

Chapter 2

Chemical Bonding and Structure MCQs

MCQ 1: Metals are solids, except

- A. helium
- B. selenium
- C. mercury
- D. Potassium

MCQ 2: Melting point of silica (SiO_2) is

- A. 1650 °C
- B. 1660 °C
- C. 1700 °C
- D. 1760 °C

MCQ 3: Potassium Oxide is formed through

- A. two potassium ions and one oxygen ion
- B. one potassium ion and one oxygen ion
- C. two potassium ions and two oxygen ion
- D. one potassium ion and two oxygen ion

MCQ 4: In the formation of an ionic bond in Potassium Fluoride (KF), the Potassium ion (K^+) gets a

- A. single positive charge
- B. double positive charge
- C. single negative charge
- D. double negative charge

MCQ 5: Due to mobile valence electrons, metals are

- A. rigid
- B. not rigid
- C. poor electrolytes
- D. poor insulators

MCQ 6: In polarization, positive side attracts the

- A. negative side of the water molecules
- B. positive side of the water molecules
- C. substance dissolves completely in water
- D. none of above

MCQ 7: Solvents of covalent compounds include all but

- A. alcohol
- B. water
- C. petrol
- D. tetra chloromethane

MCQ 8: Poor conductors of electricity is a characteristic of

- A. ionic compounds
- B. covalent compounds
- C. metallic compounds
- D. dative bonds

MCQ 9: Elements in group III are likely to form

- A. ionic bonds
- B. covalent bonds
- C. metallic bonds
- D. dative bonds

MCQ 10: What is true about diamonds?

- A. they cannot conduct electricity
- B. they can conduct electricity

- C. they have metallic bonds
- D. they are an oxide

MCQ 11: Simple molecules or giant macromolecules are examples of

- A. ionic compounds
- B. covalent bonds
- C. metallic bonds
- D. dative bond

MCQ 12: Other than being used to line the furnaces, a quality of ionic crystal structures is that they are

- A. conductors of heat
- B. conductors of electricity
- C. non-conductors of electricity
- D. non-conductors of heat

MCQ 13: Ionic compounds conduct electricity when

- A. they are dissolved in water only
- B. they are in molten form only
- C. they are in gaseous form
- D. they are dissolved in water and in molten form

MCQ 14: Electrons involved in bonding are from

- A. duplet
- B. octet
- C. outermost shells
- D. innermost shell

MCQ 15: Double covalent bond refers to the sharing of

- A. one electron
- B. two electrons

- C. three electrons
- D. four electrons

MCQ 16: A shared pair of electrons like Cl_2 forms

- A. ionic bonds
- B. single covalent bond
- C. double covalent bond
- D. dative bond

MCQ 17: Due to hydrogen bonds in water, water has

- A. high van der Waals forces
- B. high boiling points
- C. many valence electrons
- D. none of above

MCQ 18: The formula of Lithium chloride is

- A. LiCl_2
- B. Li_2Cl
- C. LiCl
- D. Li_3Cl_2

MCQ 19: Double covalent bond refers to the sharing of

- A. one electron
- B. one pair of electron
- C. three electrons
- D. two pairs of electron

MCQ 20: In metals, outermost electrons become

- A. strongly attached to nucleus
- B. easily delocalized
- C. very hard to detach
- D. very easy to detach

MCQ 21: electronic configuration of the chlorine atom is

- A. 2,6,8
- B. 2,8,8
- C. 2,8,7
- D. 2,8,1

MCQ 22: Common covalent bonds include

- A. MgO
- B. KF
- C. LiCl
- D. CH₄

MCQ 23: Graphite is a good conductor of electricity due to

- A. strong electrostatic bonding
- B. free localized bonds
- C. free delocalized electrons
- D. tetrahedral arrangement of particles

MCQ 24: Examples of refractory materials include

- A. MgO
- B. LiCl
- C. KF
- D. CaCl₂

MCQ 25: What is correct about metals?

- A. they are good conductors of heat
- B. they are good conductors of electricity
- C. they are not rigid
- D. all of above

MCQ 26: Diamond is an example of

- A. ionic bonds
- B. covalent bonds
- C. metallic bonds
- D. dative bonds

MCQ 27: The way atoms join together and combine is called

- A. isotopes
- B. alloys
- C. bonding
- D. dative bond

MCQ 28: Giant crystal lattices are only formed in

- A. ionic compounds
- B. covalent compounds
- C. metallic compounds
- D. dative bond

MCQ 29: In formic an ionic bond Magnesium Oxide (MgO), Magnesium

- A. loses 1 electron
- B. loses 2 electrons
- C. gains 1 electron
- D. gains 2 electros

MCQ 30: Formation of Cl₂ requires sharing of

- A. one electron
- B. one pair of electrons
- C. three electrons
- D. two pairs of electrons

