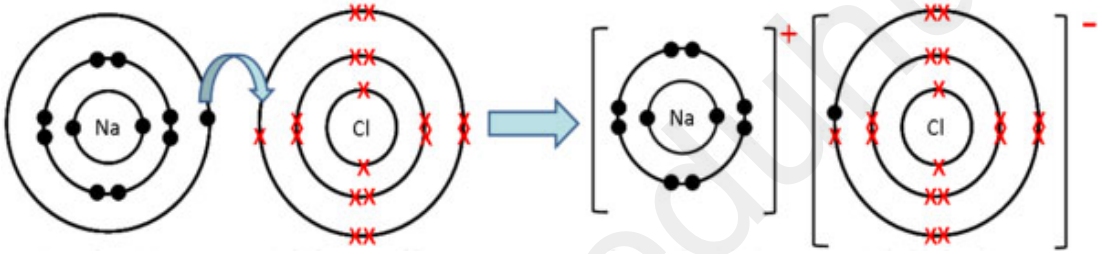
Ions and ionic bonds

1. Ions are electrically charged particles formed by the loss of gain or electrons.
2. Anions(-vely charged) are negatively charged ions formed by gaining electrons.
3. Cations are positively charged ions formed by losing electrons.
4. The electrostatic attraction between the positive ions and the negative ions iresults in an ionic bond
5. Atoms lose or gain electrons to attain the stable electronic structure of the nearest inert element and become more stable.
6. When elements of group 1 an 7 react, the group 1 atom loses an electron and the group 7 gains it.

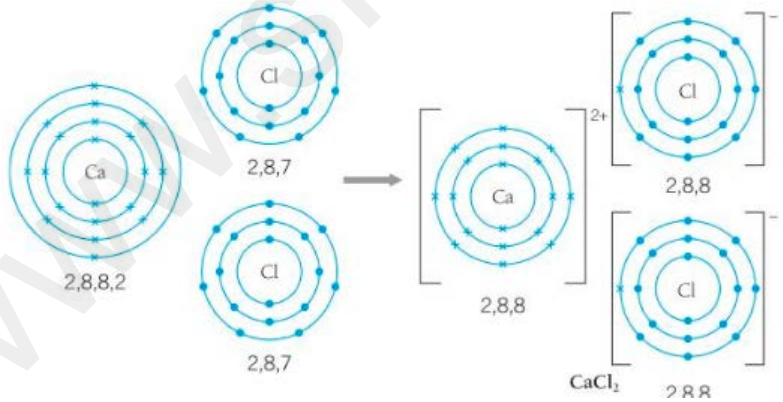
Formation NaCl



[2,8,1] [2,8,7] [2,8] [2,8,8]

In the formation of sodium chlorine, sodium atom loses one electron and becomes a +vely charged cation. The chlorine atom accepts this electron and forms a negatively charged ion called the anion. Thus by doing so both the ions have a stable electronic structure which is the same as the noble gas. So a stable electronic structure has been formed.

Formation of Calcium chloride $CaCl_2$



- The calcium atom has 2 electrons in the outer orbit.
- But each chlorine needs only one electron. to get a stable octet.
- So 2 chlorine atoms are needed in the reaction to bond with calcium.
