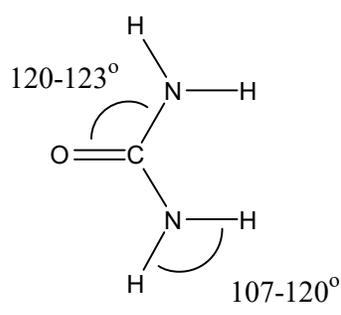


Question 2		Answer	Marks
(a)		$C_8H_{18} + 12\frac{1}{2}O_2 \longrightarrow 8CO_2 + 9H_2O$	1
(b)	i)	$\underline{C}O + \frac{1}{2}\underline{O}_2 \longrightarrow CO_2$	1 for both equations correct
	ii)	$\underline{C}O + \underline{H}_2O \longrightarrow CO_2 + H_2$	
(c)	i)	$\underline{N}O + \underline{C}O \longrightarrow \frac{1}{2}N_2 + CO_2$	1 for both equations correct
	ii)	$\underline{N}O + \underline{H}_2 \longrightarrow \frac{1}{2}N_2 + H_2O$	
(d)		$\underline{C}e_2O_3 + \frac{1}{2}\underline{O}_2 \rightleftharpoons 2CeO_2$	1
(e)		$\underline{C} + 2\underline{N}O_2 \longrightarrow CO_2 + 2NO$	1
(f)		<p>1 mark for structure shown correctly. 1 mark for both bond angles correct.</p> 	2
(g)		$CO(NH_2)_2 + H_2O \longrightarrow CO_2 + 2NH_3$	1
(h)	i)	$2\underline{N}H_3 + 3\underline{N}O \longrightarrow 2\frac{1}{2}N_2 + 3H_2O$	1
	ii)	$4\underline{N}H_3 + 3\underline{N}O_2 \longrightarrow 3\frac{1}{2}N_2 + 6H_2O$	1
(i)		<p>Award marks here provided that candidates have a minimum of 5 of the 8 equations correct. Allow 4 marks for all 8 redox changes correct, 3 marks for 7, 2 marks for 6 and 1 mark for 5 redox changes correct.</p> <p>See underlining (b), (c), (d), (e) and (h) above</p>	4

14 marks