CHEMISTRY CLASS-XI MODULE-01

Some Basic Concept of Chemistry

Structure of Atom | Classification of Elements | Chemical Bonding & Molecular Structure



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Topic-wise Questions



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Law of Chemical Combinations

Uncertainity in Measurement

a. Six

c. Three

b. Five

d. Thirty four

1. The number of significant figures in 0.0045 are		11. In Habers process, the volume at S.T.P of ammonia relative to	
a. Two	b. Three	the total volume of reactants at STP is:	
c. Four	d. Five.	a. One fourth	b. One half
2. Light travels with a s	speed of 3 \times 10 ⁸ m/sec. The distance	c. Same	d. Three fourth
travelled by light in 1 Femto sec is:		12. 6 g of carbon combines with 32 g of sulphur to form CS ₂ .	
a. 0.03 mm	b. 0.003 mm	12 g of C also combine with 32 g oxygen to form CO ₂ . 10	
c. 3 mm	d. 0.0003 mm	g of sulphur combines with 10 g of oxygen to form Sulphur	
3. Area of nuclear cross-section is measured in "Barn". It is		dioxide. Which law is illustrated by this?	
equal to:		a. Law of multiple pro	=
a. $10^{-20} \mathrm{m}^2$	b. $10^{-30} \mathrm{m}^2$	b. Law of constant composition	
c. $10^{-28} \mathrm{m}^2$	d. $10^{-14} \mathrm{m}^2$	c. Law of reciprocal proportions	
4. Two students X and Y report the mass of the same substance		d. Gay Lussac's law	
as 7.0 g and 7.00 g respectively, which of the following statement is correct?		13. Which of the following data illustrates the law of conservation of mass?	
a. Both are equally accurate		 a. 56 g of C reacts with 32 g of Oxygen to produce 44 g of CO₂ b. 1.70 g of AgNO₃ reacts with 100 ml of 0.1M HCl to produce 1.435 g of AgCl and 0.63 g of HNO₃ c. 12 g of C is heated in vacuum and on cooling, there is no change in mass d. 36 g of S reacts with 16 g of O₂ to produce 48 g of SO₂ 	
b. X is more accurate than Y			
c. Y is more accurate than X			
d. Both are inaccurate scientifically			
5. The number of significant figures in value of π are:			
a. 1	b. 2	14. One part of an element A combines with two parts of another element B, 6 parts of element C combines with 4 parts of B.	
c. 3	d. ∞		
6. 5.041 has how many significant figures.		If A and C combine together the ratio of their weights, will be	
a. 1	b. 2	governed by a. law of definite proportion	
c. 3	d. 4		
7. The correctly reported answer of the addition of 29.4406, 3.2 and 2.25 will have significant figures:		b. law of multiple proportion	
		c. law of reciprocal proportion	
a. 3	b. 4		•
c. 2	d. 5	d. law of conservation of mass	
8. What is the area of rectangle which is 12.34 cm wide and 1.23 cm long?		15. The law of conservation of mass holds good for all of the following except.	
a. 15.2 m^2	b. 15.19 cm ²	a. All chemical reacti	ions
c. 16.2 cm^2	d. 16.2 m ²	b. Nuclear reaction	
9. If an object has a mass of 0.2876 g, then find the mass of nine		c. Endothermic reactions	
such objects:	1. 25000	d. Exothermic reactio	ons
a. 2.5884 g	b. 2.5886 g	16. The % of copper and	oxygen in samples of CuO obtained by
c. 2.588 g	d. 2.5 g	different methods were found to be the same. This proves the	
10. The value of Plank's constant is 6.62618×10^{-34} Js. The number of significant figures in it is		law of:	1 D ' 1D '

a. Constant Proportion

c. Multiple Proportion

b. Reciprocal Proportion

d. Conservation of mass.