MCQ 31: Very high boiling and melting points are of

- A. covalent compounds
- B. ionic compounds
- C. metallic compounds
- D. dative bonds

MCQ 32: Compounds evaporating easily and giving off a smell are

- A. ionic compounds
- B. covalent bonds
- C. metallic bonds
- D. dative bonds

MCQ 33: Covalent compounds are poor conductors of electricity because

- A. they do not have ions only
- B. the molecules cannot carry electricity only
- C. they contain non-metals
- D. they do not have ions and the molecules cannot carry electricity

MCQ 34: Organic solvents are

- A. polar solvents
- B. non-polar solvents
- C. donors of Hydrogen ions
- D. formed through sigma bonds

MCQ 35: Substances inside fire extinguishers are examples of

- A. ionic bonds
- B. covalent bonds
- C. metallic bonds
- D. dative bond

MCQ 36: Ammonia NH_3 is an example of

- A. ionic bonds
- B. covalent bonds
- C. metallic bonds
- D. dative bonds

MCQ 37: Positive ions in a sea of electrons are found in

- A. ionic compounds
- B. covalent bonds
- C. metallic bonds
- D. dative bond

MCQ 38: Refractory materials are examples of

- A. ionic bonds
- B. covalent bonds
- C. metallic bonds
- D. dative bond

MCQ 39: Melting and boiling points are examples of

- A. rigidity
- B. volatility
- C. solubility
- D. conductivity

MCQ 40: Fuels like petrol and natural gas are examples of

- A. ionic compounds
- B. covalent bonds
- C. metallic bonds
- D. dative bond

MCQ 41: Ionic crystals are non-conductors of electricity as

- A. they are in fixed positions
- B. they share strong electrostatic forces

- C. they have van der Waals forces
- D. they lack crystal lattices

MCQ 42: In diamond, the arrangement of carbon is

- A. hexagonal
- B. tetrahedral
- C. octagonal
- D. cube shaped

MCQ 43: Transference of electrons is involved in

- A. ionic bonds
- B. covalent bonds
- C. metallic bonds
- D. dative bonds

MCQ 44: Electronic configuration 2,8,6 indicates that in order to gain stability, oxygen is short of

- A. one electron
- B. one pair of electron
- C. three electrons
- D. two pairs of electron

MCQ 45: Organic solvents do not include

- A. alcohol
- B. water
- C. petrol
- D. tetra chloromethane

MCQ 46: Bonding can be

- A. metallic
- B. covalent
- C. ionic

D. all of above

MCQ 47: The formula of Calcium chloride ionic bond is

- A. CaCl_2
- B. Ca_2Cl
- C. CaCl
- D. Ca_3Cl_2

MCQ 48: Metals in Group-II are highly likely to form

- A. ionic bonds
- B. covalent bonds
- C. metallic bonds
- D. dative bond

MCQ 49: Non-metals in group VII are likely to form

- A. ionic bonds
- B. covalent bonds
- C. metallic bonds
- D. dative bond

MCQ 50: Volatility refers to the

- A. rigidity of substances
- B. malleability
- C. ductability
- D. melting point of substances

MCQ 51: What is true about ionic compounds in solid-state?

- A. they have low melting points
- B. they have low boiling points
- C. they conduct electricity
- D. they are non-conductors of electricity

MCQ 52: Molecules having Van der Waals' forces have

- A. higher stability
- B. have high melting points
- C. have low melting points
- D. have high boiling points

MCQ 53: Covalent compounds are

- A. normally gases
- B. volatile liquids
- C. with low boiling points
- D. all of above

MCQ 54: Which is a characteristic of metals?

- A. they are electropositive
- B. they are electronegative
- C. they are good insulators
- D. they are bad conductors

MCQ 55: In H₂O molecule, unbounded electrons in oxygen are

- A. 1
- B. 2
- C. 3
- D. 4

MCQ 56: Ions are held together through

- A. physical attraction among electrons
- B. high kinetic energies of electrons
- C. electro-static attraction between ions
- D. static attraction between ions

MCQ 57: Due to a positive metal ion and mobile valence electron, the resulting bond is

- A. ionic in nature
- B. covalent in nature
- C. metallic in nature
- D. dative covalent bond

MCQ 58: Giant strong macromolecules are formed in

- A. ionic compounds
- B. simple covalent compounds
- C. complex covalent molecules
- D. metallic compounds

MCQ 59: Metals are malleable and ductile due to

- A. van der Waals' forces
- B. rigidity of metals
- C. non-rigidity of metals
- D. high pressures

MCQ 60: Elements in group-IV are likely to form

- A. ionic bonds
- B. covalent bonds
- C. metallic bonds
- D. dative bond

MCQ 61: Sodium (Na) is not

- A. insoluble in water
- B. salt
- C. explosive in air
- D. stable in air

MCQ 62: An ionic bond is important in

- A. metals of Group-I
- B. non-metals in Group-VI