

Name of the Student: _____

Max. Marks : 16 Marks

Time : 16 Minutes

Mark Schemes

Q1.

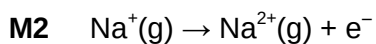
- (a) Cross at 1580

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

1

- (b) **M1** Na

1



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

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) $4\text{P} + 5\text{O}_2 \rightarrow \text{P}_4\text{O}_{10}$ OR $\text{P}_4 + 5\text{O}_2 \rightarrow \text{P}_4\text{O}_{10}$

Allow multiples

Ignore state symbols

Do not allow equations with P_2O_5

1

[7]

Q2.

- (a) **M1** The (relative) tendency of an atom to attract a pair of electrons/ the electrons/ electron density in a covalent bond

1

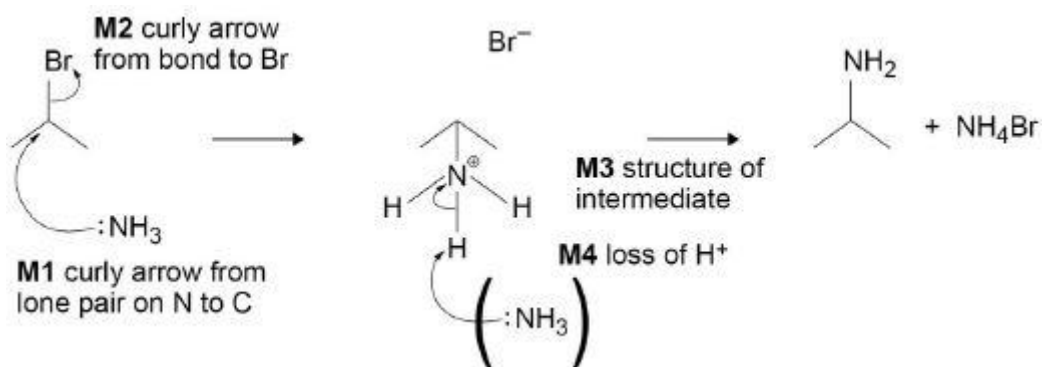
M2 Br is more electronegative than C (or vice versa)

1

M3 So Br is δ^- and C is δ^+

1

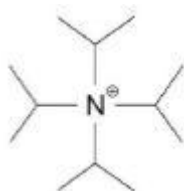
(b)



M4 Penalise loss of H^+ using Br^-
Allow S_N1

4

(c) **M1**



Allow + outside square brackets

1

M2 Use: (Hair) conditioner / (Cationic) surfactant / disinfectant
Allow fabric softener

1

[9]