DPP
DAILY PRACTICE PROBLEMS

Class : XIth
Date :

Solutions

Subject : CHEMISTRY
DPP No. : 8

Topic :- Classification of Elements & Periodicity in Properties

1 **(b)**
The removal of second electron from Mg takes place from 3s-orbital whereas, the removal of second electron from Na takes place from 2p-orbital. More closer are shells to the nucleus, difficult is removal of electron.

2 **(a)**
ZnO can react with acid and base both

$ZnO + 2HCl \quad ZnCl_2 + H_2O$

$ZnO + 2NaOH \quad Na_2ZnO_2 + H_2O$

3 **(c)**
ClO_4^- has sp^3-hybridization on Cl atom .

4 **(c)**
O_2 has two unpaired electrons .

5 **(b)**
$O^{-2}$and N^{3-} both are isoelectronic but differ in the charge possessed by them. As the negative charge increase, the electrons are held less and less tightly by the nucleus, therefore ionic radii increases. Hence, ionic radii of N^{3-} is greater than O^{2-}.
In a period from left to right atomic radii decreases but in a group on moving downwards it increases.

6 **(a)**
Ne has van der Waals radius larger than covalent radius of fluorine.

8 **(b)**
The value of electron affinity decreases with increase in size of atom, because the nuclear attraction decreases as the atomic number increases. Fluorine due to its very small size has lower electron affinity than chlorine. Hence, the increasing order of electron affinity of halogen is

$$I < Br < F < Cl.$$

9 **(c)**
The element is P which exists as P_4.

10 **(c)**
Atomic size of Ag and Au are closer to each other but nuclear charge is more on Au

11 **(a)**
S atom is larger in size than O and F.

12 **(c)**

Electropositive character decreases across the period as metallic character decreases

13 **(c)**

Due to shielding effect of $(n-1)d$-subshell.

14 **(d)**

Non-metals are more than metals is the wrong statement.

15 **(b)**

$1s^2,2s^2,2p^6,3s^1$. It is an alkali metal; hence has least ionisation potential.

16 **(b)**

The ionisation potential decreases down the group.

18 **(b)**

N is sp^2-hybridized on NO_3^-.

19 **(c)**

e.g., BF_3, a non-polar molecule having sp^2-hybridization.

20 **(c)**

Butadiene is $CH_2 = CH - CH = CH_2$.

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