Some Basic Concepts of Chemistry

- 17. Two elements X and Y combine in gaseous state to form XY in the ratio 1:35.5 by mass. The mass of Y that will be required to react with 2 g of X is:
 - a. 7.1 g

b. 3.55 g

c. 71 g

- d. 35.5 g
- **18.** 4.4 g of an oxide of nitrogen gives 2.24 L of nitrogen and 60 g of another oxide of nitrogen gives 22.4 L of nitrogen at S.T.P. The data illustrates:
 - a. Law of conservation of mass
 - b. Law of constant proportions
 - c. Law of multiple proportions
 - d. Law of reciprocal proportions
- **19.** "The total mass of reactants is always equal to the total mass of products in a chemical reaction." This statement is known as
 - a. Law of conservation of mass
 - b. Law of definite proportions
 - c. Law of equivalent weights
 - d. Law of combining masses
- **20.** The law of multiple proportions is illustrated by the two compounds
 - a. Sodium chloride and sodium bromide
 - b. Ordinary water and heavy water
 - c. Caustic soda and caustic potash
 - d. Sulphur dioxide and sulphur trioxide.
- **21.** How many grams of H₃PO₄ is required to completely neutralize 120g of NaOH
 - a. 49

b. 98

c. 196

- d. 9.8
- **22.** The weight of oxygen required to completely react with 27 gms of 'Al' is
 - a. 8 gm

b. 16 gm

c. 32 m

- d. 24 gm
- **23.** If law of conservation of mass was to hold true, then 20.8 g of BaCl₂ on reaction with 9.8 g of H₂SO₄ will produce 7.3 g of HCl and BaSO₄ equal to:
 - a. 11.65 g
- b. 23.3 g

c. 25.5 g

- d. 30.6 g
- **24.** One of the following combinations which illustrates the law of reciprocal proportions is:
 - a. N₂O₃, N₂O₄, N₂O₅
- b. NaCl, NaBr, NaI
- c. CS₂, CO₂, SO₂
- d. PH₃, P₂O₃, P₂O₅
- 25. 23g of sodium will react with ethyl alcohol to give
 - a. 1 mole of H₂
- b. 1/2 mole of H₂
- c. 1 mole of O
- d. 1 mole of NaOH

- **26.** Hydrogen and oxygen combine to form H₂O₂ and H₂O containing 5.93% and 11.2% hydrogen respectively, the data illustrates:
 - a. Law of conservation of mass
 - b. Law of Constant proportions
 - c. Law of reciprocal proportions
 - d. Law of multiple proportions
- **27.** Two elements X (of mass 16) and Y (of mass 14) combine to form compounds A, B and C. The ratio of different masses of Y which combine with a fixed mass of X in A, B and C is 1:3:5, if 32 parts by mass of X combines with 84 parts by mass of Y
 - in B, then in C, 16 parts by mass of X will combine with;
 - a. 14 parts by mass of Y
- b. 42 parts by mass of Y
- c. 70 parts by mass of Y
- d. 84 parts by mass of Y

Atomic & Molecular Masses

- **28.** Insulin contains 3.4% sulphur by mass. What will be the minimum molecular weight of insulin?
 - a. 94.117 u

b. 1884 u

c. 941 u

- d. 976 u
- **29.** If we assume 1/24 th part of mass of carbon instead of 1/12 th part of it as 1 amu., mass of 1 mole of a substance will
 - a. Remain unchanged
- b. get doubled
- c. Get halved
- d. can't be predicted
- **30.** Boron has two isotopes 10B and 11B whose relative abundances are 20% and 80% respectively. Atomic weight of Boron is
 - a. 10

b. 11

c. 10.5

- d. 10.8
- **31.** 10 grams of each O₂, N₂ and Cl₂ are kept in three bottles. The correct order of arrangment of bottles containing decreasing number of Molecules.
 - a. O₂, N₂, Cl₂
- b. Cl₂, N₂, O₂
- c. Cl₂, O₂, N₂
- d. N₂, O₂, Cl₂
- 32. Avogadro's number is the number of molecules present in
 - a. 1 g of molecule
- b. 1atom of molecule
- c. gram molecular mass
- d. 1 litre of molecule
- 33. Maximum number of atoms are present in
 - a. 14 gms. of carbon monoxide
 - b. 2 gms. of hydrogen
 - c. 11.2 lit. of nitrogen at STP
 - d. 1.5 gm atoms of helium
- **34.** One amu is equal to
 - a. 1.66×10^{-8} g
- b. 1.66×10^{-4} g
- c. 1.66×10^{-16} g
- d. 1.66×10^{-24} g



