

Topic :- Classification of Elements & Periodicity in Properties

- 1 (d)
 $M^{2+} \rightarrow M^{3+}$, after the removal of $2e^-$, the nuclear charge per electron increases due to which high energy is required to remove $3e^-$
- 2 (c)
 O_2^- has one unpaired electron in its antibonding molecular orbital.
- 3 (b)
Removal of electron is easier in the order of shell $4 > 3 > 2 > 1$
- 4 (d)
Ionic radii increases in a group
- 5 (d)
Ionic compounds conduct current only in fused state.
- 6 (a)
The bond orders for H_2, H_2^+, He_2 and He_2^+ are 1.0, 0.5, 0.0 and 0.5 respectively.
- 7 (d)
 CH_3^+ and NH_2^+ both have 8 electrons .
- 9 (c)
O atom possesses sp^3 -hybridization with two lone pair of electron.
- 10 (d)
 $Be_2C + 2H_2O \rightarrow CH_4 + 2BeO$
 $Al_4C_3 + 6H_2O \rightarrow 3CH_4 + 2Al_2O_3$
- 11 (d)
 H_2O is V shaped.
- 12 (b)
 NH_4^+ has angle of $109^\circ 28'$.
- 13 (a)
Due to sp^3 -hybridization on P with one lone pair.
- 14 (a)
In MnO_4^- , the oxidation no. of Mn is +7, i.e., all the 4s and 3d electrons are lost.
- 15 (a)
If difference in electronegativity in between two atoms is 1.7, the molecule possesses 50% covalent +50% ionic nature.
- 16 (b)

- CsCl is most ionic because of most electropositive nature of Cs.
- 17 **(c)**
Anion (O^-) repels the test electron because of same charge.
- 18 **(b)**
It is a fact.
- 19 **(b)**
Ionic radii decreases significantly from left to right in a period among representative elements
- 20 **(d)**
B and Si shows the diagonal relationship.

PE

ANSWER-KEY

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

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