

X Chemistry - 3.Chemical Bonding

Exercise Solutions

True/ False

1. Ionic compounds are insoluble in organic solvents.
2. Some covalent compounds possess coordinate bonds.
3. In BF_3 , B contains 6 electrons so doesn't obey octet rule.
4. The bond angle in ammonia is less than $109^\circ.28$.
5. A σ -bond is stronger than π -bond.
6. The H-bond can be formed between molecules of same or different substance.
7. Covalent bonds are directional.

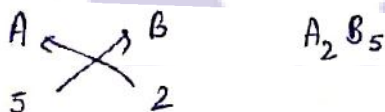
LEVEL-1

1. Ionic bond is formed by the transfer of electrons from metal to non-metal.
2. NaCl contains ionic bonding as it is formed between a metal and a non-metal.
3. The covalent compounds are usually gases and liquids with low boiling and melting points. The solid covalent compounds have soft structures like graphite.
4. A cation is formed when an atom loses an electron.
5. The bond between NH_3 and BF_3 is coordinate
 $\text{H}_3\text{N} \rightarrow \text{BF}_3$
6. Electrovalent of ionic compounds, because of their strong bonding, have higher melting and boiling points compared to covalent compounds.
7. Covalent bond is formed by sharing of electrons between the two elements. In HF, both H and F will share one electron each to complete their octet.
8. Sharing of electrons result in formation of covalent bond.
9. Loss of electron is called oxidation.
10. Ionic compounds, because of the presence of ions, conduct electricity in aqueous and molten state.
11. Total of 6 electrons are shared in a triple bond.
12. 10 electrons are present in outermost shell of phosphorous in PCl_5 .

13. Magnesium being a metal and oxygen being a non-metal combine together to form ionic bond.
14. He follows duplet rule.
15. Triple bond contains one sigma and two π -bonds.
16. NaOH contains both ionic and covalent bond.
Ionic bond is present between Na and O
Covalent bond is present between O and H
17. Combination of atoms is an exothermic process.
18. In BeCl_2 , Be contains 4 electrons in its octet making it an electron deficient compounds.
19. In NH_4Cl , the covalent bond is present between N and h coordinate bond is present in NH_4^+ between NH_3 and H^\oplus
20. H_2O is a covalent compound as it is formed by the sharing of electrons between H and O.

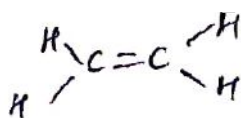
LEVEL-2

1. In case of Mg^+ ion, there is one electron in the octet of magnesium thereby not obeying the octet rule.
2. In H_2O , O atom has two lone pair of electrons.
3. In the case of H^+ and H_2O , O can donate its lone pair to electron deficient H^+ ion resulting in the formation of coordinate bond.
4. Ionic compounds are made up of oppositely charged ions.
- 5.

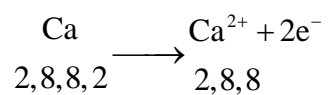


So, the number of electros in the outermost orbit of A and B are 5 2 respectively.

6. Covalent bond can be formed between similar or dissimilar atoms.
7. Atoms combine to attain stability or to attain a noble gas configuration.
8. Coordinate bond is formed by unequal sharing of electrons between the atoms.
9. In C_2H_4 , there is a double bond between two carbon atoms.



10.



Calcium, after losing two electrons, attains the configuration of Argon i.e. 2, 8, 8.

11. NH_4^+ and BF_4^- , both are having tetrahedral shape with a bond angle of $109^\circ 28'$.

