

21 Buffers and neutralisation

Specification reference	Checklist questions	
5.1.3 i	Can you describe a buffer solution as a system that minimises pH changes on addition of small amounts of an acid or a base?	<input type="checkbox"/>
5.1.3 j i	Can you describe the formation of a buffer solution from a weak acid and a salt of the weak acid, e.g. $\text{CH}_3\text{COOH}/\text{CH}_3\text{COONa}$?	<input type="checkbox"/>
5.1.3 j ii	Can you describe the formation of a buffer solution from excess of a weak acid and a strong alkali, e.g. excess $\text{CH}_3\text{COOH}/\text{NaOH}$?	<input type="checkbox"/>
5.1.3 k	Can you explain the role of the conjugate acid–base pair in an acid buffer solution, e.g. $\text{CH}_3\text{COOH}/\text{CH}_3\text{COO}^-$, in the control of pH?	<input type="checkbox"/>
5.1.3 l	Can you calculate the pH of a buffer solution, from the K_a value of a weak acid and the equilibrium concentrations of the conjugate acid–base pair; calculations of related quantities?	<input type="checkbox"/>
5.1.3 m	Can you explain of the control of blood pH by the carbonic acid–hydrogencarbonate buffer system	<input type="checkbox"/>
5.1.3 n i	Can you sketch and interpret the shapes of pH titration curves?	<input type="checkbox"/>
5.1.3 n ii	Can you explain the choice of suitable indicators, given the pH range of the indicator, for pH titration curves?	<input type="checkbox"/>
5.1.3 n iii	Can you explain indicator colour changes in terms of equilibrium shift between the HA and A ⁻ forms of the indicator?	<input type="checkbox"/>
5.1.3 o	Can you describe the techniques and procedures used when measuring pH with a pH meter?	<input type="checkbox"/>