Chemistry Study Materials for Class 9
(MCQ Type Questions – Answers)
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Atoms and Molecules

32. The mass of sodium in 11.7 g of sodium chloride is:

(a) 2.3g **(b)4.6g** (c)6.9g (d)7.1g

33. The formula of a chloride of a metal M is MCl_3, the formula of the phosphate of metal "M" will be:

(a) MPO_4 (b) M_2PO_4 (c) M_3PO_4 (d) $M_2(PO_4)_3$

34. Which of the following contains the largest number of molecules?

(a)0.2 mol H_2 **(b)8.0mol H_2** (c)17g of H_2O (d)6.0 g of CO_2

35. One gram of which of the following contains largest number of oxygen atoms?

(a)O (b)O_2 (c)O_3 (d)All contains same

36. The percentage by weight of O_2 in CaSO4 (O = 16, S = 32, Ca = 40) is:

(a) 64 (b) 28.2 **(c) 47.2** (d) 16.2

37. The percentage by weight of Zn in white vitriol, $ZnSO_4.7H_2O$ (Zn = 65, S = 32, O =16, H = 1) is approximately:

(a)23 (b)33 (c)43 (d)13

38. The formation of SO_2 and SO_3 explain:

(a) The law of conservation of mass (b)The law of multiple proportions

(c)The law of definite properties (d)Boyle's law

39. The law of definite proportions was given by:

(a) John Dalton (b) Humphrey Davey **(c) Proust** (d) Michael Faraday

40. Molecular mass is defined as the:

(a)Mass of one atom compared with the mass of one molecule

(b)Mass f one atom compared with the mass of one atom of hydrogen

(c)Mass of one molecule of any substance compared with the mass of one atom of C – 12

(d)None of the above

41. 0.001 g of C is required to write a letter with a graphite pencil. The total number of C atoms used in writing the letter is:

(a) 5.00×10^{12} **(b)5×10^{19}** (c)5.0×10^{24} (d)6.023×10^{23}

42. One mole of a gas occupies a volume of 22.4 L. This is derived from:

(a)Berzelius's hypothesis (b)Gay- Lussac's law

(**c)Avogadro's law** (d)Dalton's law

43. The mass of one C atom is:

(a) 6.023×10^{23}g (b) 1.99×10^{-23} g (c) 2.00 g **(d) 12 g**

44. The chemical symbol for barium is:

(a)B **(b)Ba** (c)Be (d)Bi

45. The chemical symbol P stands for:

(a) Phosphorus (b) Potassium (c) Polonium (d) Promethium

46. A group of atoms chemically bonded together is a (an):

(a) Molecule (b) On (c) Salt **(d) Element**

47. Adding electrons to an atom will result in a (an):

(a) Molecule **(b) Anion** (c) Cation (d) Salt

48. When an atom loses electrons, it is called a (an) _____ and has a _____ charge.

(a)Anion, positive **(b) Cation, positive** (c) Anion, negative (d) Cation, negative

49. The molecule formula P_2O_5 means that:

(a) A molecule contains 2 atoms of P and 5 atoms of O

(b) The ratio of the mass of P to the mass of O in the molecule is 2:5

(c) There are twice as many P atoms in the molecule as there are O atoms

(d) The ratio of the mass of P to the mass of O in the molecule is 5:2

50. The correct symbol for silver is:

(a) Ag (b) S (c)Ar (d)Al

51. A spartame, an artificial sweetener, has the molecular formula $C_{14}H_{18}N_2O_5$. What is the mass in grams of one molecule? (Atomic weights: C = 12.01, H = 1.008, N = 14.01, O = 16.00)

(a)4.89×10^{-21} (b)2.24×10^{-21} (c)3.85×10^{-22} **(d)4.89×10^{-22}**

52. Morphine, an addictive drug, has the molecular formula $C_{17}H_{19}NO_3$. What is the mass in grams of one molecule? (Atomic weights: C = 12.01, H = 1.008, N = 14.00 O = 16.00)

(a) 2.24×10^{-22} (b) 3.85×10^{-22} **(c) 2.85×10^{-21}** (d) 4.74×10^{-22}

53. The percentage of copper and oxygen in samples of CuO obtained by different methods were found to be the same. The illustrate the law of:

(a)Constant proportion (b)Conservation of mass

(c)Multiple proportions (d)Reciprocal proportions

54. The total number of atoms represented by the compound $CuSO_4.5H_2O$ is:

(a)27 **(b)21** (c)5 (d)8

55. The mass of a molecule of water is:

(a) 1×10^{-26} kg **(b) 3×10^{-26} kg** (c)1.5×10^{-26} kg (d)2.5×10^{-26} kg

56. The number of atom in 4.25g of NH_3 is approximately:

(a)1.5×10^{23} (b)2×10^{23} (c)4×10^{23} (d)6×10^{23}

57. The number of molecules of CO_2 present in 44g of CO_2 is:

(a)6.02×10^{23} (b)3×10^{23} (c)2×10^{23} (d)3×10^{10}

58. How many molecules are present in one gram of hydrogen?

(a)6.02×10^{23} **(b)3.01×10^{23}** (c)2.5×10^{23} (d)1.5×10^{23}

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