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**CHEMISTRY**

**1. Classify following as pure substances and mixtures – Air, glucose, gold, sodium and milk.**

**2. What is the difference between precision and accuracy?**

**3. Define one atomic mass unit (amu).**

**4. What is the value of one mole?**

**5. At NTP, what will be the volume of molecules of 6.023 x 1023 H2?**

**6. 1L of a gas at STP weighs 1.97g. What is molecular mass?**

**7. The substance which gets used up in any reaction is called --------------**

**8. What is 1molal solution?**

**9. How can we say that sugar is solid and water is liquid?**

**10.**What will be the mass of one atom of C-12 in grams?

**11.**  If 4 g of NaOH dissolves in 36 g of H2O, calculate the mole fraction of each component in the solution. Also, determine the molarity of solution (specific gravity of solution is 1g ml-1)

**12.** In the reaction 2A + 4B → 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?

13. Match the following:

| **(i) 88 g of CO₂** | **(a) 0.25 mol** |
| --- | --- |
| **(ii) 6.022 x 1023 molecules of H2O** | **(b) 2 mol** |
| **(iii) 5.6 litres of O, at STP** | **(c)1 mol** |
| **(iv) 96 g of O** | **(d) 6.022 x 1023 molecules** |
| **(v) 1 mol of any gas** | **(e) 3 mol** |

14. Calcium carbonate reacts with aqueous HCl to give CaCl2 and CO2 according to the reaction given below:

CaCO3 (s) + 2HCl (aq) → CaCl2(aq) + CO2(g) + H2O(l)

What mass of CaCl2 will be formed when 250 mL of 0.76 M HCI reacts with 1000 g of CaCO3? Name the limiting reagent. Calculate the number of moles of CaCl2 formed in the reaction.

15. **Calculate molecular mass of –**

**a.C2H6 b.C12H22O11 c.H2SO4 d. H3PO4**