



CHEMISTRY

BOOKS - MCGROW HILL EDUCATION

CHEMISTRY (HINGLISH)

CHEMICAL BONDING

**Elementary Questions Tick The Correct Choice
Amongst The Following**

1. Chlorine atom and chloride ions

- A. have an equal number of protons
- B. have an equal number of electrons
- C. form covalent bonds
- D. react spontaneously with water

Answer: a



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2. When sodium reacts with fluorine,

- A. each fluorine atom loses one electron

B. each sodium atom gains one electron

C. a covalent bond is formed

D. the compound formed is a good
conductor of electricity in the molten
state

Answer: d



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3. Noble gases exist as individual

A. atoms

B. molecules

C. ions

D. compounds

Answer: a



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4. An ionic bond is formed when

A. the combining atoms gain electrons

B. the combining atoms lose electrons

C. a metallic element reacts with a
nonmetallic element

D. two metallic elements react

Answer: c



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5. Electropositive atoms tend to form

A. negative ions

B. positive ions

C. covalent bonds

D. metallic bonds

Answer: b



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6. Which of the following can lose two electrons to attain the configuration of argon?

A. Mg

B. Br

C. S

D. Ca

Answer: d



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7. Electrovalent compounds are usually

A. solids with low melting points

B. solids with high melting points

C. volatile liquids

D. organic compounds

Answer: b



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8. Which of the following statements is wrong?

A. an atom is electrically neutral

B. the size of a cation is smaller than that of the corresponding atom

C. the size of an anion is bigger than that of the corresponding atom

D. an atom and its ion have an unequal number of protons

Answer: d



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9. In electrovalency,

A. molecules lose electrons forming atoms

B. molecules gain electrons forming atoms

C. atoms share electrons

D. atoms lose or gain electrons forming
ions

Answer: d



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10. A volatile solid soluble in benzene would probably

- A. have electrovalent bonding
- B. have covalent bonding
- C. be a good conductor of electricity
- D. be a salt

Answer: b



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11. A double bond between two carbon atoms is formed by

- A. the transfer of two electrons from one carbon atom to the other
- B. the transfer of one electron from one carbon atom to the other
- C. two shared electron pairs
- D. the sharing of two electrons

Answer: c



12. Which of the following indicates that the bonding in hydrogen chloride is covalent ?

(i) an aqueous solution of hydrogen chloride form hydrogen with metals

(ii) hydrogen chloride is a gas

(iii) hydrogen chloride is not acidic in the absence of water

(iv) dry hydrogen chloride is a non-conductor of electricity

A. (ii), (iii) and (iv) only

B. (i), (ii) and (iii) only

C. (i) and (iv) only

D. (i), (ii), (iii) and (iv)

Answer: a



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13. Which of the following is a non-polar molecule?

A. NH_3

B. NaCl

C. CCl_4

D. H_2O

Answer: c



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14. The bonding in ammonium chloride

A. is covalent only

B. is electrovalent only

C. consists of three covalent nitrogen-hydrogen bonds and an electrovalent bond between the ammonia molecule and the chlorine atom.

D. consist of four covalent nitrogen-hydrogen bonds and one electrovalent bond between the ammonium ion and chloride ion.

Answer: d



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15. Which of the following is a non-directional bond?

A. covalent

B. electrovalent

C. coordinate-covalent

D. none of these

Answer: b



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16. Which amongst the following has smallest size ?

A. Na

B. Al

C. Na^+

D. Al^{3+}

Answer: d



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17. Which amongst the following has largest size?

A. Al

B. Al^{3+}

C. Cl

D. Cl^{-}

Answer: d



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18. Which amongst the following can lose 2 electrons to acquire the configuration of argon?

A. N

B. Mg

C. Ca

D. Be

Answer: c



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19. Sodium atom and sodium ion

- A. are chemically the same
- B. have the same number of protons
- C. have the same number of electrons
- D. react spontaneously with water

Answer: b



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20. Two electronegative atoms combine to form

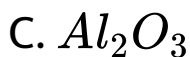
- A. ionic bond
- B. covalent bond
- C. coordinate bond
- D. can't be predicted

Answer: b



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21. Which amongst the following contains a covalent bond?



Answer: d



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22. An element with low ionization energy combines with an element having high electron affinity to form

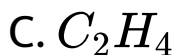
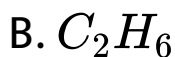
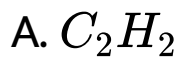
- A. ionic bond
- B. covalent bond
- C. dative bond
- D. none of these

Answer: a



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23. Which amongst the following contains double covalent bond?

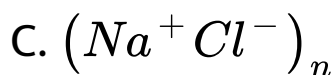
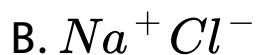


Answer: c



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24. The actual formula of sodium chloride is

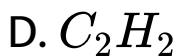
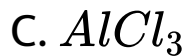


Answer: c



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25. Which of these has a triple covalent bond?



Answer: d



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26. The number of covalent bonds in ethylene is

is

A. 2 double bonds, 2 single bonds

B. 2 double and 4 single bonds

C. 2 single and 2 double bonds

D. 1 double and 4 single bonds

Answer: d



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27. When an alkali metal combines with halogen, it will form

A. always covalent bond

B. always ionic bond

C. may be covalent or ionic

D. will not combine at all

Answer: b



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28. An element 'X' has an atomic number 11 while an element 'Y' has an atomic number 17. They are expected to form

- A. an ionic compound with formula XY
- B. an ionic compound with formula XY_2
- C. a covalent compound with formula XY_2
- D. a covalent compound with formula X^2Y

Answer: a



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29. Which amongst the following will not conduct electricity?

A. NaCl

B. $MgCl_2$

C. CaF_2

D. $C_6H_{12}O_6$

Answer: d



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30. Which amongst the following has a polar covalent bond?

A. NaCl

B. NH_3

C. O_2

D. CaO

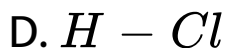
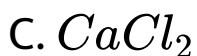
Answer: b



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Higher Order Thinking Questions

1. Which of the following molecule involves electrovalent bond?



Answer: c



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2. The tetravalency of carbon is explained by its

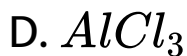
- A. ground state electronic configuration
- B. excited state electronic configuration
- C. catenation property
- D. having only two shells

Answer: b



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3. Octer rule is not violated in case of



Answer: a



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4. A true covalent bond is formed by

A. transfer of electron from one atom to the other

B. mutual sharing of electrons

C. one sided sharing of electrons

D. none of these

Answer: b



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5. In forming compound AB, an electron is transferred from A to B then

- A. A is divalent
- B. B is oxidised
- C. A and B are covalently bonded
- D. AB compound is ionic

Answer: d



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6. Which of the following compound is an ionic compound ?



Answer: c



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7. When a chemical bond between two atom is formed, the potential energy of the system

A. decreases

B. increases

C. remains the same

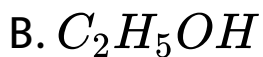
D. cannot be predicted

Answer: a



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8. Which one is appreciably soluble in water

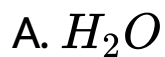


Answer: b



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9. Which of the following molecules has largest bond angle ?



Answer: c



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10. The number of covalent bonds present in ethylene is

A. 5

B. 7

C. 6

D. 4

Answer: c



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