

National Institute of Open Schooling
Secondary Course: Science and Technology
Lesson 7: Chemical Bonding
Worksheet-7

1. The element A and B have atomic number 11 and 17 respectively. They have 1 and 7 valence electron. Based upon this information, answer the following questions:
 - a. What will be the nature of these elements – metals or non-metals?
 - b. Give their electronic configuration.
 - c. What is the valency of A in the molecule formed?
 - d. What type of bond these will form?
2. Give reasons why ionic compounds are soluble in water and insoluble in organic compounds.
3. Which steps have been taken place in the formation of an ionic bond? Explain it.
4. “Ionic compounds have high melting point and high boiling point. Explain it with examples.
5. “Covalent compounds have generally low melting point and high boiling point.” Justify this statement with reasons.
6. Do you think reactions of covalent compounds generally fast? If yes, explain with reasons.
7. Write the Lewis dot structure of the following elements:-

O₂, HCl, MgCl₂, N₂
8. Give reasons why noble gases are non-reactive. Also explain about Octet rule.
9. How does shared pair of electrons hold the two atoms together in the covalent bond? Give reasons in support of your answer.
10. Classify the following compounds into ionic and covalent compound:
 - a. Magnesium chloride
 - b. Ammonia
 - c. Hydrogen chloride
 - d. Calcium chloride
 - e. Magnesium oxide
 - f. Sodium chloride
 - g. Methane
 - h. Carbon dioxide