CHEMISTRY

BOOKS - ARIHANT PUBLICATION JHARKHAND

VALENCY

Exam Booster For Cracking Exam

1. Which of the following has a giant covalent structure?

A. PbO_2

B. SIO_2

C. $NaCl$

D. $AlCl_3$

Answer: B

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2. Which one of the following is a covalent molecule ?

A. Al_2Cl_6

B. Al_2O_3

C. AIF_3

D. All of these

Answer: A

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3. Which one of the following is correct ?

A. Water is a non -polar molecule in normal conditions

B. Water is a polar molecule in normal conditions

C. Water exist in the form of H^+OH^- In normal conditions

D. All are correct

Answer: B

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4. Which of the following having electrovalent covalent and co - ordinate covalent bond ?

A. BF_3

B. $CuCl_2$

C. $CuSO_4.5H_2O$

D. $FeCl_3.\ H_2O$

Answer: C

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5. An electrovalent compound does not show isomerism due to

A. high melting point

B. presence of ions

C. strong electrostatic force between ions

D. non-directional nature of electrovalent bond

Answer: D

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6. Both ionic and covalent bond present in

A. CH_4

B. $NaCl$

C. SO_2

D. KOH

Answer: D

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7. Type of bonds present in $K_4\left[Fe(CN)_6\right]$ molecule is

A. covalent and electrovalent bonds

B. covalent annd co-ordinate covalent bonds

C. electrovalent ,covalent and dative bonds

D. electrovalent bond and dative bonds

Answer: C

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8. The formula of a metallic chloride is MCl_2 the formula of its bicarbonate is

A. MCO_3

B. $MHCO_3$

C. $M(HCO_3)_2$

D. $M(CO_3)_2$

Answer: C

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9. An element 'Y' has a ground state configuration 2,8,8 the type of bond that exists between the atoms of 'Y' is

A. ionic

B. covalent

C. metallic

D. vander Waals bond

Answer: D

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10. Element X is strongly electropositive and element Y is strongly electronegative. Both are univalent. The compound formed would be

A. X^+Y^-

B. X^-Y^+

C. $X-Y$

D. $X \rightarrow Y$

Answer: A

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11. In a double bond connecting two atoms there is a sharing of

A. 1 electron

B. 2 electron

C. 4 electrons

D. All electrons

Answer: B

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12. Two elements whose electronegativities are 1.2 and 3.0 the bond formed between them would be

A. Ionic

B. covalent

C. co-ordinate

D. metallic

Answer: A

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13. Which one of the following has high melting and boiling points ?

A. CCl_4

B. $AlCl_3$

C. $CaCl_2$

D. NCl_3

Answer: C

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14. The formula of a metallic phosphate is MPO_4 , the formula of its bromide is

A. M Br

B. MBr_2

C. M_3Br

D. MBr_3

Answer: D

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15. The formation of chemical bond is accompanied by

A. Increase in energy

B. decrease in energy

C. neither decrease nor increase in energy

D. the repulsive forces overcoming the attractive forces

Answer: B

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16. Carbon suboxide (C_3O_2) has recently been shown as a component of the atmosphere of venus . Which of the following formulation represents the correct ground state Lewis structure for C_3O_2 ?

A. $:O:C:C::O:$

B. $:O:C::C:O:$

C. $:O::C::C::C::O:$

D. $:O::C:C::O:$

Answer: C

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17. Which has covalent bond ?

A. Na_2S

B. $AlCl_3$

C. NaH

D. $CaBr_2$

Answer: B

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18. Which one of the following oxides is ionic ?

A. Al_2

B. MnO_2

C. P_2O_6

D. CrO_3

Answer: A

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19. Outermost shells of two elements X and Y have 2 and 6 electrons , respectively .If they combine the expected formula of the compound will be

A. XY

B. X_2y

C. X_2y_3

D. XY_3

Answer: A

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20. Molten sodium chloride conducts electricity due to the presence of

A. free electrons

B. free ions

C. free molecules

D. atoms of odium and chloride atoms

Answer: B

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21. The nature of bond between NH_3 and BF_3 is

A. covalent

B. co-ordinate

C. ionic

D. None of these

Answer: B

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22. Which one of the following has odd electron bond ?

A. PCl_3

B. SF_4

C. PCl_5

D. $POCl_3$

Answer: D

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23. Variable valency is exhibited by

A. Sr

B. Be

C. Al

D. Cu

Answer: D

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24. The type of bonds present in NH_4Cl are

A. electrovalent , covalent , co ordinate covalent

B. covalent and co -ordinate covalent

C. electrovalent only

D. electrovalent and covalent

Answer: A

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25. Which contains both polar and non-polar bonds ? .