- **35.** The number of molecules present in one milli litre of a gas at STP is known as
 - a. Avogadro number
 - b. Boltzman number
 - c. Loschmidt number
 - d. Universal gas constant
- **36.** Which of the following gases contain the same number of molecules as that of 16 grams of oxygen?
 - a. 16gm of O_3
- b. 32 grams of SO₂
- c. 16gm of SO_2
- d. All
- 37. If the atomic mass unit 'u' were defined to be $\frac{1}{5}^{th}$ of the mass of an atom of C-12, what would be the atomic weight of nitrogen in amu or 'u' in this state? Atomic weight of N on conventional scale is 14:
 - a. 6.77 u

b. 5.834 u

c. 14 u

- d. 23 u
- **38.** A 100 g sample of Haemoglobin on analysis was found to contain 0.34% Fe by mass. If each haemoglobin molecule has four Fe^{2+} ions, the molecular mass of haemoglobin is-(Fe = 56 amu)
 - a. 77099.9 g
- b. 12735 g
- c. 65882 g
- d. 96359.9 g

Mole Concept and Molar Masses

- **39.** 1 g-atom of nitrogen represents:
 - a. 6.02×10^{23} N₂ molecules
 - b. 22.4 L of N_2 at S.T.P
 - c. 11.2 L of N_2 at S.T.P
 - d. 28 g of nitrogen
- **40.** Which is correct for 10 g of CaCO₃?
 - a. It contains 1 g atom of carbon
 - b. It contains 0.3 g atoms of oxygen
 - c. It contains 12 g of calcium
 - d. It refers to 0.1 g equivalent of CaCO₃
- **41.** The number of oxygen atoms present in 14.6 g of magnesium bicarbonate is:
 - a. 6 N_A

b. 0.6 N_A

c. N_A

- d. $\frac{N_A}{2}$
- **42.** Which of the following has the highest mass?
 - a. 20 g of sulphur
 - b. 4 mol of carbon dioxide
 - c. 12×10^{24} atoms of hydrogen
 - d. 11.2 L of helium at N.T.P.

- **43.** If isotopic distribution of C-12 ad C-14 is 98% and 2% respectively, then the number of C-14 atoms in 12 g of carbon is:
 - a. 1.032×10^{22}
- b. 3.01×10^{22}
- c. 5.88×10^{23}
- d. 6.02×10^{23}
- **44.** 5.6 L of a gas at S.T.P. weights equal to 8 g. The vapour density of gas is:
 - a. 32

b. 16

c. 8

- d. 40
- **45.** One atom of an element weighs 1.8×10^{-22} g, its atomic mass is:
 - a. 29.9 g

- b. 18 g
- c. 108.36 g
- d. 154 g
- **46.** If H_2SO_4 ionises as $H_2SO_4 + 2H_2O \rightarrow 2H_3O^+ + SO_4^-$. Then total number of ions produced by 0.1 mol H_2SO_4 will be:
 - a. 9.03×10^{21}
- b. 3.01×10^{22}
- c. 6.02×10^{22}
- d. 1.8×10^{23}
- 47. Which of the following will not have a mass of 10 g?
 - a. 0.1 mol CaCO₃
 - b. $1.51 \times 10^{23} \,\text{Ca}^{2+} \,\text{ions}$
 - c. $0.16 \text{ mol of } CO_3^{2-} \text{ ions}$
 - d. 7.525×10^{22} Br atom
- **48.** x L of N_2 at S.T.P. contains 3×10^{22} molecules. The number of molecules in x/2 L of ozone at S.T.P. will be:
 - a. 3×10^{22}
- b. 1.5×10^{22}
- c. 1.5×10^{21}
- d. 1.5×10^{11}
- **49.** A person adds 1.71 gram of sugar $(C_{12}H_{22}O_{11})$ in order to sweeten his tea. The number of carbon atoms added are: (mol mass of sugar = 342)
 - a. 3.6×10^{22}
- b. 7.2×10^{21}

