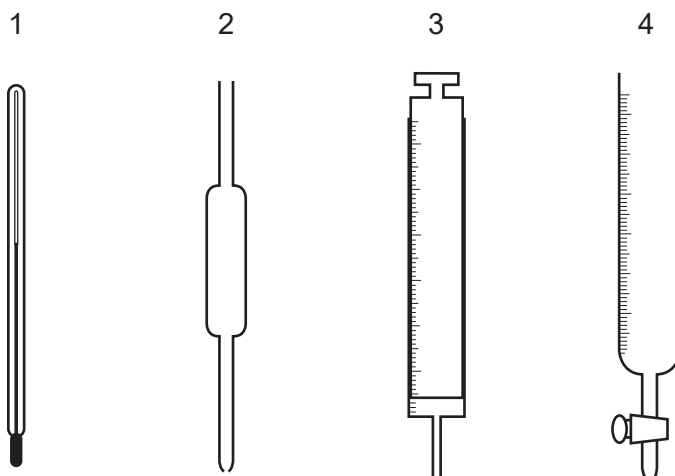


Paper 1

Questions are applicable for both core and extended candidates

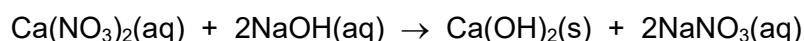
- 1 The concentration of acids and alkalis can be determined by titration.

Which pieces of equipment are needed to perform a titration?



- A** 1 and 2 **B** 1 and 3 **C** 2 and 3 **D** 2 and 4

- 2 The equation for the reaction of aqueous calcium nitrate and aqueous sodium hydroxide is shown.



Which process is used to remove calcium hydroxide from the mixture?

- A** chromatography
B crystallisation
C distillation
D filtration

- 3 Five steps in an acid–base titration are shown.

- 1 Slowly add the acid from a burette into a conical flask until the indicator becomes colourless.
- 2 Add thymolphthalein.
- 3 Use a volumetric pipette to add a fixed volume of alkali to a conical flask.
- 4 Read and record the initial volume of acid in the burette.
- 5 Read and record the final volume of acid in the burette.

What is the correct order of these steps to complete an acid–base titration?

- A** 2 → 4 → 1 → 5 → 3
B 3 → 2 → 4 → 1 → 5
C 3 → 4 → 1 → 5 → 2
D 4 → 3 → 1 → 2 → 5