

CHEMISTRY

CLASS-XI

NEET

MODULE-01

Some Basic Concept of Chemistry

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

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NCERT Based Questions



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- Which of the following is/are not affected by temperature?
 - Molarity
 - Molality
 - Normality
 - None of these
- Ferric sulphate on heating gives sulphur trioxide. The ratio between the weights of oxygen and sulphur present in SO_3 obtained by heating 1 kg of ferric sulphate is
 - 2 : 3
 - 1 : 3
 - 3 : 1
 - 3 : 2
- The number of atoms present in 4.25 grams of NH_3 is approximately
 - 1×10^{23}
 - 8×10^{20}
 - 2×10^{23}
 - 6.02×10^{23}
- Two students performed the same experiment separately and each one of them recorded two readings of mass which are given below. Correct reading of mass is 3.0 g. On the basis of given data, mark the correct option out of the following statements:

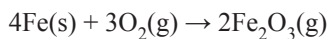
Students	Readings	
	(i)	(ii)
A	3.01	2.99
B	3.05	2.95

 - Results of both the students are neither accurate nor precise
 - Results of student A are both precise and accurate
 - Results of student B are neither precise nor accurate
 - Results of student B are both precise and accurate
- What will be the molarity of a solution, which contains 5.85 g of NaCl (s) per 500 mL?
 - 4 mol L^{-1}
 - 20 mol L^{-1}
 - 0.2 mol L^{-1}
 - 2 mol L^{-1}
- Number of atoms in 55.85 gram Fe (at. wt. of $\text{Fe} = 55.85 \text{ g mol}^{-1}$) is
 - Twice that 60 g carbon
 - 6.023×10^{22}
 - Half that in 8g He
 - $5558.5 \times 6.023 \times 10^{23}$
- Neon has two isotopes Ne^{20} and Ne^{22} . If atomic weight of Neon is 20.2, the ratio of the relative abundances of the isotopes is
 - 1 : 9
 - 9 : 1
 - 70 %
 - 80 %
- The total weight of 10^{22} molecular units of $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ is nearly
 - 4.144 g
 - 5.5 g
 - 24.95 g
 - 41.45 g
- The number of Cl^- and Ca^{+2} ions in 222g. of CaCl_2 are
 - 4N, 2N
 - 2N, 4N
 - 1N, 2N
 - 2N, 1N
- The empirical formula of a gaseous compound is ' CH_2 '. The density of the compound is 1.25 gm/lit. at S.T.P. The molecular formula of the compound is 'X'
 - C_2H_4
 - C_3H_6
 - C_6H_{12}
 - C_4H_8
- If 500 mL of a 5 M solution is diluted to 1500 mL, what will be the molarity of the solution obtained?
 - 1.5 M
 - 1.66 M
 - 0.017 M
 - 1.59 M
- The number of atoms present in one mole of an element is equal to Avogadro number. Which of the following element contains the greatest number of atoms?
 - 4 g He
 - 46 g Na
 - 0.40 g Ca
 - 12 g He
- The empirical formula of an organic compound is CH_2O . Its vapour density is 45. The molecular formula of the compound is
 - CH_2O
 - $\text{C}_2\text{H}_4\text{O}_2$
 - $\text{C}_3\text{H}_6\text{O}_3$
 - $\text{C}_6\text{H}_{12}\text{O}_6$
- 0.132 g of an organic compound gave 50 ml of N_2 at NTP. The weight percentage of nitrogen in the compound is close to
 - 15
 - 20
 - 48.9
 - 47.34
- 0.7 moles of potassium sulphate is allowed to react with 0.9 moles of barium chloride in aqueous solutions. The number of moles of the substance precipitated in the reaction is
 - 1.4 moles of potassium chloride
 - 0.7 moles of barium sulphate
 - 1.6 moles of potassium chloride
 - 1.6 moles of barium sulphate
- The number of moles of Fe_2O_3 formed when 0.5 moles of O_2 and 0.5 moles of Fe are allowed to react are
 - 0.25
 - 0.5
 - 1/3
 - 0.125
- Amount of oxalic acid required to prepare 250ml of N/10 solution (MW of oxalic acid = 126) is
 - 1.5759 g
 - 3.15 g
 - 15.75 g
 - 63.0 g

