DPP
DAILY PRACTICE PROBLEMS

Class : XIth
Date :

Solutions

Subject : CHEMISTRY
DPP No. : 9

Topic :- Classification of Elements & Periodicity in Properties

1 **(c)**
Electron affinity order for halogens is Cl $> F > Br > I$.

2 **(b)**
N atom has smallest radius.

3 **(b)**
Halogens (ns^2np^5) after getting one electron occupy ns^2np^6 configuration, thus have EA_2 zero

4 **(c)**
In general, density increases on moving downward in a group but density of potassium (K) is lesser than that of the sodium (Na). This is because of the abnormal increase in atomic size on moving from Na (86 pm) to K (227 pm).
Thus, the correct order of density is
Li $< K < Na <$ Rb

5 **(b)**
The oxide having maximum heat of formation per oxygen atom (thus energy needed to break one $M-$O bond will be highest) will be most stable.
MgO is most stable oxide among Na_2O, SiO_2, Al_2O_3 and MgO.

6 **(c)**
If Aufbau rule is not followed then 19th electron in K enters in 3d sub-shell, not in 4s

7 **(a)**
The most electronegative element is F and next to F is O.

8 **(c)**
Larger is the size of atom, lesser is the tendency for overlapping, lesser is bond energy.

9 **(c)**
Bond angles in $BeCl_2$,NH_3,H_2O and $SnCl_2$ are 180°,107°,104.5° and 119° respectively. Also H_2S,H_2O,H_2Se has sp^3-hybridization and bond angles of hydrides decreases down the group.

10 **(c)**
The correct increasing basic strength:

$$SbH_3 < AsH_3 < PH_3 < NH_3$$

$NH_3$is the most basic because of its small size, the electron density of electron pair is concentrated over small region. As the size increases, the electron density gets diffused

over a large surface area and hence the ability to donate the electron pair (basicity) decreases.

11 **(b)**

Each period consists of a series of elements whose atoms have the same principal quantum number (n) of the outermost shell, ie, in second period, $n = 2$, this shell has four orbitals (one $2s$ and three $2p$) which can have eight electrons, hence second period contain 8 elements from atomic number 3 to 10

12 **(b)**

Om moving along a period, ionisation enthalpy increases. Thus, the order of ionisation enthalpy should be as follow :

$$\mathrm{F} > O > N$$

But N has half-filled structure, therefore, it is more stable than O, That's why its ionisation erthalpy is highper than O. Thus, the correct order of IE is

$$\mathrm{F} > O > N$$

13 **(b)**

This give rise to polarity in bonds.

14 **(a)**

BeO is most acidic in nature amongst the given choices because acidity of oxides increases with decreases in electropositive character of central atom.

15 **(c)**

NaCl exist as $Na^{+}Cl^{-}$.

16 **(a)**

NH_3 has pyramidal shape and thus, possesses three folds axis of symmetry.

17 **(c)**

Larger is the difference in electronegativities of two atom, more is polar character in bond.

18 **(a)**

Non-polar or pure covalent bond has zero per cent ionic character due to the absence of partial charges on either end.

19 **(c)**

N in it has three σ-bonds and one lone pair of electron.

20 **(a)**

Mendeleef failed to assign positions to isotopes on the basis of atomic mass according to his periodic law

ANSWER-KEY										
Q.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
A.	**C**	**B**	**B**	**C**	**B**	**C**	**A**	**C**	**C**	**C**
Q.	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
A.	**B**	**B**	**B**	**A**	**C**	**A**	**C**	**A**	**C**	**A**