Mark Scheme

Q1.

Question Number	Answer	Mark
	The only correct answer is B ***A*** *is incorrect because (−1031) + (79 + 520 + 159) is incorrect* ***C*** *is incorrect because (−1031) + (79 + 520) is incorrect* ***D*** *is incorrect because (−1031) + 79 +520 +159 − 616 is incorrect*	**(1)**

Q2.

Question Number	Answer	Mark
	The only correct answer is D (-216.6) **A** *is not correct because the values for magnesium and magnesium oxide have not been doubled and the entropy for the products has been incorrectly subtracted from the reactants entropy* **B** *is not correct because the values for magnesium and magnesium oxide have not been doubled* **C** *is not correct because the entropy for the products has been incorrectly subtracted from the entropy of the reactants*	(1)

Q3.

Question Number	Answer	Mark
	The only correct answer is D ***A*** *is not correct because* $\Delta S_{surroundings}$ *is incorrect* ***B*** *is not correct because* $\Delta S_{surroundings}$ *is incorrect* ***C*** *is not correct because sign of* $\Delta H/T$ *is incorrect*	**(1)**

Q4.

Question Number	Answer	Mark
	The only correct answer is B (-804, -711, -2718) ***A*** *is not correct because the lattice energy of magnesium hydride is not exothermic enough* ***C*** *is not correct because the lattice energy of potassium hydride should be less exothermic than sodium hydride and also that the lattice energy of magnesium hydride is not exothermic enough* ***D*** *is not correct because the lattice energy of potassium hydride should be less exothermic than sodium hydride*	**(1)**

Q5.

Question Number	Answer	Mark
	The only correct answer is A ***B*** *is not correct because all increase in entropy as disorder increases when gases are formed* ***C*** *is not correct because all increase in entropy as disorder increases when gases are formed* ***D*** *is not correct because all increase in entropy as disorder increases when gases are formed*	**(1)**

Q6.

Question Number	Answer	Mark
	The only correct answer is B (–157) ***A*** *is incorrect because this is the value if the cycle is used in the opposite direction* ***C*** *is incorrect because this is the value if the hydration enthalpy for the chloride ion is not multiplied by 2* ***D*** *is incorrect because this is the value if the cycle is used in the opposite direction and the hydration enthalpy for the chloride ion is not multiplied by 2*	**(1)**