

## Chemistry class 11<sup>th</sup> 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)  $C_2H_4$   
(b)  $C_2H_6$   
(c)  $CH_4$   
(d)  $C_6H_6$

**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,  $Na_2SiO_3$ ? [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  $CH_2O$  and 180g respectively. What will be the molecular formula of the compound?  
(a)  $C_9H_{18}O_9$  (b)  $CH_2O$  (c)  $C_6H_2O_6$  (d)  $C_2H_4O_2$

**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  $NaNO_3$  has density 1.25 g  $cm^{-3}$ . Calculate its molality. (Mol. weight of  $NaNO_3$  = 85 g  $mol^{-1}$ )

Ans:

**Q14.**

The density of 3 molal solution of NaOH is 1.110 g ml<sup>-1</sup>.

i. Calculate the molarity of the solution.

Ans:

**Q15:**

If 4 g of NaOH dissolves in 36 g of H<sub>2</sub>O, calculate the mole fraction of each component in the solution.

Also, determine the molarity of solution (specific gravity of solution is 1g mL<sup>-1</sup>).

**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<sub>3</sub>).

Decomposition of potassium chlorate gives potassium chloride (KCl) and oxygen (O<sub>2</sub>). 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

${}_1H^1$  99.985  ${}_1H^2$  0.015

**Vimp. Q21:**

Calcium carbonate reacts with aqueous HCl to give  $CaCl_2$  and  $CO_2$  according to the reaction given below:



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 :