### Question 1

1(e)	4 (Sm) (1)	2
	2 (Sm <sub>2</sub> O <sub>3</sub> ) (1)	

# Question 2

ſ	2(e)	2(H <sub>2</sub> O) (1)	2
		H <sub>2</sub> (1)	

### Question 3

3(a)	1 mark each for any 2 of:	2
	<ul> <li>poor thermal conductor / poor conductor of heat</li> <li>not malleable / brittle</li> <li>not ductile</li> <li>low melting point / low boiling point</li> </ul>	

# Question 4

4(c)	$iron(\mathrm{II})$ chloride / iron chloride (1)	2
	hydrogen (1)	

### Question 5

5(a)	1 mark each for any three of:	3
	conduct electricity OR conduct heat (1)	
	malleable (1)	
	ductile (1)	
	shiny/lustrous (1)	

# Question 6

6(a)	1 mark each for any three of:	3
	<ul> <li>conduct electricity / conduct heat</li> <li>malleable</li> <li>ductile</li> <li>shiny / lustrous</li> <li>sonorous / rings when hit</li> </ul>	

# Question 7

7(a)	metallic	1
7(b)(i)	lighted splint and (squeaky) pop	1
7(b)(ii)	14	1
7(b)(iii)	universal indicator	1
7(b)(iv)	$2Na(s) + 2H_2O(1) \rightarrow 2NaOH(aq) + H_2(g)$	3
	M1 NaOH as product in equation (1)	
	M2 fully correct equation (1)	
	M3 state symbols (1)	

# Question 8

8(b)(i)	ductility	1
8(b)(ii)	electrons	1