Ionization Energy - Ionization Enthalpy

1. The electronic configuration of elements A, B and C are [He] $2s^1$, [Ne]$3s^1$ and [Ar] $4s^1$ respectively. Which one of the following order is correct for the first ionization potentials (in KJ.mol^{-1}) of A, B and C? **(2001E)**

1) A>B>C 2) C>B>A 3) B>C>A 4) B>A>C

2. IE_1 of magnesium is 178 kcal/ mole. The energy for the reaction $Mg_{(g)} \rightarrow Mg^{2+}_{(g)} + 2e$ is likely **(1998M)**

1) +170 kcal 2) +526 kcal

3) +356 kcal 4) - 356 kcal

3. Which one of the following relations is correct with respect to first (I) and second (II) ionization potentials of sodium and Magnesium? **(1995M)**

1) $I_{Na} > I_{Mg}$ 2) $I_{Mg} > II_{Na}$ 3) $II_{Mg} > II_{Na}$ 4) $II_{Na} > II_{Mg}$

4. The atomic number of vanadium (V), chromium (Cr), manganese (Mn) and iron (Fe) are respectively 23,24,25,26 which out these may be expected to have the jump in second ionisation enthalpy **(AIEEE-2003)**

1) Mn 2) Fe 3) V 4) Cr

5. The I_1, I_2, I_3, I_4 values of an element "M" are 120 kJ/mole, 600 kJ/mole, 1000 kJ/mole and 8000 kJ/mole. Then the formula of its sulphate is

1) MSO_4 2) $M_2(SO_4)_3$ 3) M2SO4 4) $M_3(SO_4)_2$

1) 1 2) 2 3) 4 4) 4

6. The first ionization of enthalpies of four consecutive elements present in the second period of the periodic table are 8.3, 11.3, 14.5 and 13.6 respectively. Which one of the following is the first ionization enthalpy of nitrogen?

1) 13.6 2) 14.5 3) 11.3 4) 8.3

7. Which of the following has maximum ionization enthalpy?

1) K 2) Na 3) Mg 4) Be

8. Which one of the following has lowest IE1?

1) Oxygen 2) Nitrogen 3) Fluorine 4) Neon

9. With which of the following electronic configuration an atom has the lowest ionization enthalpy?

a) $1s^1 2s^2 2p^3$ (b) $1s^1 2s^2 2p^6 3s^1$ (c) $1s^1 2s^2 2p^6$ (d) $1s^1 2s^2 2p^5$

KEY

1) 1 2) 2 3) 4 4) 4 5) 2 6) 2 7) 4 8) 1 9) 2