DPP-04

Only one correct:

Q.1 Which transition involves maximum amount of energy (M is a metal)

(A) $M^-(g) \longrightarrow M(g) + e$ (B) $M(g) \longrightarrow M^+(g) + e$

(C) $M^+(g) \longrightarrow M^{+2}(g) + e$ (D) $M^{+2}(g) \longrightarrow M^{+3}(g) + e$

Q.2 The first five ionization energies of an element are 9.1, 16.2, 24.5, 35 and 205.7eV respectively. Then number of valence electron in the atom is

(A) 2 (B) 3 (C) 4 (D) 5

Q.3 The correct order of electron affinity for the different families is

(A) Halogen > carbon > nitrogen > oxygen

(B) Halogen > oxygen > nitrogen > carbon

(C) Halogen > nitrogen > carbon > oxygen

(D) Halogen > oxygen > carbon > nitrogen

Q.4 $A_0/2$ atoms of X(g) are converted into $X^+(g)$ by energy E_1. $A_0/2$ atoms of X(g) are converted into $X^-(g)$ by energy E_2. Hence ionisation potential and electron affinity of X(g) are

(A) $\frac{2E_1}{A_0} \cdot \frac{2(E_1-E)}{A}$ (B) $\frac{2E_1}{A_0}, \frac{2E}{A}$ (C) $\frac{(E_1-E)}{A_0} \cdot \frac{2E_2}{A}$ (D) None

Q.5 First, second and third I.P. values are 10eV, 15eV and 150eV. Element can be

(A) Be (B) B (C) F (D) Na

Q.6 Which of the following case the size ratio is minimum:

(A) Li^-/Li (B) H^-/H (C) Na^-/Na (D) Can not be predicted

Q.7 Which of the following process is associated with best possibility of the energy release.

(A) $Li \longrightarrow Li^+ + e^-$ (B) $O^- + e^- \longrightarrow O^{2-}$ (C) $Cl^+ + e^- \longrightarrow Cl$ (D) $Be + e^- \longrightarrow Be^-$

Assertion & Reason

Q.8 **Statement-1**: Nitrogen atom has higher ionization energy than fluorine atom.

Statement-2: Nitrogen atom has extra stable electronic configuration due to half filled p-subshell.

(A) Statement-1 is true, statement-2 is true and statement-2 is correct explanation for statement-1.

(B) Statement-1 is true, statement-2 is true and statement-2 is NOT the correct explanation for statement-1.

(C) Statement-1 is true, statement-2 is false.

(D) Statement-1 is false, statement-2 is true.

True & False :

Q.9 State True or False with explanation for the following questions

(a) E.A. of $M^+(g)$ ion and I.E. of M(g) atom are equal.

(b) EA_1 of sulphur is more than EA_1 of oxygen.

(c) I.E. of Pb is more than Sn even though Pb is larger atom than Sn.

Subjective :

Q.10 (a) Which has greater IE_1? Na^+ or Ne. Explain

(b) Which has greater IE_2 ? O or N. Explain

(c) Which has greater IE_2 ? Li or Be. Explain

ANSWER KEY

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1. D **2.** C **3.** D **4.** B **5.** A **6.** C **7.** C

8. D **9.** **(a)** True, **(b)** True, **(c)** True **10.** **(a)** Na^+, **(b)** O, **(c)** Li