c. 0.05

- d. 6.6×10^{22}
- **50.** The number of atoms present in 0.1 mole of P_4 (at. mass = 31) are:
 - a. 2.4×10^{24} atoms
 - b. Same as in 0.05 mol of S_8
 - c. 6.02×10^{22} atoms
 - d. Same as in 3.1g of phosphorus
- **51.** Which one contains maximum number of molecules?
 - a. 2.5 g molecule of N₂
 - b. 4 g atom of nitrogen
 - c. 3.01×10^{24} atoms
 - d. 82 g of dinitrogen
- **52.** Out of 1.0 g dioxygen, 1.0 g (atomic) oxygen and 1.0 g ozone, the maximum number of oxygen atoms are contained in:
 - a. 1.0 g of atomic oxygen
 - b. 1.0 g of ozone
 - c. 1.0 g of oxygen gas
 - d. All contain same number of atoms

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- **53.** The maximum volume at S.T.P. is occupied by:
 - a. 12.8 g of SO₂
- b. 6.02×10^{22} molecules of CH₄
- c. 0.5 mL of NO₂
- d. 1g molecule of CO₂
- **54.** If N_A is Avogadro's number, then the number of oxygen atoms in one g-equivalent of oxygen is:
 - a. N_A

b. N₄/2

c. N_A/4

- d. $2N_A$
- **55.** If 224 ml. of a triatomic gas has a mass of 1g at 273 K and 1 atm pressure, then the mass of one atom is:
 - a. $8.30 \times 10^{-23} \text{ g}$
- b. 6.24×10^{-23}
- c. 2.08×10^{-23} g
- d. 5.54×10^{-23} g
- **56.** The rest mass of an electron is 9.11×10^{-31} kg. Molar mass of the electron is:
 - a. $1.5 \times 10^{-31} \, kg \, mol^{-1}$
- b. $9.11 \times 10^{-31} \,\mathrm{kg \ mol^{-1}}$
- c. $5.5 \times 10^{-7} \text{ kg mol}^{-1}$
- d. $6.02 \times 10^{23} \text{ kg mol}^{-1}$
- 57. A sample of ammonium phosphate, (NH₄)₃ PO₄, contains3.18 moles of hydrogen atoms. The number of moles of oxygen atoms in the sample is:
 - a. 0.265

b. 0.795

c. 1.06

- d. 3.18
- **58.** What is the total number of atoms present in 25.0 mg of camphor, $C_{10}H_{16}O$?
 - a. 9.89×10^{19}
- b. 6.02×10^{20}
- c. 9.89×10^{20}
- d. 2.67×10^{21}
- **59.** Which of the following samples contains the largest number of atoms?
 - a. 1 g of CO₂
- b. 1 g of C_8H_{18}
- c. 1 g of $C_2H_6(g)$
- d. 1 g of LiF (s)
- **60.** 4.0 g of caustic soda (NaOH) (mol mass 40) contains same number of sodium ions as are present in
 - a. 10.6 g of Na₂CO₃ (mol. mass 106)
 - b. 58.5 g of NaCl (Formula mass 58.5)
 - c. 100 ml of 0.5 M Na₂SO₄ (Formula mass 142)
 - d. 1mol of NaNO₃ (mol. mass 85)
- **61.** Total number of atoms present in 64 gm of SO₂ is
 - a. $2 \times 6.02 \times 10^{23}$
- b. 6.02×10^{23}
- c. $4 \times 6.02 \times 10^{23}$
- d. $3 \times 6.02 \times 10^{23}$
- **62.** The total number of protons, electrons and neutrons in 12gm of ${}_{6}C^{12}$ is
 - a. 1.084×10^{25}
- b. 6.022×10^{23}
- c. 6.022×10^{22}
- d. 18
- 63. Number of Ca⁺² and Cl⁻ ion in 111 g of anhydrous CaCl, are
 - a. N_{Δ} , $2N_{\Delta}$
- b. 2N_A, N_A
- c. N_A , N_A
- d. None

