# ENTHALPIES OF NEUTRALISATION

1. Define standard enthalpy change of neutralisation.

2. Write ionic equations for the following neutralisation reactions:

   a) dilute hydrochloric acid + sodium hydroxide solution

   b) dilute nitric acid + barium hydroxide solution

   c) dilute sulphuric acid + potassium hydroxide solution

   d) dilute ethanoic acid solution + sodium hydroxide solution

3. a) Explain why reactions involving a strong acid and a strong base all have values for standard enthalpy change of neutralisation of about -57 kJ $mol^{-1}$.

   b) Explain briefly why neutralisation reactions involving weak acids or weak bases have values which differ those involving strong acids.