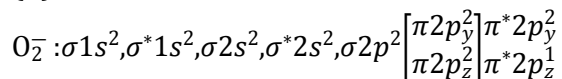


### Topic :- Classification of Elements & Periodicity in Properties

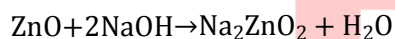
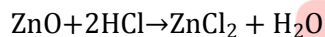
1 (d)



$$\therefore \text{B.O.} = \frac{10 - 7}{2} = 1.5$$

2 (a)

ZnO can react with acid and base both



3 (d)

While moving along a group from top to bottom, acidic nature of oxides decreases and along a period left to right acidic nature increases.

	amphoteric	acidic	max. acidic
	Al	Si	P
Z	13	14	15
	Al <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>	P <sub>2</sub> O <sub>3</sub>
	→		
	amphoteric	acidic	max. acidic

Thus, Al<sub>2</sub>O<sub>3</sub> < SiO<sub>2</sub> < P<sub>2</sub>O<sub>3</sub> < SO<sub>2</sub>

5 (b)

Bond angles of ClF<sub>3</sub>, PF<sub>3</sub>, NF<sub>3</sub> and BF<sub>3</sub> are (180°, 90°), (101°), (106°) and (120°) respectively.

6 (b)

IE (II) of Na is higher than that of Mg because in case of Na, the second e<sup>-</sup> has to be removed from the noble gas core while in case of Mg removal of second e<sup>-</sup> gives a noble gas core

Mg has high first ionisation potential than Na because of its stable ns<sup>2</sup> configuration

7 (d)

Follow concept of bond order in M.O. theory.

8 (c)

sp<sup>3</sup>-hybridization leads to tetrahedral geometry.

9 (a)

5 of P + 24 of O + 3 of -ve charge = 32.

11 (c)

- SnO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub> and ZnO are amphoteric oxide.
- 12 **(c)**  
The inert gas just after chlorine is argon.
- 13 **(b)**  
Cation has small size than parent atom and anion has larger size than parent atom
- 14 **(c)**  
Due to the presence of *d*-subshell electrons.
- 15 **(b)**  
Coulombic forces are strongest among all .
- 16 **(b)**  
Transition elements are those elements which have partially filled *d*-subshells in their elementary form. Therefore, the general electronic configuration of *d*-block element is  $(n - 1)d^{1-10}ns^{1-2}$ .
- 17 **(a)**  
In ionic solids, ions exist at lattice points. In covalent solids atoms lie at lattice points.
- 18 **(a)**  
Ionic bond are non-directional.
- 19 **(c)**  
Both carbon atoms have 2  $\sigma$ - and 2  $\pi$ -bonds
- 20 **(c)**  
Diamond is hard, graphite is soft.

PE

**ANSWER-KEY**

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

**PE**