## Electrovalent bonding

1. Which forms a crystal of
   (a) $NaCl$molecules
   (b) $Na^+$ and $Cl^-$ions
   (c) $Na$ and $Cl$ atoms
   (d) None of the above

2. When sodium and chlorine reacts then
   (a) Energy is released and ionic bond is formed
   (b) Energy is released and a covalent bond is formed
   (c) Energy is absorbed and ionic bond is formed
   (d) Energy is absorbed and covalent bond is formed

3. Which one is least ionic in the following compounds
   (a) $AgCl$ (b) $KCl$
   (c) $BaCl_2$ (d) $CaCl_2$

4. The electronic configuration of four elements *L*, *P*, *Q* and *R* are given in brackets
   $L(1s^2, 2s^2 2p^4); Q(1s^2, 2s^2 2p^6, 3s^2 3p^5)$
   $P(1s^2, 2s^2 2p^6, 3s^1); R(1s^2, 2s^2 2p^6, 3s^2)$
   The formulae of ionic compounds that can be formed between these elements are
   (a) $L_2P, RL, PQ$ and $R_2Q$
   (b) $LP, RL, PQ$ and $RQ$
   (c) $P_2L, RL, PQ$ and $RQ_2$
   (d) $LP, R_2L, P_2Q$ and $RQ$

5. Electrovalent compound's
   (a) Melting points are low
   (b) Boiling points are low
   (c) Conduct current in fused state
   (d) Insoluble in polar solvent

6. A electrovalent compound is made up of
   (a) Electrically charged molecules
   (b) Neutral molecules
   (c) Neutral atoms
   (d) Electrically charged atoms or group of atoms

7. Electrovalent bond formation depends on
   (a) Ionization energy
   (b) Electron affinity
   (c) Lattice energy
   (d) All the three above

8. In the following which substance will have highest boiling point

(a) $He$ (b) $CsF$
(c) $NH_3$ (d) $CHCl_3$

**9.** An atom of sodium loses one electron and chlorine atom accepts one electron. This result the formation of sodium chloride molecule. This type of molecule will be
(a) Coordinate (b) Covalent
(c) Electrovalent (d) Matallic bond

**10.** Formula of a metallic oxide is $MO$. The formula of its phosphate will be
(a) $M_2(PO_4)_2$ (b) $M(PO_4)$
(c) $M_2PO_4$ (d) $M_3(PO_4)_2$

**11.** From the following which group of elements easily forms cation
(a) $F, Cl, Br$ (b) $Li, Na, K$
(c) $O, S, Se$ (d) $N, P, As$

**12.** Which type of compounds show high melting and boiling points
(a) Electrovalent compounds
(b) Covalent compounds
(c) Coordinate compounds
(d) All the three types of compounds have equal melting and boiling points

**13.** Lattice energy of an ionic compound depends upon
(a) Charge on the ion only
(b) Size of the ion only
(c) Packing of ions only
(d) Charge on the ion and size of the ion

**14.** In the given bonds which one is most ionic
(a) $Cs - Cl$ (b) $Al - Cl$
(c) $C - Cl$ (d) $H - Cl$

**15.** Element $x$ is strongly electropositive and $y$ is strongly electronegative. Both element are univalent, the compounds formed from their combination will be
(a) $x^+y^-$ (b) $x^-y^+$
(c) $x - y$ (d) $x \rightarrow y$

**16.** In the formation of $NaCl$ from $Na$ and $\gamma -$
(a) Sodium and chlorine both give electrons
(b) Sodium and chlorine both accept electrons
(c) Sodium loses electron and chlorine accepts electron
(d) Sodium accepts electron and chlorine loses electron

**17.** Which of the following is an electrovalent linkage

(a) $CH_4$ (b) $NCl_5$

(c) $SiCl_4$ (d) $BF_3$

**18.** Electrovalent compounds do not have

(a) High M.P. and Low B.P.

(b) High dielectric constant

(c) High M.P. and High B.P.

(d) High polarity

**19.** Many ionic crystals dissolve in water because

(a) Water is an amphiprotic solvent

(b) Water is a high boiling liquid

(c) The process is accompanied by a positive heat of solution

(d) Water decreases the interionic attraction in the crystal lattice due to solvation

**20.** The electronic structure of four elements A, B, C, D are

(A) $1s^2$ (B) $1s^2, 2s^2 2p^2$

(C) $1s^2, 2s^2 2p^5$ (D) $1s^2, 2s^2 2p^6$

The tendency to form electrovalent bond is largest in

(a) *A* (b) *B*

(c) *C* (d) *D*