

Class : XI<sup>th</sup>  
Date :


Subject : CHEMISTRY  
DPP No. : 2

## Topic :- Classification of Elements & Periodicity in Properties

- Which statement is wrong?
  - 2<sup>nd</sup> ionisation energy shows jump in alkali metals
  - 2<sup>nd</sup> electron affinity for halogens is zero
  - Maximum electron affinity exists for F
  - Maximum ionization energy exists for He
- Which of the following atoms has minimum covalent radius?
  - Si
  - N
  - C
  - B
- The second electron affinity is zero for
  - Alkali metals
  - Halogens
  - Noble gases
  - Transition metal
- For alkali metals, which one of the following trends is incorrect?
  - Hydration energy :  $Li > Na > K > Rb$
  - Ionisation energy :  $Li > Na > K > Rb$
  - Density :  $Li < Na < K < Rb$
  - Atomic size :  $Li < Na < K < Rb$
- $Na_2O$ ,  $MgO$ ,  $Al_2O_3$  and  $SiO_2$  have heat of formation equal to  $-416$ ,  $-602$ ,  $-1676$  and  $-911$   $\text{kJ mol}^{-1}$  respectively. The most stable oxide is
  - $Na_2O$
  - $MgO$
  - $Al_2O_3$
  - $SiO_2$
- If Aufbau rule is not followed, K-19 will be placed in
  - s-block
  - p-block
  - d-block
  - f-block
- The electronegativity order of O, F, Cl and Br is:
  - $F > O > Cl > Br$
  - $F > Cl < Br > O$
  - $Br > Cl > F > O$
  - $F < Cl < Br < O$
- Which has the minimum bond energy?
  - H - Br
  - H - I
  - I - I
  - H - H

9. The bond angle in  $\text{H}_2\text{S}$  (for  $\text{H} - \text{S} - \text{H}$ ) is:
- Same as that of  $\text{Cl} - \text{Be} - \text{Cl}$  in  $\text{BeCl}_2$
  - Greater than  $\text{H} - \text{N} - \text{H}$  bond angle in  $\text{NH}_3$
  - Greater than  $\text{H} - \text{Se} - \text{H}$  and less than  $\text{H} - \text{O} - \text{H}$
  - Same as  $\text{Cl} - \text{Sn} - \text{Cl}$  in  $\text{SnCl}_2$
10. In which of the following arrangements, the sequence is not strictly according to the property written against it?
- $\text{CO}_2 < \text{SiO}_2 < \text{SnO}_2 < \text{PbO}_2$  : increasing oxidising power
  - $\text{HF} < \text{HCl} < \text{HBr} < \text{HI}$  : increasing acid strength
  - $\text{NH}_3 > \text{PH}_3 < \text{AsH}_3 < \text{SbH}_3$  : increasing basic strength
  - $\text{B} < \text{C} < \text{O} < \text{N}$  : increasing first ionisation enthalpy
11. The tenth elements in the Periodic Table resembles with the
- First period
  - Second period
  - Fourth period
  - Ninth period
12. Which is not the correct order for the stated property?
- $\text{Ba} > \text{Sr} > \text{Mg}$  ; atomic radius
  - $\text{F} > \text{O} > \text{N}$  ; first ionisation enthalpy
  - $\text{Cl} > \text{F} > \text{I}$  ; electron affinity
  - $\text{O} > \text{Se} > \text{Te}$  ; electronegativity
13. The unequal sharing of bonded pair of electrons between two atoms in a molecule gives rise to:
- Ionic bond
  - Polar covalent bond
  - Non-polar covalent bond
  - None of the above
14. Which of the following oxides is most acidic in nature?
- $\text{BeO}$
  - $\text{MgO}$
  - $\text{CaO}$
  - $\text{BaO}$
15. In the formation of  $\text{NaCl}$  by combination of  $\text{Na}$  and  $\text{Cl}$ :
- Sodium and chlorine both lose electrons
  - Sodium and chlorine both gain electrons
  - Sodium loses but chlorine gains electrons
  - Sodium gains but chlorine loses electrons
16. The molecule having three folds of axis of symmetry is:
- $\text{NH}_3$
  - $\text{PCl}_5$
  - $\text{SO}_2$
  - $\text{CO}_2$
17. The covalent compound  $\text{HCl}$  has the polar character because:
- The electronegativity of hydrogen is greater than that of chlorine
  - The electronegativity of hydrogen is equal to than that of chlorine
  - The electronegativity of chlorine is greater than that of hydrogen
  - Hydrogen and chlorine are gases

18. If the bond has zero percent ionic character, the bond is:  
a) Pure covalent      b) Partial covalent      c) Partial ionic      d) Coordinate covalent

19. In piperidine  N atom has hybridization:

a)  $sp$       b)  $sp^2$       c)  $sp^3$       d)  $dsp^2$

20. Mendeleef's Periodic Table is upset by the fact that

a) Many elements have several isotopes      b) Noble gases do not form compounds  
c) Some groups stand divided into two subgroups *A* and *B*      d) Atomic weights of elements are not always whole numbers

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