Practice Question Set For A-Level
Subject : Chemistry
Paper-1 Topic: Inorganic 2

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

Mark Schemes

Q1.

(a) $2\ Na(s) + 2\ H_2O(l) \rightarrow 2\ NaOH(aq) + H_2(g)$

Allow ionic equations

Allow multiples

1

Temperature will go up more **or** reactants can shoot out of the tube

Allow the mixture could explode or glass could shatter or hydrogen could ignite/is flammable

Ignore reaction is exothermic/vigorous

1

(b) $P_4O_{10} + 6\ H_2O \rightarrow 4\ H_3PO_4$

Allow ionic equations

1

Allow –1 to + 1

Do not allow equations from P_2O_5

1

(c) M1 SiO_2 is macromolecular / giant covalent / giant molecule

Do not allow giant, giant atomic or giant ionic

1

M2 Strong covalent bonds (between atoms) or covalent bonds need a lot of energy to be broken/overcome

1

M3 P_4O_{10} is molecular or simple covalent molecule

1

M4 Weak van der Waals forces between molecules or van der Waals forces between molecules break easily

1

(d) Al_2O_3

1

$Al_2O_3 + 3\ H_2SO_4 \rightarrow Al_2(SO_4)_3 + 3\ H_2O$
or $Al_2O_3 + 6\ H^+ \rightarrow 2\ Al^{3+} + 3\ H_2O$

1

(e) $Mg(OH)_2$

1

(f) Na / sodium

1

[12]

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Q2.

(a) Cross at 1580

Allow a cross drawn for Si that is between the values for Mg and Al

1

(b) **M1** Na

1

M2 $Na^+(g) \rightarrow Na^{2+}(g) + e^-$

M2 *Allow* $Q^+(g) \rightarrow Q^{2+}(g) + e^-$

State symbols essential

Allow correct equation consequential on their element

1

(c) The number of protons increases OR nuclear charge increases

1

Shielding is similar/same OR electrons are added to the same shell

Allow same number of shells

1

(d) Chlorine/Cl

1

(e) $4P + 5O_2 \rightarrow P_4O_{10}$ OR $P_4 + 5O_2 \rightarrow P_4O_{10}$

Allow multiples

Ignore state symbols

Do not allow equations with P_2O_5

1

[7]

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