## Mark scheme March 2004

## GCSE

## Chemistry (Modular)

## Module 21

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## Aqueous and Organic Chemistry: Foundation Tier

| Question No. | KEY |
| :---: | :---: |
| One | $\begin{aligned} & 1 \text { - lather } \\ & 2 \text { - soap } \\ & 3 \text { - scum } \\ & 4 \text { - scale } \\ & \hline \end{aligned}$ |
| Two | 1 - ammonium nitrate <br> 2 - calcium sulphate <br> 3 - ethanol <br> 4 - carbon monoxide |
| Three | $\begin{aligned} & 1-\mathrm{H}^{+} \text {ions } \\ & 2-\mathrm{H}^{+}(\mathrm{aq}) \text { ions } \\ & 3-\mathrm{OH}^{-}(\mathrm{aq}) \text { ions } \\ & 4-\mathrm{Ca}^{2+} \text { ions } \\ & \hline \end{aligned}$ |
| Four | 1 - sulphuric acid solution <br> 2 - ammonia solution <br> 3 - sodium hydroxide solution <br> 4 - ethanoic acid solution |
| Five | $\begin{aligned} & 1-\mathbf{Q} \\ & 2-\mathbf{R} \\ & 3-\mathbf{T} \\ & 4-\mathbf{S} \\ & \hline \end{aligned}$ |
| Six | one of the products when wood burns is water (vapour) wood contains carbon compounds |
| Seven | drinking hard water can reduce heart illnesses hard water can be softened in an ion exchange column |
| Eight | $8.1-\mathrm{B}, 8.2-\mathrm{A}, 8.3-\mathrm{A}, 8.4-\mathrm{A}$ |
| Nine | 9.1 - C, $9.2-\mathrm{B}, ~ 9.3-\mathrm{A}, ~ 9.4-\mathrm{C}$ |
| Ten | 10.1 - D, 10.2-C, 10.3-D, 10.4-B |

## Aqueous and Organic Chemistry: Higher Tier

| Question <br> No. | KEY |
| :--- | :--- |
| One | $1-\mathbf{Q}$ <br> $2-\mathbf{R}$ <br> $3-\mathbf{T}$ <br> $4-\mathbf{S}$ |
| Two | $1-$ poly(ethene) <br> $2-$ polyvinylchloride <br> $3-$ melamine <br> $4-$ ethyl ethanoate |
| Three | drinking hard water can reduce heart illnesses <br> hard water can be softened in an ion exchange column |
| Four | isomer M has stronger forces between molecules <br> isomers M and N have the same chemical formula |
| Five | $5.1-\mathrm{B}, \quad 5.2-\mathrm{A}, \quad 5.3-\mathrm{A}, \quad 5.4-\mathrm{A}$ |
| Six | $6.1-\mathrm{C}, \quad 6.2-\mathrm{B}, \quad 6.3-\mathrm{A}, \quad 6.4-\mathrm{C}$ |
| Seven | $7.1-\mathrm{D}, \quad 7.2-\mathrm{C}, \quad 7.3-\mathrm{D}, \quad 7.4-\mathrm{B}$ |
|  | $8.1-\mathrm{D}, 8.2-\mathrm{D}, \quad 8.3-\mathrm{B}, \quad 8.4-\mathrm{B}$ |
| Eight |  |
| Nine | $9.1-\mathrm{C}, \quad 9.2-\mathrm{A}, \quad 9.3-\mathrm{C}, \quad 9.4-\mathrm{A}$ |
| Ten | $10.1-\mathrm{C}, \quad 10.2-\mathrm{C}, \quad 10.3,-\mathrm{C}, \quad 10.4-\mathrm{B}$ |

