WORKSHEET 1

CHAPTER 2 – CHEMICAL BONDING

A. Tick (✓) the correct option.

1. Among the following the one which is composed of all the three kinds of bond (ionic, covalent and coordinate bond) is
   a. sodium chloride.
   b. ammonia.
   c. carbon tetrachloride.
   d. ammonium chloride.
2. Which of the following is not a common characteristics of an electrovalent compound?
   a. High melting point
   b. Conducts electricity when molten
   c. Consists oppositely charged ions
   d. Does not ionize when dissolved in water
3. The property which is characteristic of an electrovalent compound is that
   a. it is easily vaporized.
   b. it has a high melting point.
   c. it is a weak electrolyte.
   d. it often exists as a liquid.
4. When a metal atom becomes an ion
   a. it loses electrons and is oxidized.
   b. it gains electrons and is reduced.
   c. it gains electrons and is oxidized.
   d. it loses electrons and is reduced.
5. A strong attractive force that holds atoms or ions or molecules together is known as
   a. chemical force.
   b. gravitational force.
   c. chemical bond.
   d. none of these.

B. Fill in the blanks from the choices given within the brackets.

1. Generally ionic compounds exist in _____ (solid/liquid/gas) state.
2. Melting and boiling points of covalent compounds are generally _____ (low/high)
3. The atom which provides the electron pair for the formation of coordinate bond is called _____ (acceptor/donor)
4. Ionic compounds are generally _____ (soft/crystalline) solids.
5. Covalent bonds are always formed among _____ (metallic/non-metallic) elements.

C. Name the following.

1. Name the charged particles which attract one another to form electrovalent compounds.
2. In the formation of electrovalent compounds, electrons are transferred from one element to another. How are electrons involved in the formation of a covalent compound?
3. The electronic configuration of nitrogen is 2, 5. How many electrons in the outermost shell of a nitrogen atom are not involved in the formation of a nitrogen molecule?
4. In the formation of magnesium chloride (by direct combination between magnesium and chlorine), name the substance that is oxidized and the substance that is reduced.
5. Name a neutral covalent molecule which contains one lone pair of electrons.

Name: ..... Teacher's signature: .....

Class: ..... X ..... Date: .....

D. Match the following.

1.	Helium	2, 8
2.	Neon	2
3.	Argon	2, 8, 18, 8
4.	Krypton	2, 8, 18, 18, 8
5.	Xenon	2, 8, 8

E. Answer the following.

1. What is a lone pair of electrons?
2. What is a covalent bond?
3. Write any two characteristic properties of covalent compounds.
4. Define the term coordinate bond.
5. What is electrovalency?

ANSWERS

WORKSHEET 1

A. Tick (✓) the correct option.

1. d
2. d
3. b
4. a
5. c

B. Fill in the blanks from the choices given within the brackets.

1. solid
2. low
3. donor
4. crystalline
5. non-metallic

C. Name the following.

1. Cation and anion
2. Electron pair is shared between two electron contributing atoms.
3. Two in each nitrogen atom
4. Mg is oxidised and chlorine atoms get reduced.
5. Ammonia

D. Match the following.

1. Helium	2
2. Neon	2, 8
3. Argon	2, 8, 8
4. Krypton	2, 8, 18, 8
5. Xenon	2, 8, 18, 18, 8

E. Answer the following.

1. It is a pair of electrons not shared by two atoms.
2. The chemical bond formed due to mutual sharing of electrons by combining atoms is called a covalent bond.

3. i. Covalent compounds generally exist as gas, liquids or soft solids. This is due to the presence of weak forces of attraction between them.

   ii. These compounds are bad conductors of heat.

4. A chemical bond formed by sharing a pair of electrons between two atoms, both of which are provided by only one of the combining atoms is called coordinate bond.

5. Electrovalency is the number of electrons that an atom donates or accepts to form an electrovalent bond.