Marks

- Complete the following table. Give, as required, the formula, the systematic name, the oxidation number of the underlined atom and, where indicated, the principal ions present in a solution prepared by adding the substance to water. **4**

FORMULA	SYSTEMATIC NAME	OXIDATION NUMBER	PRINCIPAL IONS IN WATER SOLUTION
$\underline{N}O_2$			N/A
$\underline{Pb}(CH_3CO_2)_2$			
			$Mg^{2+}(aq)$; $\underline{Cl}O_4^-(aq)$

Write the full electron configuration of the As^{3+} ion.

- Draw the Lewis structures, showing all valence electrons for the following species. Indicate which of the species have contributing resonance structures. **5**

HCO_3^-	COS	CN^-
Resonance: YES / NO	Resonance: YES / NO	Resonance: YES / NO

- Name the two intermolecular forces, which best explain the difference in boiling points of 1-propanol ($CH_3CH_2CH_2OH$; bp = 97.2 °C) and 1-propanethiol ($CH_3CH_2CH_2SH$; bp = 67.8 °C). **2**