- 64. The maximum volume at N.T.P. is occupied by
 - a. 12.8 gm of SO₂
 - b. 6.02×10^{22} molecules of CH₄
 - c. 0.5 mol of NO₂
 - d. 1 gm-molecule of CO₂
- **65.** Number of moles of water in 488 g of $BaCl_2.2H_2O$ are (Ba = 137)
 - a. 2 moles
- b. 4 moles
- c. 3 moles
- d. 5 moles
- **66.** 4.4 g of CO₂ and 2.24 litre of H₂ at STP are mixed in a container. The total number of molecules present in the container will be
 - a. 6.022×10^{23}
- b. 1.2044×10^{23}
- c. 2 moles
- d. 6.023×10^{24}
- 67. One mole of nitrogen gas has volume equal to
 - a. 1 litre of nitrogen at S.T.P.
 - b. 32 litre of nitrogen at S.T.P.
 - c. 22.4 litre of nitrogen at S.T.P.
 - d. 11.2 litre of nitrogen at S.T.P.
- **68.** The number of atoms present in 0.1 mole of P₄.
 - a. 2.4×10^{23} atom (approx)
 - b. Same as in 0.05 mole of S_{g}
 - c. Same as in 12.4 g of P_A
 - d. 2.4×10^{24} atom (approx)

Percentage Composition

- **69.** The percentage of C, H and N in an organic compound are 40 %, 13.3% and 46.7% respectively then empirical formula is
 - a. $C_3H_{13}N_3$
- b. CH₂N

c. CH₄N

- d. CH₆N
- **70.** B₁ g of an element gives B₂ g of its chloride, the equivalent mass of the element is:
 - a. $\frac{B_1}{B_2 B_1} \times 35.5$
- b. $\frac{B_2}{B_2 B_1} \times 35.5$
- c. $\frac{B_2 B_1}{B_1} \times 35.5$
- d. $\frac{B_2 B_1}{B_2} \times 35.5$
- **71.** 60 g of a compound on analysis gave 24 g C, 4 g H and 32 g
 - O. The empirical formula of the compound is:
 - a. $C_2H_4O_2$
- b. C₂H₂O₂
- c. CH₂O₂
- d. CH₂O
- **72.** A compound made of two elements A and B are found to contain 25% A (at mass 12.5) and 75% B (at mass 37.5). The simplest formula of the compound is:
 - a. AB

b. AB₂

c. AB₃

 $d. A_3B$

- **73.** Insulin contains 3.4% sulphur. What will be the minimum molecular weight of insulin?
 - a. 94.117

b. 1884

c. 941.176

- d. 976
- **74.** 400 mg of capsule contains 100 mg of ferrous fumarate. The percentage of Fe present in the capsule is approximately: (formula of ferrous fumarate is (CHCOO)₂ Fe).
 - a. 8.2%

b. 25%

c. 16%

- d. Unpredictable
- **75.** Simplest formula of compound containing 50% of element X (at mass 10) and 50% of element Y (at mass 20) is:
 - a. XY

b. X₂Y

c. XY₂

- $d. X_2Y_3$
- **76.** A compound having the empirical formula (C_3H_4O) has a molecular mass of 170 ± 5 . The molecular formula of it compound is:
 - a. C₃H₄O

