

Multiple Choice Answers

Q4: C

1(a)	<table><tr><td>neutron</td><td>0</td><td>1</td></tr><tr><td>proton</td><td>+1</td><td>1</td></tr></table>	neutron	0	1	proton	+1	1
neutron	0	1					
proton	+1	1					
1(b)	M1 18 M2 10 M3 17 above 8 to the left of the symbol M4 O M5 2- / -2 / -- --						
1(c)(i)	¹² C / carbon-12						
1(c)(ii)	85 (%)						

1(a)	silicon(IV) oxide
1(b)	propene
1(c)	aluminium oxide
1(d)	graphite
1(e)	propene OR ethanol
1(f)	M1 silicon(IV) oxide M2 calcium oxide
1(g)	propane
1(h)	ethanol
1(i)	nitrogen

4(a)(i)	$4\text{FeS}_2 + 11\text{O}_2 \rightarrow 8\text{SO}_2 + 2\text{Fe}_2\text{O}_3$
4(a)(ii)	M1 double bond of 2 dots and 2 crosses M2 2 non-bonding pairs of dots on one oxygen atom and 2 non-bonding pairs of crosses on the other oxygen atom
4(b)(i)	M1 (temperature) 450 and °C M2 (pressure) 2 and atm OR 200 and kPa M3 vanadium(V) oxide catalyst
4(b)(ii)	$2\text{SO}_2 + \text{O}_2 \rightleftharpoons 2\text{SO}_3$
4(b)(iii)	$\text{SO}_3 + \text{H}_2\text{SO}_4 \rightarrow \text{H}_2\text{S}_2\text{O}_7$
4(c)	M1 zero M2 + 4

4(d)	M1 mol $\text{NaHCO}_3 = 4.20 / 84 = 0.05(00)$ M2 mol $\text{CO}_2 = 0.05(00)$ M3 vol $\text{CO}_2 = 0.05 \times 24\,000 = 1200$
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