This print-out should have 6 questions. Multiple-choice questions may continue on the next column or page – find all choices before answering.

**LDE Electron Config Simple 001**

What is the electron configuration for a monovalent calcium cation (Ca+)?

1. [Ne]3s^23p^6
2. [Ar]4s^24p^1
3. [Ar]4s^1 correct
4. [Ar]4s^23d^1
5. [Ar]4s^2

**LDE ENC Calculation 001**

What is the effective nuclear charge experienced by the 2p electrons of an aluminum atom (Al)?

1. 11 correct
2. 6
3. 4
4. 9
5. 13

**LDE Ionization Energy 001**

If the following first ionization energies correspond to an alkaline earth metal, a halogen, an alkali metal, a noble gas and an earth metal, which one most likely belongs to the halogen?

1. 520 kJ · mol\(^{-1}\)
2. 800 kJ · mol\(^{-1}\)
3. 899 kJ · mol\(^{-1}\)
4. 1680 kJ · mol\(^{-1}\) correct
5. 2080 kJ · mol\(^{-1}\)

**LDE Rank Ionic Radius 001**

Arrange the following ions in order of increasing radius: K\(^+\), Li\(^+\), Be\(^{2+}\), Na\(^+\).

1. K\(^+\) < Be\(^{2+}\) < Li\(^+\) < Na\(^+\)
2. Li\(^+\) < Na\(^+\) < K\(^+\) < Be\(^{2+}\)
3. Na\(^+\) < K\(^+\) < Be\(^{2+}\) < Li\(^+\)
4. Be\(^{2+}\) < Li\(^+\) < Na\(^+\) < K\(^+\) correct

**LDE Electron Config p Block Ion 001**

What is the electronic configuration of Sn\(^{4+}\)?

1. [Kr]4d^10 correct
2. [Kr]5s^24d^8
3. [Kr]5s^24d^{10}5p^6
4. [Kr]5s^14d^9
5. [Kr]5s^24d^{10}5p^2

**LDE Fine Structure of Trends 001**

Which of the following elements would have a lower ionization energy than nitrogen and lower electron affinity than silicon?

1. Al
2. P correct
3. None of these
4. C
5. F