b. $C_6H_8O_2$

c. C₆H₁₂O₃

- d. C₉H₁₂O₃
- 77. Two oxides of a metal contains 50% and 40% metal (M) respectively. If the formula of first oxide is MO_2 , the formula of second oxide will be:
 - a. MO₂

b. MO₃

c. M₂O

- d. M_2O_5
- **78.** The vapour density of gas A is four times that of B. If molecular mass of B is M, then molecular mass of A is:
 - a. M

b. 4 M

c. $\frac{M}{4}$

- d. 2 M
- **79.** A metal nitride M₃N₂ contains 28% of nitrogen. The atomic mass of metal M is:
 - a. 24

b. 54

c. 9

- d. 87.62
- **80.** A container of volume V, contains 0.28 g of N₂ gas. If same volume of an unknown gas under similar conditions of temperature and pressure weights 0.44 g, the molecular mass of gas is:
 - a. 22

b. 44

c. 66

- d. 88
- **81.** A gaseous hydrocarbon on complete combustion gives 3.38 g of CO₂ and 0.690 g of H₂O and no other products. The empirical formula of hydrocarbon is:
 - a. CH

b. CH₂

c. CH₃

- d. The data is not complete
- **82.** The percentage of Carbon in CO₂ is
 - a. 27.27%

b. 29.27%

c. 30.27%

d. 26.97%

83. The haemoglobin from red blood corpuscles of most mammals contain approximately 0.33% of iron by mass. The molecular mass of haemoglobin is 67200. The number of iron atoms in each molecule of haemoglobin is:

a. 3

b. 4

c. 2

- d. 6
- **84.** On analysis a certain compound was found to contain iodine and oxygen in the ratio of 254 g of iodine (at mass 127) and 80 g oxygen (at mass 16). What is the formula of compound?

a. IO

b. I₂O

c. I₅O₃

- d. I₂O₅
- **85.** 0.5 mol of potassium ferrocyanide contains carbon equal to: (Formula of potassium ferrocyanide is $K_4[Fe(CN)_6]$.

a. 1.5 mol

b. 36 g

c. 18 g

- d. 3.6 g
- **86.** 14 g of element X combine with 16g of oxygen. On the basis of this information, which of the following is a correct statement:
 - a. The element X could have an atomic weight of 7 and its oxide formula XO
 - b. The element X could have an atomic weight of 14 and its oxide formula X_2O
 - c. The element X could have an atomic weight of 7 and its oxide is X₂O
 - d. The element X could have an atomic weight of 14 and its oxide is XO₂
- **87.** A compound has 20% of nitrogen by weight. If one molecule of the compound contains two nitrogen atoms, the molecular weight of the compound is

a. 35

b. 70

c. 140

d. 280

Stoichiometry & Stoichiometric Calculation

88. 'X' litres of carbon monoxide is present at STP. It is completely oxidized to CO₂. The volume of CO₂ formed is 11.207 litres at STP. What is the value of 'X' in litres?

a. 22.414

b. 11.207

c. 5.6035

- d. 44.828
- **89.** The volume of phosgene formed at STP when 11.2 lit of chlorine reacts with carbon monoxide is

a. 11.2 lit

b. 22.4 lit

c. 5.6 lit

- d. 44.8 lit
- **90.** The moles of O_2 required for reacting with 6.8 g ammonia. (....NH₃+.... O_2 →....NO+.....H₂O) is:

a. 5

h 25

c. 1

- d. 0.5
- **91.** What mass of CaCl₂ in grams would be enough to produce 14.35 gm of AgCl?
 - a. 5.55 g

b. 8.29 g

c. 16.59 g

d. 10 g

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92. What weight of sodium hydroxide is required to neutralise 100 ml of 0.1N HCl?

