Subject knowledge tests: post-16 chemistry

Test 1: answers

The answers to the tests are split into four topic areas, so that you can see which areas you’re strongest in, and which areas you should work on.

Periodic Table and chemical bonding
(Exploring understanding of ionisation enthalpy, reactions of Group 2 and d block elements and covalent, ionic and metallic bonding)

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>B</td>
</tr>
<tr>
<td>7</td>
<td>C</td>
</tr>
<tr>
<td>9</td>
<td>A</td>
</tr>
<tr>
<td>15</td>
<td>C</td>
</tr>
<tr>
<td>18</td>
<td>A</td>
</tr>
<tr>
<td>22</td>
<td>D</td>
</tr>
<tr>
<td>31</td>
<td>B</td>
</tr>
<tr>
<td>30</td>
<td>B</td>
</tr>
</tbody>
</table>

Score: /8

Rates of reaction and thermodynamics
(Exploring understanding of activation enthalpy, rate equations, order of reaction, enzyme catalysis, sign of $\Delta H$, enthalpy changes, lattice enthalpy and entropy)

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>B</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
</tr>
<tr>
<td>10</td>
<td>A</td>
</tr>
<tr>
<td>16</td>
<td>D</td>
</tr>
<tr>
<td>17</td>
<td>B</td>
</tr>
<tr>
<td>21</td>
<td>C</td>
</tr>
<tr>
<td>23</td>
<td>C</td>
</tr>
<tr>
<td>27</td>
<td>B</td>
</tr>
</tbody>
</table>

Score: /8

© Royal Society of Chemistry 2018
Chemical equilibria and acids and bases

(Exploring understanding of equilibrium position, equilibrium constant, strong and weak acids, pH and buffer solutions)

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>D</td>
</tr>
<tr>
<td>5</td>
<td>A</td>
</tr>
<tr>
<td>6</td>
<td>D</td>
</tr>
<tr>
<td>12</td>
<td>B</td>
</tr>
<tr>
<td>13</td>
<td>D</td>
</tr>
<tr>
<td>14</td>
<td>D</td>
</tr>
<tr>
<td>20</td>
<td>A</td>
</tr>
<tr>
<td>26</td>
<td>C</td>
</tr>
</tbody>
</table>

Score: /8

Organic chemistry and calculations

(Exploring systematic names, reaction mechanisms, properties of alkenes and carbonyl compounds, calculations involving gas volumes, titrations, Hess’s law and bond dissociation enthalpies)

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>D</td>
</tr>
<tr>
<td>11</td>
<td>B</td>
</tr>
<tr>
<td>19</td>
<td>B</td>
</tr>
<tr>
<td>24</td>
<td>A</td>
</tr>
<tr>
<td>25</td>
<td>B</td>
</tr>
<tr>
<td>28</td>
<td>C</td>
</tr>
<tr>
<td>29</td>
<td>A</td>
</tr>
<tr>
<td>32</td>
<td>B</td>
</tr>
</tbody>
</table>

Score: /8

OVERALL SCORE: /32