

## 23 Redox and electrode potentials

Specification reference	Checklist questions	
5.2.3 a	Can you explain and use of the terms <i>oxidising agent</i> and <i>reducing agent</i> ?	<input type="checkbox"/>
5.2.3 b	Can you construct redox equations using half- equations and oxidation numbers?	<input type="checkbox"/>
5.2.3 c	Can you interpret and predict reactions involving electron transfer?	<input type="checkbox"/>
5.2.3 d	Can you describe the techniques and procedures used when carrying out redox titrations including those involving $\text{Fe}^{2+}/\text{MnO}_4^-$ and $\text{I}_2/\text{S}_2\text{O}_3^{2-}$ ?	<input type="checkbox"/>
5.2.3 e i	Can you carry out structured and non-structured titration calculations, based on experimental results of redox titrations involving $\text{Fe}^{2+}/\text{MnO}_4^-$ and $\text{I}_2/\text{S}_2\text{O}_3^{2-}$ ?	<input type="checkbox"/>
5.2.3 e ii	Can you carry out structured and non-structured titration calculations, based on experimental results of redox titrations involving non-familiar redox systems?	<input type="checkbox"/>
5.2.3 f	Can you use the term <i>standard electrode (redox) potential</i> , $E^\ominus$ including its measurement using a hydrogen electrode?	<input type="checkbox"/>
5.2.3 g i	Can you describe the techniques and procedures used for the measurement of cell potentials of metals or non-metals in contact with their ions in aqueous solution?	<input type="checkbox"/>
5.2.3 g ii	Can you describe the techniques and procedures used for the measurement of cell potentials of ions of the same element in different oxidation states in contact with a Pt electrode?	<input type="checkbox"/>
5.2.3 h	Can you calculate a standard cell potential by combining two standard electrode potentials?	<input type="checkbox"/>

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5.2.3 i	Can you predict the feasibility of a reaction using standard cell potentials and the limitations of such predictions in terms of kinetics and concentration?	<input type="checkbox"/>
5.2.3 j	Can you apply principles of electrode potentials to modern storage cells?	<input type="checkbox"/>
5.2.3 k	Can you explain that a fuel cell uses the energy from the reaction of a fuel with oxygen to create a voltage and the changes that take place at each electrode?	<input type="checkbox"/>