a) C_2H_6 b) H_2O_v

c) N_2 d) CH_4

10. An inorganic compound Y $Ba_2Cu_3O_7$ is used as semiconductor. It is prepared from Y_7O_3, BaO_2, and CuO. The ratio of their mole in one mole of Y $Ba_2Cu_3O_7$ is: **[4]**

a) 1 : 4 : 6 b) 3 : 2 : 1

c) 1 : 2 : 4 d) 1 : 2 : 3

11. 4.4 g of N_2O occupies 1.23 litre at 2 atm and 27°C. The volume occupied by same mass of CO_2 at 2 atm and 27°C is: **[4]**

a) 1.12 litre b) 2.24 litre

c) 1.23 litre d) 2.46 litre

12. The mass of KI in grams required to prepare 5.00×10^2 mL of a 2.80 M solution is: **[4]**

a) 139.6 g b) 444 g

c) 292.8 g d) 232.4 g

13. V_1 mL of aM HCl and V_2 mL of bM HCl are mixed to produce M, HCl. Again V_2 mL of aM HCl and V_1 mL of M HCl are mixed to produce M_2HCl. If $\frac{v_1}{V_2} > 1$. and $\frac{V_1}{V_2} = \frac{a}{b}$ and $\frac{M_1}{M_2} = \frac{5}{4}$, then the ratio $\frac{V_1}{V_2}$ is equal to: **[4]**

a) 1 : 2 b) 4 : 1

c) 2 : 1 d) 3 : 1

14. Calculate the percentage of water of crystallization in washing soda $Na_2CO_3 \cdot 10H_2O$: **[4]**

a) 80 b) 32

c) 63 d) 75

15. Mass of 70% (by mass) H_2SO_4 solution required for neutralisation of 1 mol of NaOH is: **[4]**

a) 70 g b) 35 g

c) 90 g d) 50 g

16. Under identical conditions of pressure and temperature, 9.9 mL of a diatomic gas X_2 and 3.3 mL of a diatomic gas Y_2 react completely to produce 6.6 mL of a gaseous product. Using Avogadro law determine the molecular formula of the product. **[4]**

a) XY b) X_3Y

c) XY_3 d) X_2Y

17. The equivalent mass of an element in its two different states are 21 and 14 respectively. Its atomic mass may be: **[4]**

a) 120 b) 35

c) 42 d) 70

[4]

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