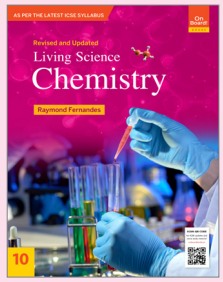
ICSE Living Science CHEMISTRY

Class 10



Multiple-Choice Questions

CHAPTER 2: CHEMICAL BONDING

1. The compounds formed as a result of transfer of electrons from a metal to a non-metal atom are called
   (a) covalent compounds.
   (b) ionic or electrovalent compounds.
   (c) polar covalent compounds.
   (d) non-polar covalent compounds.
   Ans: b

2. Which condition does not favour the formation of an ionic compound?
   (a) Low ionization potential of the metallic element that forms a cation.
   (b) Large electron affinity of the non-metallic element that forms an anion.
   (c) Large electronegativity difference between the combining atoms.
   (d) Maximum attraction and maximum potential energy.
   Ans: d

3. Which of the following is not a typical property of an ionic compound?
   (a) High melting and boiling points
   (b) Conducts electricity in the molten and aqueous solution
   (c) Insoluble in water
   (d) Non-volatile in nature
   Ans: c

4. When the nuclei of two reacting atoms are of ..... mass, then a bond so formed is called a ..... bond.
   (a) equal, polar covalent
   (b) unequal, polar covalent
   (c) unequal, non-polar covalent
   (d) equal, non-polar covalent
   Ans: b

5. In the case of a non-polar covalent bond, the covalent bond is formed in the ..... of atoms and shared electrons are distributed .....
   (a) corner, equally.
   (b) middle, unequally.
   (c) corner, unequally.
   (d) middle, equally.
   Ans: d

6. The ions in ..... compounds are held very strongly due to strong ..... forces.
   (a) covalent, electrostatic
   (b) electrovalent, electrostatic
   (c) electrovalent, electromagnetic
   (d) covalent, electromagnetic
   Ans: b

7. When an element of very low ionization potential reacts with an element of very high electron affinity,
   (a) a covalent bond is formed.
   (b) an electrovalent bond is formed.
   (c) a metallic bond is formed.
   (d) no bond is formed.
   Ans: (b)

8. The bond between two atoms of the same element is
   (a) polar covalent bond.
   (b) ionic bond.
   (c) non-polar covalent bond.
   (d) none of the above.
   Ans: (c)

9. Which of the following statements about covalent compounds is incorrect?
   (a) Covalent compounds generally exist as gas, liquids or soft solids.
   (b) Melting and boiling points of covalent compounds are generally low.
   (c) Covalent bonds are always formed among metallic elements.
   (d) These compounds are bad conductors of heat.
   Ans: c

10. Which condition does not favour the formation of a covalent compound?
   (a) The bond is formed between two non-metals.
   (b) The difference in electronegativity between the combining atoms of the two non-metals must be sufficiently low or zero.
   (c) The two combining atoms should have high ionization energy.
   (d) The two combining atoms should have low electron affinity.
   Ans: d

11. Which of the following is not an example of a polar covalent bond?
   (a) Water
   (b) Methane
   (c) Hydrogen fluoride
   (d) Ammonia
   Ans: b

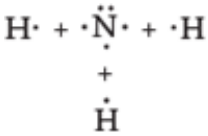
12. Polar covalent bond refers to
   (a) bonds that have an uneven distribution of charge.
   (b) bonds that have an even distribution of charge.
   (c) the formation of uneven size ions.
   (d) even-sized electro-negativities in a bond.
   Ans: a

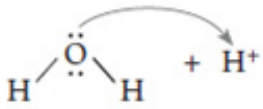
13. Which of the following does not have covalent bond?
   (a) Proteins
   (b) Carbohydrates
   (c) Sodium chloride
   (d) Fats
   Ans: c

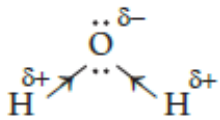
14. Which is the only compound which has all the three types of bonds, i.e. covalent, coordinate and ionic bonds?
   (a) Carbon tetrachloride
   (b) Hydronium ion
   (c) Methane
   (d) Ammonium chloride
   Ans: d

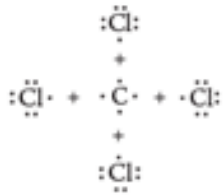
15. Which of these molecules has a triple covalent bond between their atoms?
   (a) H_2
   (b) CH_4
   (c) N_2
   (d) O_2
   Ans: c

16. In which of these compounds coordinate bond formation takes place?

(a) 

(b) 

(c) 

(d) 

Ans: b

17. An element X with electronic configuration 2, 8, 7 and Y with electronic configuration 2, 8, 2 forms the compound

(a) YX (b) Y_2X (c) YX_2 (d) YX_3

Ans: c

18. If the difference in electro-negativity of the combining atoms is zero, then the bond formed is a

(a) covalent bond. (b) electrovalent bond.

(c) non-polar covalent bond. (d) polar covalent bond.

Ans: c

19. The number of single covalent bond and lone pair of electrons in ammonia are

(a) 1 and 2 (b) 1 and 3 (c) 2 and 3 (d) 3 and 1

Ans: d

20. A statement of assertion followed by a statement of reason is given below. Mark the correct choice.

Assertion: Ionic bonds are formed between metals and non-metals.

Reason: In ionic bonds electrons are shared between the atoms.

(a) Both assertion and reason are true and reason is the correct explanation of assertion.

(b) Both assertion and reason are true but reason is not the correct explanation of assertion.

(c) Assertion is true but reason is false.

(d) Both assertion and reason are false.

Ans: c