Chemistry Quiz – **Who’ll be ‘Chemist of the Month’?**

**Section 1** – The Periodic Table

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| 1. What does the number of protons in an atom determine?
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|  | A Charge of Atom |
|  | B Atomic Number |
|  | C Mass Number |
|  | D Name of Element |

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| 1. Group 1 in the Periodic Table is called the:
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|  | A halogens. |
|  | B noble gases. |
|  | C alkali metals. |
|  | D transition metals. |

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| 1. Group 7 in the Periodic Table is called the:
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|  | A halogens. |
|  | B noble gases. |
|  | C transition metals. |
|  | D alkali metals. |

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| 1. Elements in the same group in the Periodic Table have the same:
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|  | A density. |
|  | B number of occupied energy shells. |
|  | C number of outer electrons. |
|  | D number of protons. |

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| 1. Elements in the same period in the Periodic Table have the same:
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|  | A number of protons. |
|  | B density. |
|  | C number of outer electrons. |
|  | D number of occupied energy shells |

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**Section 2** – Bonding & Structure

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| 1. In which of the following compounds do both ions have the same electron arrangement as argon?
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|  | A Magnesium oxide |
|  | B Sodium sulfide |
|  | C Calcium bromide |
|  | D Calcium sulfide |

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| 1. Which element is a solid at room temperature and consists of discrete molecules?
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|  | A Boron |
|  | B Neon |
|  | C Sulfur |
|  | D Silicon |

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1. Which of the elements is most likely to have a covalent network structure?

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| **Element** | **Melting Point (K)** | **Boiling Point (K)** | **Density (g cm-3)** | **Conduction When Solid** |
| A | 317 | 553 | 1.82 | No |
| B | 933 | 2740 | 2.7 | Yes |
| C | 1683 | 2628 | 2.32 | No |
| D | 387 | 457 | 4.93 | No |

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| 1. Which type of structure is found in a substance melting at 1069°C which conducts electricity when molten, but not when solid?
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|  | A Ionic |
|  | B Metallic |
|  | C Covalent (discrete molecules) |
|  | D Covalent (network structure) |

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| 1. Which of the following structures is never found in compounds?
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|  | A Covalent Molecular |
|  | B Monatomic |
|  | C Covalent Network |
|  | D Ionic |

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**Section 3** – Periodic Table Trends

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| 11 Menedeleev is famous for producing the Periodic Table on which the modern version is based.Which of the following statements is true? |
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|  | A Mendeleev swapped some elements round so that their atomic masses fitted the pattern. |
|  | B Mendeleev organised the elements in order of their atomic number. |
|  | C Mendeleev left gaps for elements which had not yet been discovered. |
|  | D Mendeleev left gaps because some elements did not fit the pattern of reactivity. |

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Bottom of Form |

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| 1. Which of the following equations represents the first ionisation energy of magnesium?
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|  | A Mg (g) → Mg2+(g) + e- |
|  | B Mg (g) → Mg+(g) + e- |
|  | C Mg (s) → Mg+(g) + e- |
|  | D Mg (g) → Mg2+(g) + 2e- |

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| 1. Which of the following will **not** affect the first ionisation energy of an element?
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|  | A Atomic number |
|  | B Screening effect |
|  | C Atomic size |
|  | D Atomic mass |

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| 1. Why are no electronegativity values quoted for the Group 0 elements?
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|  | A Their electronegativities are too high for the scale. |
|  | B They generally do not form bonds with other elements. |
|  | C They have a value of zero. |
|  | D They are unreactive non-metals. |

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| 1. Which of the following equations represents the first ionisation energy of fluorine?
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|  | A F-(g) → F (g) + e- |
|  | B F2(g) → F+(g) + e- |
|  | C F (g)  + e- → F-(g) |
|  | D F (g) → F+(g) + e- |

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**Section 4** – SQA Questions

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