6. About 0.2g of solid **P** (*Sodium hydrogen carbonate*) in a stoppered container labelled as **Solid P**
7. One pipette 25.0ml.
8. One pipette filler.
9. One volumetric flask 250.0ml.
10. One label.
11. Three conical flasks 250.0ml.
12. One 10.0ml measuring cylinder.
13. One 50.0/100.0ml measuring cylinder.
14. One 100.0ml plastic beaker.
15. One thermometer -10⁰C to 110⁰C.
16. One clean metallic spatula
17. 2 blue litmus paper
18. red litmus paper
19. Six clean dry test tubes in a test tube rack.
20. One boiling tube.
21. Solution **R₁** 1M NaNO₃.
22. A Piece of Aluminium foil.

ACCES TO.

- i. Source of heat.
- ii. Phenolphthalein indicator supplied with a dropper.
- iii. 2M Nitric V acid supplied with a dropper.
- iv. Barium nitrate solution supplied with a dropper
- v. Acidified potassium dichromate VI supplied with a dropper.
- vi. 20 volume hydrogen peroxide
- vii. 2M sodium hydroxide supplied with a dropper.
- viii. Distilled water in a wash bottle.

PREPARATIONS.

Barium nitrate is prepared by dissolving 26g of solid barium nitrate in about 600cm³ of distilled water in a 1 litre volumetric flask and then diluting it to the mark.

Acidified potassium dichromate VI is prepared by dissolving 25g of solid potassium dichromate VI in 200cm³ of 2M sulphuric VI acid, quantitatively transfer the mixture into a 1 litre volumetric flask and then diluting it with distilled water to the mark.

Solution E is prepared by dissolving 40.0g of sodium sulphite in a bout 500cm³ of distilled water then diluting it to one litre.

Solid T is Oxalic Acid.

Solution N is 0.06 M acidified potassium manganate (VII)