

Multiple Choice Answers

Q8: B

3(a)(i)	aluminium oxide
3(a)(ii)	cryolite
3(a)(iii)	carbon
3(a)(iv)	$Al^{3+} + 3e^{-} \rightarrow Al$ M1 only $Al^{3+} + 3e^{-}$ on the left M2 equation completely correct
3(b)(i)	unreactive coating of aluminium oxide
3(b)(ii)	$2Al + 3Zn^{2+} \rightarrow 2Al^{3+} + 3Zn$
3(b)(iii)	M1 $Zn^{2+} = +2$ M2 $Zn = 0$ / zero
3(b)(iv)	decrease in oxidation number
3(c)(i)	enthalpy change (of reaction)
3(c)(ii)	(forward) reaction is exothermic
3(d)	oxides that react with acids AND with bases to produce a salt and water
3(e)	$2NaOH + Ga_2O_3 \rightarrow 2NaGaO_2 + H_2O$ M1 $NaGaO_2$ on the right-hand side of an equation M2 equation fully correct
3(f)	M1 $GaBr_3$ M2 $Ga_2(SO_4)_3$

Multiple Choice Answers

Q7: D

Q10: C

Multiple Choice Answers

Q5: C

Q7: B

5(a)	M1 the rate of forward reaction is equal to the rate of the reverse reaction M2 concentrations of reactants and products are no longer changing					
5(b)(i)	M1 rate decreases M2 yield of ethanoic acid decreases					
5(b)(ii)	<table border="1"><tr><td>M1 no change</td><td></td></tr><tr><td>M2 increases</td><td>M3 increases</td></tr></table>		M1 no change		M2 increases	M3 increases
M1 no change						
M2 increases	M3 increases					
5(b)(iii)	M1 cobalt M2 (it is a) transition element					
5(c)(i)	methanoic acid					
5(c)(ii)	C ₄ H ₈ O ₂					
5(d)(i)	M1 displayed formula of any ester linkage M2 displayed formula of methyl methanoate					
5(d)(ii)	M1 butanoic acid M2 propan-1-ol					
5(e)	M1 C 58.82 / 12 H 9.80 / 1 O 31.38 / 16 OR 4.90:9.80:1.96 M2 C 4.90 / 1.96 H 9.80 / 1.96 O 1.96 / 1.96 OR 2.5:5:1 M3 C ₅ H ₁₀ O ₂					