



Bonding, Structure and Properties of Matter

Multiple Choice Questions

Set 3

You may use the periodic table to answer these questions.

Tick **one** box.

1. What type of bonding involves charged particles that are held together by strong electrostatic forces of attraction?

A. covalent bonding

B. hydrogen bonding

C. ionic bonding

D. metallic bonding

2. What name is given to the change of state in which a substance changes from a solid to a liquid?

A. melting

B. freezing

C. evaporation

D. condensation

3. What is the charge on a magnesium ion?

A. -2

B. -1

C. +1

D. +2

4. What happens to the electrons in covalent bonding?

A. electrons are transferred from one atom to another

B. pairs of electrons are shared between atoms

C. electrons are delocalised and move throughout the structure

D. electrons are released into the surroundings

5. Which of the following does metallic bonding occur in?

A. alloys

B. fullerenes

C. polymers

D. small molecules

6. Which statement describes the structure of sodium chloride?
- A. the ions are arranged in a regular lattice
 - B. it has layers that can slide over each other
 - C. it contains weak intermolecular forces
 - D. it contains delocalised electrons that can move throughout the structure
7. Which of the following types of structure has the lowest melting point?
- A. giant covalent structure
 - B. giant ionic lattice
 - C. polymer
 - D. small molecule
8. What is the state of a typical polymer at room temperature?
- A. solid
 - B. liquid
 - C. gas
 - D. vapour
9. What is the formula of Buckminsterfullerene?
- A. C_4
 - B. C_{12}
 - C. C_{60}
 - D. C_{70}
10. Why are fullerenes useful as catalysts?
- A. they have a large surface area
 - B. they contain delocalised electrons
 - C. they contain rings of carbon atoms
 - D. they have a hollow shape