Periodic Table (DPP-3)

Solutions

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1. The highest ratio of IP values of given pair of elements Helium and Xenon
Helium and Xenon have the greatest IP values of the provided pair of elements, whereas the IP values of the other three alternatives drop over time.

2. Due to fullfiled outermost electronic configuration.

3. The correct order or initials T (true) or F (false) for the following statements is TFTF.
The correct or true statements are,
(P) Top positions of Lother-Meyer's atomic volume curve are occupied by alkali metals.
(Q)2nd IP. of Mg is less than the 2ndIP of Na.
The incorrect or false statements are,
(R) Number of elements presents in the fifth period of the periodic table are 82.
(S) A p-orbital can take a maximum of six electrons.

4. $Cs^{+}$and I^{-}have the largest sizes.

5. More the negative charge on species more will be its size.

6. Larger the size larger will be atomic radius value.

7. As we advance down the group, the atomic size grows and the ionisation energy drops, increasing the distance between the electrons and the nucleus. Lead has a minor advantage over tin in terms of first ionisation energy.

8. n^{th} order ionization energy-Energy required of remove the n^{th} e^{-}. So,

$IE_n > (IE)_{n-1}$

On each successive elimination of the number of electrons reduces the value of ratio of ne/Z.

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9. (a) $F > N > O$

(b) $S^{-2} < Cl^{-} < K^{+} < Ca^{+2}$

(c) $Be^{+} < C^{+} < B^{+} < N^{+} < F^{+} < O^{+} < Li^{+}$

(d) $Fe < Fe^{+2} < Fe^{+3}$

(e) $Na < Al < Mg < Si$

10. (i) $I^{-} > I > I^{+}$

(ii) $C > N < P < S$

(iii) $F^{-} < O^{2-} < N^{-3}$

(iv) $Be^{+2} < Mg^{2+} < Na^{+} < Cl^{-} < S^{-2}$

(v) $B < Be < Li < Na$

(vi) $S^{2-} > Cl^{-} > Ca^{+2}$

(vii) $O^{2-} > F^{-} > Na^{+} > Mg^{2+} > Al^{3+}$

(viii) $Se > S > O > F$