Practice Question Set For A-Level
Subject : Chemistry
Paper-1 Topic: Inorganic 1

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Name of the Student:_____
Max. Marks : 19 Marks **Time : 19 Minutes**

Mark Schemes

Q1.

(a) CO_2 gas escapes or is lost

1

(b) Mass CO_2 = 16.11 − 14.58 = 1.53 g

1

M_r CO_2 = 44.0

Mol CO_2 = 1.53 / 44.0 = 3.48×10^{-2}

1

Mol $SrCO_3$ = 3.48×10^{-2}

1

Mass $SrCO_3$ = mol × M_r = $3.48 \times 10^{-2} \times 147.6$

Mass $SrCO_3$ = 5.13 (g)

1 mark for the answer and 1 for 3 sf precision
Allow 5.14 g (as a result of rounding)

2

(c) Percentage error = $\frac{0.01}{6.26} \times 100$

= 0.160 (%)

1

(d) Original Mass SrO = 6.26 − 0.347 − 5.13

= 0.783 g (or 783 mg)
OR 6.26 − 0.347 − 4.85 = 1.063 g
*Allow 0.773 g or 773 mg (from rounding error in part **(b)***

1

Justification: All $SrCO_3$ reacted because heated to constant mass.

1

(e) $3SrO + 2Al \longrightarrow Al_2O_3 + 3Sr$

1

Al acts as a <u>reducing agent</u>

1

Sr is collected as a vapour because

1

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Al_2O_3 is an ionic lattice and so has strong ionic attractions

1

Than Sr which is a metallic structure with (relatively) weaker bonding

1

[14]

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Q2.

(a) $Ca + 2H_2O \longrightarrow Ca(OH)_2 + H_2$

1

8 − 12

1

(b) Decrease

1

(c) $BaCl_2$

Allow $Ba(NO_3)_2$ or other soluble barium salt

1

$Ba^{2+} + SO_4^{2-} \longrightarrow BaSO_4$

Allow equation if state symbols missing but penalise if state symbols are incorrect

1

(d) Strong attraction

1

Between positive and negative ions

1

[7]

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