

Date Planned : __ / __ / __	Daily Tutorial Sheet - 13	Expected Duration : 90 Min
Actual Date of Attempt : __ / __ / __	Level - 3	Exact Duration : _____

- \*145. Which of the following pairs have approximately the same atomic radii?  
**(A)** Zr and Hf      **(B)** Al and Mg      **(C)** Al and Ga      **(D)** Na and Ne
- \*146. The first ionisation energy of first atom is greater than that of second atom, whereas reverse order is true for their second ionisation energy. Which set of elements is in accordance to above statement?  
**(A)** C, B      **(B)** P, S      **(C)** Be, B      **(D)** Mg, Na
- \*147. Ionization energy of an element is:  
**(A)** Equal in magnitude but opposite in sign to the electron gain enthalpy of the cation of the element  
**(B)** Same as electron affinity of the element  
**(C)** energy required to remove one valence electron from an isolated gaseous atom in its ground state  
**(D)** Equal in magnitude but opposite in sign to the electron gain enthalpy of the anion of the element
- \*148. Select the correct order of periodic properties of species:  
**(A)**  $\text{Fe}^{2+} < \text{Fe}^{3+}$  : ionic radii      **(B)**  $\text{N} < \text{O}$  : second ionisation energy  
**(C)**  $\text{Cu} < \text{Zn}$  : atomic radius      **(D)**  $\text{In} < \text{Tl}$  : first ionisation energy
- \*149. The sum of  $\text{IE}_1$  and  $\text{IE}_2$ ,  $\text{IE}_3$  and  $\text{IE}_4$  for element P and Q are given below:
- |                             |                             |
|-----------------------------|-----------------------------|
| $\text{IE}_1 + \text{IE}_2$ | $\text{IE}_3 + \text{IE}_4$ |
| <b>(P)</b> 2.45             | 8.82                        |
| <b>(Q)</b> 2.85             | 6.11                        |
- Then according to the given information the correct statement(s) is/are:  
**(A)**  $\text{P}^{2+}$  is more stable than  $\text{Q}^{2+}$       **(B)**  $\text{P}^{2+}$  is less stable than  $\text{Q}^{2+}$   
**(C)**  $\text{P}^{4+}$  is more stable than  $\text{Q}^{4+}$       **(D)**  $\text{P}^{4+}$  is less stable than  $\text{Q}^{4+}$ .
- \*150. Consider the successive ionisation energy for an element 'A'.  
 $\text{IE}_1, \text{IE}_2, \text{IE}_3, \text{IE}_4, \text{IE}_5$  are 100 eV, 150 eV, 181 eV, 2000 eV, 2200 eV.  
 Select correct statement(s) for element 'A':  
**(A)** Element 'A' may be metal      **(B)** Element 'A' may form trivalent cation  
**(C)** Oxide of element 'A' may be amphoteric      **(D)** Element 'A' may be non-metal