A. NH_4Cl

B. HCN

C. H_2O_2

D. CH_4

Answer: C

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26. Ionic bond formed is

A. exothermic

B. endothermic

C. Both(a) and (b)

D. None of these

Answer: A

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27. The process of electron transfer is

A. endothermic

B. exothermic

C. sometime exothermic and sometime endothermic

D. neither endothermic nor exothermic

Answer: A

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28. In the conversion of ammonia ammonium ion the bond formed NH_3 and hydrogen ion is

A. covalent bond

B. co-ordinate covalent bond

C. electrovalent bond

D. None of these

Answer: B

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29. Which is the strongest bond ?

A. Single bond

B. Double bond

C. Triple bond

D. Hydrogen bond

Answer: C

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30. Maximum number of covalent bonds between two atoms of a covalent compound be

A. four

B. two

C. three

D. one

Answer: C

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31. Which of the following bond is non-polar

A. N-H

B. C-H

C. F-F

D. O-H

Answer: C

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32. Which of the following molecules is not an exception to octet rule?

A. BF_3

B. PF_5

C. IF_7

D. CO_2

Answer: D

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33. Which of the following is soluable in water

A. CS_4

B. C_2H_5OH

C. CCl_4

D. $CHCl_3$

Answer: B

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34. Which of the following is a covalent compound ?

A. $CaCl_2$

B. H_2O

C. K_2O

D. MgO

Answer: B

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35. In which of following ionic , covalent and co-ordinate bonds are present ?

A. Water

B. Ammonia

C. Sodium cyanide

D. Potassium bromide

Answer: C

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36. Atomic mass of an element is 24 and it contains K neutrons ,valency of the element is

A. 1

B. 2

C. 3

D. 4

Answer: B

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37. Many ionic crystals dissove in water because

A. water is an amphiprotic solvent

B. water us high boiling liquid

C. the process is accompanted by positive heat of solution

D. water decreases the interionic attraction in the crystal lattice due to solvation

Answer: D

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38. A bond with maximum covalent character between non - metallic elements is formed

A. between identical atoms

B. between chemically similar atoms

C. between atoms of widely different electronegativity

D. between atoms of same size

Answer: A

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39. Hydrogen fluoride is a liquid unlike other hydrogen halides because

A. HF molecule associate due to hydrogen boding

B. F_2 is highly reactive

C. HF is the weakest acids of all hydrogen halides

D. Fluorine atom is the smallest of all halides

Answer: A

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40. Favourable conditions for electrovalency are

A. low charge on Ions, large cation small anion

B. high charge on Ions , small cation ,large anion

C. high charge on ions, large cation small anion

D. low charge on ions , small cation and large anion

Answer: C

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41. What is the valency of maganese in

A. 2

B. 4

C. 6

D. 7

Answer: D

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42. An element has the electronic configuration $1s^2, 2s^2, 2p^6, 3s^2, 3p^2$ The number of valency electrons will be

A. 2

B. 3

C. 4

D. 5

Answer: C

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43. Chemical formula for calcium pyrophosphate is $Ca_2P_2O_7$. The formula for ferric pyrophosphate will be

A. $Fe_2(P_2O_7)_3$

B. $Fe_4(P_2O_4)_3$

C. $Fe_4P_4O_{10}$

D. Fe_3PO_4

Answer: B

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44. A compound is made up of element X and Y .The equivalent weight of X is one fourth its stomic weight and the equivalent weight of Y is half its atomic weight .the formula of compund is

A. XY

B. XY_2

C. X_2Y

D. X_4Y_2

Answer: B

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45. When an ionic compund of the formula is dissolved in water , the ions formed will be

A. X^{a+} and Y^{b-}

B. aX^{a+} and bY^{-}

C. bX^{b+} and aY^{b-}

D. aX^{b+} and bY^{a-}

Answer: D

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46. Element A has the electronic configuration 2,8,3 and element B has 2,6 .They will form the compound of the formula

A. AB

B. A_2B_3

C. A_3B_2

D. AB_3

Answer: B

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47. A non - metal can form compound by

A. gain of electrons sharing and loss of electrons

B. sharing of electrons

C. losing electrons

D. galning electrons

Answer: A

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48. Nucleus of an atom contains 5 protons and 6 neutrons .The valency of element will be

A. 1

B. 5

C. 3

D. 2

Answer: C

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49. Which of the following changes involves a bond forming process ?

A. Stretching of rubber

B. Dissolution of sugar in water

C. Rusting of iron

D. Emission of γ - rays radioactive ion

Answer: C

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50. Which of the following compounds is covalent?

A. H_2

B. CaO

C. KCl

D. None of these

Answer: A

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51. The octer rule is not valid for the molecule .

A. CO_2

B. H_2O

C. O_2

D. CO

Answer: D

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52. The compound which contains both ionic and covalent bonds is :

A. CH_4

B. H_2

C. KCN

D. KCl

Answer: C

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53. The ion that is iso - electronic with CO is

A. CN^-

B. O_2^+

C. O_2^-

D. N_2^+

Answer: A

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54. The maximum number of covalent bonds by which the two atoms can be bonded to each other is

A. one

B. two

C. three

D. four

Answer: C

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