a. 4 g

b. 0.4 g

c. 0.04 g

d. 40 g

93. H_2O_2 is sold as a solution of approximately 5.0 g H_2O_2 per 100 ml of the solution. The molarity of this solution is approximately

a. 0.15 M

b. 1.5 M

c. 3.0 M

d. 3.4 M

94. The amount of oxalic acid (eq.wt.63) required to prepare 500 ml of its 0.10 N solution is

a. 0.315 g

b. 3.150 g

c. 6.300 g

d. 63.00 g

95. The molarity of pure water is

a. 100 M

b. 55.6M

c. 50 M

d. 18 M

96. The mass of 70% H₂SO₄ by mass is required for neutralisation of 1 mole of NaOH is:

a. 65

b. 98

c. 70

d. 54

97. If potassium chlorate is 80% pure then 48 g of oxygen would be produced from:

a. 153.12 g of KClO₃

b. 120 g of KClO₃

c. 20 g of KClO₃

d. 90 g of KClO₃

98. Density of a solution containing x% by mass of H₂SO₄ is y. The normality is

a. $\frac{xy \times 10}{98}$

b. $\frac{xy \times 10}{98y} \times 2$

c. $\frac{xy \times 10}{98} \times 2$

d. $\frac{x \times 10}{98 v}$

99. Mass percentage (w/w) of ethylene glycol (HOCH $_2$ - CH $_2$ OH) in a aqueous solution is 20, then mole fraction of solute is

a. 0.5

b. 0.067

c. 0.1

d. 0.4

100. Number of gram equivalents of solute in 100 ml of 5 N HCl solution is

a. 50

b. 500

c. 5

d. 0.5

101. If 1.26 grams of oxalic acid is dissolved in 250 ml of solution then its normality is

a. 0.05

b. 0.04

c. 0.02

d. 0.08

102. 100ml of ethylalcohol is made upto a litre with distilled water. If the density of C_2H_5OH is 0.46 gm/ml. Then its molality is

a. 0.55 m

b. 1.11m

c. 2.22 m

d. 3.33m

103. A solution of 0.1 mole of a metal chloride MCl_x required 500 mL of 0.6 molal AgNO₃ solution for complete ppt. The value of x is:

a. 5

b. 4

c. 3

d. 1

104. If 20 g of CaCO₃ is treated with 100 ml 20% HCl solution. The amount of CO₂ produced is:

a. 22.41 g

b. 8.8 g

c. 2.2 g

d. 81

105. The mass of CaCO₃ required to react with 25 mL of 0.75 molar HCl is:

a. 0.94 g

b. 0.68 g

c. 0.76 g

d. 0.52 g

106. 2 moles of H₂S and 11.2 L of SO₂ at N.T.P. reacts to form x moles of sulphur. The value of x is:

a. 1.5

b. 3.5

c. 7.8

d. 12.7

107. Sulphuryl chloride (SO₂Cl₂) reacts with H₂O to give a mixture of H₂SO₄ & HCl. Aqueous solution of 1 mole SO₂Cl₂ will be neutralised by:

a. 3 moles of NaOH

b. 2 moles of Ca(OH)₂

c. Both (a) & (b)

d. None of these

108. A sample of pure compound contains 1.15 g of sodium, 3.01×10^{22} atoms of carbon and 0.1 mol of oxygen atom. Its empirical formula is:

a. Na₂CO₃

b. NaCO₂

c. Na, CO

d. Na,CO,

109. If 0.30 mol of zinc are added to 0.52 mol of HCl, the moles of H₂ formed are:

a. 0.52

b. 0.30

c. 0.26

d. 0.60

110. The specific gravity of 98% H₂SO₄ is 1.8 g/cc. 50 ml of this solution is mixed with 1750 ml of pure water. Molarity of resulting solution is

a. 0.2 M

b. 0.5 M

c. 0.1 M

d. 1 M

ABOUT PHYSICS WALLAH



Alakh Pandey is one of the most renowned faculty in NEET & JEE domain's Physics. On his YouTube channel, Physics Wallah, he teaches the Science courses of 11th and 12th standard to the students aiming to appear for the engineering and medical entrance exams.



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