

Chemistry class 11th Important Questions

Q1. . A measured temperature on Fahrenheit scale is 200°F. What will this reading be on Celsius scale?
 (a) 40°C (b) 94°C (c) 93.3°C (d) 30°C

Q2. If 500 mL of a 5 M solution is diluted to 1500 mL, what will be the molarity of the solution obtained?
 (a) 1.5 M (b) 1.6 M (c) 0.017 M (d) 1.59 M

Q3. A hydrocarbon was found to contain 75% by mass of carbon and 25% by mass of hydrogen. What is empirical formula of the compound?

- (a) C₂H₄
- (b) C₂H₆
- (c) CH₄
- (d) C₆H₆

Q4. The number of significant figures in 0.001620 are

- (a) 4
- (b) 3
- (c) 6
- (d) 2

Q5. Which of the following measurement is more precise?

- (a) 4.0
- (b) 4.00
- (c) 4.000
- (d) 4.0000

Q6. What is mass percent silicon in 100 g of sodium silicate, Na₂SiO₃? [Na = 23, Si = 28, O = 16u]

- (a) 16.7%
- (b) 23.0%
- (c) 28.0%
- (d) 82.0 %

Q7. The number of carbon atoms in 1 mole or exactly 12.0 g of C-12 is called

- (a) Faraday constant
- (b) Avogadro's constant
- (c) Rydberg constant
- (d) None of these

Q8. Which of the following terms are unit less?

- (a) Molality
- (b) Molarity
- (c) Mole fraction
- (d) Density

Q9 30 % aqueous solution of glucose (Molar mass 180 g/ml) by mass. The mole fraction of glucose is equal to

- (a) 0.06 (b) 0.041 (c) 0.02 (d) 0.08

Q10.

The molarity of NaOH in the solution prepared by dissolving 4g of in enough water to form 250 ml of solution is

- (a) 0.2 M
- (b) 0.1 M
- (c) 0.4 M
- (d) 0.8 M

Q11. The empirical formula and molecular mass of a compound are CH₂O and 180g respectively. What will be the molecular formula of the compound?

- (a) C₉H₁₈O₉ (b) CH₂O (c) C₆H₂O₆ (d) C₂H₄O₂

Q12.

An organometallic compound on analysis was found to contain, C = 64.4%, H = 5.5% and Fe = 29.9%.

Determine its empirical formula (At. mass of Fe = 56 u).

Ans :

Q13.

1 M solution of NaNO₃ has density 1.25 g cm⁻³. Calculate its molality. (Mol. weight of NaNO₃ = 85 g mol⁻¹)

Ans:

Q14.

The density of 3 molal solution of NaOH is 1.110 g ml^{-1}

¹. Calculate the molarity of the solution.

Ans:

Q15:

If 4 g of NaOH dissolves in 36 g of H_2O , calculate the mole fraction of each component in the solution.

Also, determine the molarity of solution (specific gravity of solution is 1 g mL^{-1}).

Q16.

Calculate the amount of carbon dioxide that could be produced when

- I. 1 mole of carbon is burnt in air.
- II. 1 mole of carbon is burnt in 16 g of dioxygen
- III. 2 moles of carbon are burnt in 16 g of dioxygen.

Ans:

Q17:

- (i) What is limiting reactant?
- (ii) Oxygen is prepared by catalytic decomposition of potassium chlorate (KClO_3). Decomposition of potassium chlorate gives potassium chloride (KCl) and oxygen (O_2). If 2.4 mol of oxygen is needed for an experiment, how many grams of potassium chlorate must be decomposed? (At. mass of K = 39, Cl=35.5, O = 16)

Q18.

The reactant which is entirely consumed in reaction is known as limiting reagent. In the reaction $2A + 4B \rightarrow 3C + 4D$, when 5 moles of A react with 6 moles of B, then

(i) which is the limiting reagent? (ii) Calculate the amount of C formed.

Ans:

Q20:

Calculate the average atomic mass of hydrogen using the following data :

Isotope % Natural abundance Molar mass

${}^1_1\text{H}$ 99.985 ${}^2_1\text{H}$ 0.015

Vimp.Q21:

Calcium carbonate reacts with aqueous HCl to give CaCl_2 and CO_2 according to the reaction given below:
 $\text{CaCO}_3(\text{s}) + 2\text{HCl}(\text{aq}) \rightarrow \text{CaCl}_2(\text{aq}) + \text{CO}_2(\text{g}) + \text{H}_2\text{O}(\text{l})$
What mass of CaCl_2 will be formed when 250 ml of 0.76 M HCl reacts with 1000 g of CaCO_3 ? Name the limiting reagent. Calculate the number of moles of CaCl_2 formed in the reaction.

Ans :