## Chemguide - questions

## **REDOX DEFINITIONS**

- 1. Each of the following equations involves a redox reaction. In each case, state:
  - (i) what is being oxidised;
  - (ii) what is being reduced;
  - (iii) which is the oxidising agent;
  - (iv) which is the reducing agent.
  - a) Mg +  $H_2O$   $\longrightarrow$  MgO +  $H_2$
  - b) CuO +  $H_2$   $\longrightarrow$  Cu +  $H_2O$
  - c)  $Cu^{2+} + Zn \longrightarrow Zn^{2+} + Cu$
  - d) Mg + 2H<sup>+</sup>  $\longrightarrow$  Mg<sup>2+</sup> + H<sub>2</sub>
  - e) Cl<sub>2</sub> + 2Fe<sup>2+</sup> ----- 2Cl<sup>-</sup> + 2Fe<sup>3+</sup>
  - f)  $Cl_2 + 2l^- \rightarrow 2Cl^- + l_2$
- 2. Thinking *only* about the organic compound, state whether that organic compound has been oxidised or reduced in the following reactions.
  - a)  $CH_3CONH_2 + 4[H] \longrightarrow CH_3CH_2NH_2 + H_2O$ b)  $3CH_3CH_2OH + 2Cr_2O_7^{2-} + 16H^+ \longrightarrow 3CH_3COOH + 4Cr^{3+} + 11H_2O$ c)  $4CH_3C + NaBH_4 + 3H_2O \longrightarrow 4CH_3CH_2OH + NaH_2BO_3$