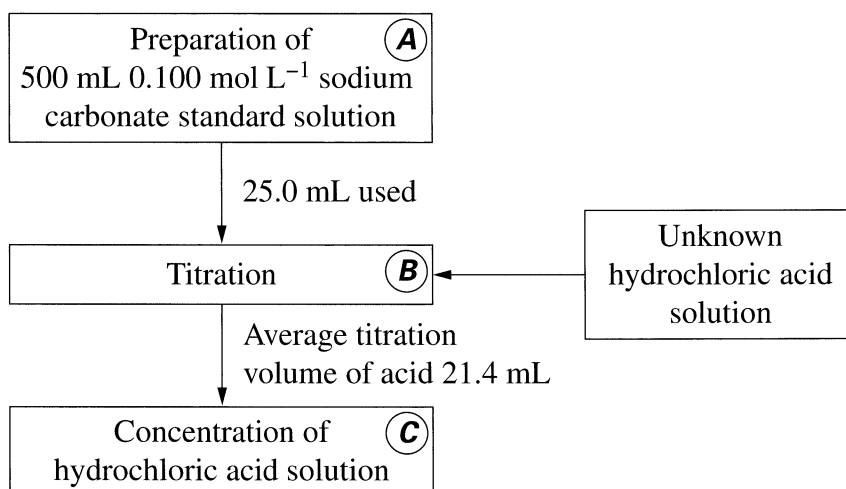


**Question 28** (8 marks)

The flowchart shown outlines the sequence of steps used to determine the concentration of an unknown hydrochloric acid solution.

8



Describe steps **A**, **B** and **C** including correct techniques, equipment and appropriate calculations. Determine the concentration of the hydrochloric acid.

Step **A** is the preparation of a primary standard solution of sodium carbonate. This process involves accurately measuring out a mass of dry solute of  $\text{Na}_2\text{CO}_3$  and diluting the solute with <sup>100 mL</sup> distilled water in a beaker, until the solute has ~~to~~ completely dissolved. Using a funnel, carefully transfer the solution of ~~the~~ sodium carbonate into a 500 mL volumetric flask. Then continuously, rinse the ~~beaker~~ with distilled

Question 28 continues on page 18