

Question 9

9(c)(i)	hematite (1)	1
9(c)(ii)	2 (Fe) (1) 3 (CO ₂) (1)	2
9(c)(iii)	breakdown of a compound (1) by heat / when heated / using thermal energy (1)	2
9(c)(iv)	3 rd box down ticked (it reacts with impurities in the iron ore to form slag)	1
9(c)(v)	less iron ore mined / conserves iron ore / less energy used to produce iron / conserves fuels	1

Question 10

10(a)	coke	1
10(a)(ii)	provide heat	1
10(b)(i)	M1 160 M2 112 AND 70.(0)(%)	2
10(b)(ii)	hematite	1
10(b)(iii)	by reduction of carbon dioxide	1
10(b)(iv)	$\text{Fe}_2\text{O}_3 + 3\text{CO} \rightarrow 2\text{Fe} + 3\text{CO}_2$ M1 species M2 correct equation	2
10(b)(v)	reduction	1
10(c)	thermal decomposition	1
10(d)(i)	M1 CaO is basic M2 SiO ₂ is acidic	2
10(d)(ii)	M1 silicon(IV) oxide M2 slag	2
10(e)(i)	aluminium is above carbon in the reactivity series OR aluminium is more reactive than carbon	1
10(e)(ii)	electrolysis	1
10(f)(i)	2,8	1
10(f)(ii)	M1 26 (protons) M2 23 (electrons)	2

Question 11

11(c)	iron	1
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Question 12

12(b)	aluminium oxide	1
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