

1. Correct increasing order of density is:
 1. $\text{Li} < \text{K} < \text{Na} < \text{Rb} < \text{Cs}$
 2. $\text{Li} < \text{Na} < \text{K} < \text{Rb} < \text{Cs}$
 3. $\text{Cs} < \text{Rb} < \text{K} < \text{Na} < \text{Li}$
 4. $\text{K} < \text{Li} < \text{Na} < \text{Rb} < \text{Cs}$

2. The order of basic character of given oxides is:
 1. $\text{Na}_2\text{O} > \text{MgO} > \text{Al}_2\text{O}_3 > \text{CuO}$
 2. $\text{MgO} > \text{Al}_2\text{O}_3 > \text{CuO} > \text{Na}_2\text{O}$
 3. $\text{Al}_2\text{O}_3 > \text{MgO} > \text{CuO} > \text{Na}_2\text{O}$
 4. $\text{CuO} > \text{Na}_2\text{O} > \text{MgO} > \text{Al}_2\text{O}_3$

3. Variable oxidation state is shown by:
 1. Na
 2. Cu
 3. Mg
 4. Al

4. Most common oxidation state of cerium (Ce) is :
 1. +2, +3
 2. +2, +4
 3. +3, +4
 4. +3, +5

5. A common trend to both groups I and II elements in the periodic table, as the atomic number increases are:
 1. Oxidizing power increases
 2. Atomic radius increases
 3. Maximum valency increases
 4. Reactivity with water increases

6. Amongst the element with following electronic configurations, which one may have the highest ionisation energy?
 1. $[\text{Ne}]3s^23p^3$
 2. $[\text{Ne}]3s^23p^2$
 3. $[\text{Ne}]3d^{10}, 4s^24p^3$
 4. $[\text{Ne}]3s^23p^1$

7. Which represents the electronic configuration of the most electropositive element?
 1. $[\text{He}]2s^1$
 2. $[\text{Xe}]6s^1$
 3. $[\text{He}]2s^2$
 4. $[\text{Xe}]6s^2$

8. Which element has the greatest tendency to lose electron?
 1. F
 2. Fr
 3. S
 4. Be

9. Zn and Cd do not show variable valency like 'd' block elements due to :
 1. Softness
 2. Completed 'd' orbital
 3. Two electrons in outermost orbit
 4. Low m.p.

10. The electronegativity of the following elements increases in the order
 1. $\text{S} < \text{P} < \text{N} < \text{O}$
 2. $\text{P} < \text{S} < \text{N} < \text{O}$
 3. $\text{N} < \text{O} < \text{P} < \text{S}$

11. Which of the following is smallest in size?
1. Na^+
 2. F^-
 3. O^{2-}
 4. N^{3-}
12. For electron affinity of halogens, which of the following is correct?
1. $\text{Br} > \text{F}$
 2. $\text{F} > \text{Cl}$
 3. $\text{Br} > \text{Cl}$
 4. $\text{F} > \text{I}$
13. Which of has the largest size?
1. $\text{Li}^+(\text{aq})$
 2. $\text{Cs}^+(\text{aq})$
 3. $\text{Li}^+(\text{g})$
 4. $\text{Cs}^+(\text{g})$
14. Increasing order of the ionic radii and decreasing order of number of protons of the given isoelectronic species is :-
- (1) $\text{Ca}^{+2}, \text{K}^+, \text{Cl}^-, \text{S}^{-2}$
 - (2) $\text{Cl}^-, \text{Ca}^{+2}, \text{K}^+, \text{S}^{-2}$
 - (3) $\text{S}^{-2}, \text{Cl}^-, \text{Ca}^{+2}, \text{K}^+$
 - (4) None of the above
15. The element having very high electron affinity but zero ionisation enthalpy is :-
1. He (due to inert gas configuration)
 2. Be (due to full filled subshell)
 3. H (due to presence of allotropes)
 4. None of the above
16. In which of the following options the order of arrangement does not agree with the variation of property indicated against it?
1. $\text{B} < \text{C} < \text{N} < \text{O}$ (increasing first ionisation enthalpy)
 2. $\text{I} < \text{Br} < \text{F} < \text{Cl}$ (increasing electron gain enthalpy)
 3. $\text{Li} < \text{Na} < \text{K} < \text{Rb}$ (increasing metallic radius)
 4. $\text{Al}^{3+} < \text{Mg}^{2+} < \text{Na}^+ < \text{F}^-$ (increasing ionic size)
17. In which of the following the hydration energy is higher than the lattice energy?
- (1) BaSO_4
 - (2) MgSO_4
 - (3) CaSO_4
 - (4) SrSO_4
18. A compound contains three elements A, B and C, if the oxidation number of A = +2, B = +5 and C = -2, the possible formula of the compound is :
1. $\text{A}_3(\text{B}_4\text{C})_2$
 2. $\text{A}_3(\text{BC}_4)_2$
 3. $\text{A}_2(\text{BC}_3)_2$
 4. ABC_2
19. Which of the following characteristics regarding halogens is not correct?
- (1) Ionization energy decreases with increases in atomic number
 - (2) Electronegativity decreases with increases in atomic number
 - (3) Electron affinity decreases with increases in atomic number
 - (4) Enthalpy of fusion increases with increases in atomic number
20. The process requiring the absorption of energy is :
1. $\text{F} \rightarrow \text{F}^-$
 2. $\text{H} \rightarrow \text{H}^-$
 3. $\text{Cl} \rightarrow \text{Cl}^-$
 4. $\text{O} \rightarrow \text{O}^{2-}$

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