Date Planned : __ / __ / __	Daily Tutorial Sheet - 8	Expected Duration : 90 Min
Actual Date of Attempt : __ / __ / __	Level - 2	Exact Duration :_____

96. I.P.$_1$ and I.P.$_2$ of Mg are 178 and 348 kcal mol^{-1}. The enthalpy required for the reaction

$Mg \rightarrow Mg^{2+} + 2e^-$ is :

(A) $+170$ kcal (B) $+526$ kcal (C) -170 kcal (D) -526 kcal

97. $X_{(g)} \longrightarrow X^+(g) + e^-$, $\Delta H = +720 \text{ kJ mol}^{-1}$

Calculate the amount of energy required to convert 110 mg of 'X' atom in gaseous state into X^+ ion.

(Atomic wt. for X = 7 g/mol)

(A) 10.4 kJ (B) 12.3 kJ (C) 11.3 kJ (D) 14.5 kJ

98. Consider the following changes:

$M(s) \longrightarrow M(g)$ ...(1) $M(s) \longrightarrow M^{2+}(g) + 2e^-$ ...(2)

$M(g) \longrightarrow M^+(g) + e^-$ ...(3) $M^+(g) \longrightarrow M^{2+}(g) + e^-$ ...(4)

$M(g) \longrightarrow M^{2+}(g) + 2e^-$ ...(5)

The second ionization energy of M could be calculated from the energy values associated with:

(A) $1 + 3 + 4$ (B) $2 - 1 + 3$ (C) $1 + 5$ (D) $5 - 3$

*99. Consider the following values of I.E. (eV) for elements W and X:

Element	I.E.$_1$	I.E.$_2$	I.E.$_3$	I.E.$_4$
W	10.5	15.5	24.9	79.8
X	8	14.8	78.9	105.8

Other two element Y and Z have outer electronic configuration ns^2np^4 and ns^2np^5 respectively. Then

according to given information which of the following compound(s) is/are not possible?

(A) W_2Y_3 (B) X_2Y_3 (C) WZ_2 (D) XZ_2

100. Which is the correct order of ionization energies?

(A) $F^- > F > Cl^- > Cl$ (B) $F > Cl > Cl^- > F^-$

(C) $F^- > Cl^- > Cl > F$ (D) $F^- > Cl^- > F > Cl$

101. Which of the following statements is incorrect?

(A) The second ionization energy of sulphur is greater than that of chlorine

(B) The third ionization energy of aluminium is greater than that of phosphorus

(C) The first ionization energy of aluminium is approximately the same as that of gallium

(D) The second ionization energy of boron is greater than that of carbon

102. First ionization energy is highest for :

(A) Lead (B) Carbon (C) Silicon (D) Tin

103. The incorrect statement among the following is:

(A) The first ionization potential of Al is less than the first ionization potential of Mg

(B) The second ionization potential of Mg is greater than the second ionization potential of Na

(C) The first ionization potential of Na is less than the first ionization potential of Mg

(D) The third ionization potential of Mg is greater than the third ionization potential of Al

104. The correct values of ionization enthalpies (in kJ mol^{-1}) of Si, P, Cl and S respectively are:

(A) 786, 1012, 999, 1256

(B) 1012, 786, 999, 1256,

(C) 786, 1012, 1256, 999

(D) 786, 999, 1012, 1256

105. The third ionization energy is maximum for:

(A) Nitrogen

(B) Phosphorus

(C) Aluminium

(D) Boron