Some Basic Concepts of Chemistry

18. The composition of compound A is 40% X and 60% Y. The composition of compound B is 25% X and 75% Y. According to the law of multiple Proportions the ratio of the weight of element Y in compounds A and B is:
a. 1:2 b. 2 : 1
c. 2 : 3 d. 3 : 4
19. If the concentration of glucose ($C_6H_{12}O_6$) in blood is 0.9 g L^{-1} , what will be the molarity of glucose in blood?
a. 5 M b. 50 M
c. 0.005 M d. 0.5 M
20. What will be the molarity of the solution containing 18.25 g of HCl gas in 500 g of water?
a. 0.1 m b. 10 m
c. 0.5 m d. 1 m
21. Increasing order of number of moles of the species
i. 3 grams of NO
ii. 8.5 grams of PH_3 and
iii. 8 grams of methane is
a. i, ii, iii b. iii, ii, i
c. i, iii, ii d. ii, iii, i
22. The number of molecules present in $1.12 \times 10^{-7} \text{ cc}$ of a gas at STP is
a. 6.02×10^{23} b. 3.01×10^{12}
c. 6.02×10^{12} d. 3.01×10^{23}
23. From 320 mg. of O_2 , 6.023×10^{20} molecules are removed, the no. of moles remained are
a. 9×10^{-3} moles b. 9×10^{-2} moles
c. Zero d. 3×10^{-3} moles
24. An oxide of nitrogen has a molecular weight 92. Find the total number of electrons in one gram mole of that oxide.
a. 4.6 N b. 46 N
c. 23 N d. 2.3 N
25. No. of moles of water in 488.6 gms of $BaCl_3 \cdot 2H_2O$ are (molecular weight of $BaCl_3 \cdot 2H_2O = 244.33$)
a. 2 moles b. 4 moles
c. 3 moles d. 5 moles
26. One mole of any substance contains 6.022×10^{23} atoms/molecules. Number of molecules of H_2SO_4 present in 100 mL of 0.02 M H_2SO_4 solution is:
a. 12.044×10^{20} molecules
b. 6.022×10^{23} molecules
c. 1×10^{23} molecules
d. 12.044×10^{23} molecules
27. Given the numbers, 161 cm, 0.161 cm, 0.0161 cm. The number of significant figures for the three numbers is:
a. 3, 4 and 5, respectively
b. 3, 4 and 4, respectively
c. 3, 3 and 4, respectively
d. 3, 3 and 3, respectively
28. A certain compound contains magnesium, carbon and Nitrogen in the mass ratio 12 : 12 : 14. The formula of the compound is
a. MgCN b. Mg_2CN
c. $MgCN_2$ d. $Mg(CN)_2$
29. An oxide of nitrogen contains 36.8% by weight of nitrogen. The formula of the compound is
a. N_2O b. N_2O_3
c. NO d. NO_2
30. 40 ml. of a hydrocarbon undergoes combustion in 260 ml of oxygen and gives 160 ml of carbon dioxide. If all gases are measured under similar conditions of temperature and pressure, the formula of hydrocarbon is
a. C_3H_8 b. C_4H_8
c. C_6H_{14} d. C_4H_{10}
31. The mass of Hydrogen at S.T.P. that is present in a vessel which can hold 4 grams of oxygen under similar conditions is
a. 1 gram b. 0.5 grams
c. 0.25 gms. d. 0.125 gm
32. Which of the following solutions has the highest normality?
a. 172 milli equivalents in 200 ml
b. 84 milli equivalents in 100 ml
c. 275 milli equivalents in 250 ml
d. 43 milli equivalents in 60 ml
33. What volume of 75 % H_2SO_4 by mass is required to prepare 1.5 litres of 0.2 M H_2SO_4 ? (Density of the sample is 1.8 g/cc)
a. 14.2c.c b. 28.4c.c
c. 21.7c.c d. 7.1 c.c
34. The empirical formula and molecular mass of a compound are CH_2O and 180 g respectively. What will be the molecular formula of the compound?
a. $C_9H_{18}O_9$ b. CH_2O
c. $C_6H_{12}O_6$ d. $C_2H_4O_2$
35. If the density of a solution is 3.12 g mL^{-1} , the mass of 1.5 mL solution in significant figures is:
a. 4.7 g b. $4680 \times 10^{-3} \text{ g}$
c. 4.680 g d. 46.80 g
36. 4.9 grams of H_2SO_4 is present in 100 ml of the solution, then its molarity and normality are
a. 1, 0.5 b. 1, 1
c. 0.5, 1 d. 0.5, 2
37. In order to prepare one litre normal solution of $KMnO_4$, how many grams of $KMnO_4$ required if the solution is to be used in acidic medium for oxidation
a. 158 b. 79
c. 31.6 d. 790
38. 50 gm of sample of sodium hydroxide required for complete neutralisation, 1L 1N HCl. What is the percentage purity of NaOH is
a. 50 b. 60
c. 70 d. 80

39. Which of the following statements is correct about the reaction given below?



- a. Total mass of iron and oxygen in reactants = total mass of iron and oxygen in product therefore it follows law of conservation of mass
- b. Total mass of reactants = total mass of product, therefore, law of multiple proportions is followed
- c. Amount of Fe_2O_3 can be increased by taking any one of the reactants (iron or oxygen) in excess
- d. Amount of Fe_2O_3 produced will decrease if the amount of any one of the reactants (iron or oxygen) is taken in excess

40. Which of the following statements indicates that law of multiple proportion is being followed?

- a. Sample of carbon dioxide taken from any source will always have carbon and oxygen in the ratio 1 : 2
- b. Carbon forms two oxides namely CO_2 and CO , where masses of oxygen which combine with fixed mass of carbon are in the simple ratio 2 : 1
- c. When magnesium burns in oxygen, the amount of magnesium taken for the reaction is equal to the amount of magnesium in magnesium oxide formed
- d. At constant temperature and pressure, 200 mL of hydrogen will combine with 100 mL oxygen to produce 200 mL of water vapour

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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