

# THE ROYAL EXAM SERIES

Kenya Certificate of Secondary Education

233/3 — CHEMISTRY — Paper 3

CONFIDENTIAL

FORM 4

TERM 2

DECEMBER 2021



## INSTRUCTIONS TO SCHOOLS

Apart from the usual laboratory fittings, each student should have the following;

1. About 0.5g of Solid Q in a stoppered container
2. About 0.5g of Solid R in a stoppered container
3. 100cm<sup>3</sup> of solution S
4. 100cm<sup>3</sup> of solution T
5. 100cm<sup>3</sup> of solution P
6. Distilled water.
7. About a spatula end-full of solid Calcium hydroxide
8. Red litmus paper
9. Three 250ml conical flasks
10. One burette 0 – 50ml
11. One pipette 25ml
12. One 50ml measuring cylinder
13. One 10ml measuring cylinder
14. One 250cm<sup>3</sup> volumetric flask
15. Phenolphthalein indicator
16. Labels (2)
17. Stop watch
18. Two boiling tubes
19. One metallic spatula
20. Five test tubes on a test-tube rack
21. Wooden splint
22. Test tube holder

The student should also get access to;

1. 10% Hydrogen peroxide (freshly prepared + dropper).
2. 2M Barium nitrate solution + dropper.

3. 0.5M Hydrochloric acid + dropper.
4. Source of heat.
5. Sodium hydrogen carbonate
6. Acidified Potassium manganate (VII)
7. Acidified Potassium dichromate (VI)

## NOTES

Solid Q is Hydrated ferrous ammonium sulphate.

Solid R is Maleic acid

Solution S is prepared by weighing exactly 4.8g of sodium carbonate dissolve it to make  $1\text{dm}^3$  of solution.

Solution T is prepared by weighing exactly  $172\text{cm}^3$  of hydrochloric acid (35-37% sp.gr 1.18) and dissolving to make  $1\text{dm}^3$  of solution.

Solution P is prepared by weighing exactly 37.2g of sodium thiosulphate pentahydrate and dissolving to make  $1\text{dm}^3$  of solution.