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Name:			Roll No.		Subject	Chemistry
Test Type	Only Exercise MCQs		Class	11th	Date	
Chapter	04		Unit	04	Time	

Q. No. 1: Multiple Choice Questions (MCQs)

I. Which one of the following statements is incorrect?

a) One mole of nitrogen gas contains Avogadro's number of molecules

b) One mole of ozone gas contains Avogadro's number of molecules

c) One mole of ozone contains Avogadro's number of O atoms

d) One mole of hydrogen gas contains Avogadro's number of molecules

II. Which one of the following has greatest mass?

a) 0.5 mol of N_2 b) 0.5 mol of NH_3 c) 0.5 mol of He   d) 0.5 mol of CO_2

III. Which one of the following gases will have greatest volume at STP?

a) 22 g of CO_2 b) 88 g of N_2O c) 28 g of CO   d) 28 g of N_2

IV. Which of the following contains same number of particles as present in 12 g of carbon?

a) 28 g of iron (Atomic mass of Fe = 56)   b) 48 g of magnesium (Atomic mass of Mg = 24)

c) 32 g of S_8 molecules (Atomic mass S = 32)   d) 40 g of carbon dioxide (Molar mass of CO_2 = 44)

V. Volume at STP of 22 g of CO_2 is same as that of:

a) 2 g of hydrogen   b) 8.5 g of NH_3 c) 64 g of gaseous SO_2 d) 7 g of CO

VI. 4.0 g of NaOH (molar mass 40 g mol⁻¹) contains same number of sodium ions as are present in:

a) 10.6 g of Na_2CO_3 (molar mass 106)   b) 58.5 g of NaCl (molar mass 58.5)

c) 76 g of Na_2SO_4 (formula mass 142)   d) 8.5 g of $NaNO_3$ (molar mass 85)

VII. A container holds 0.5 moles of an ideal gas at STP. What is the volume of the gas in dm³?

a) 11.2 dm³   b) 22.4 dm³   c) 44.8 dm³   d) 12.2 dm³

VIII. A solution contains 4.0 g of sodium hydroxide (NaOH, molar mass = 40.0 g mol⁻¹) in 250 cm³ of solution. What is the molar concentration of this solution?

a) 0.10 mol dm⁻³   b) 0.20 mol dm⁻³   c) 0.40 mol dm⁻³   d) 0.80 mol dm⁻³

IX. A solution contains 10.0 g of an unknown solute in 250 cm³ of solution. If the molar concentration of the solution is 0.20 mol dm⁻³, what is the molar mass of the solute?

a) 50 g mol⁻¹   b) 100 g mol⁻¹   c) 200 g mol⁻¹   d) 400 g mol⁻¹

X. A sample of nitrogen gas (N_2, molar mass = 28.0 g mol⁻¹) has a mass of 14.0 g. How many nitrogen atoms are present in this sample?

a) 3.01×10^{23} atoms   b) 6.02×10^{23} atoms   c) 1.20×10^{24} atoms   d) 2.40×10^{24} atoms

XI. A gas has a density of 1.43 g dm⁻³ at STP. What is the molar mass of the gas?

(Molar volume at STP = 22.4 dm³ mol⁻¹)

a) 14.3 g mol⁻¹   b) 22.4 g mol⁻¹   c) 32.0 g mol⁻¹   d) 64.0 g mol⁻¹

XII. A gas has a density of 1.96 g dm⁻³ at STP (0 °C and 1.00 atm). What is its molecular mass?

(Molar volume at STP = 22.4 dm³ mol⁻¹)

a) 11.2 g mol⁻¹   b) 22.4 g mol⁻¹   c) 44.0 g mol⁻¹   d) 88.0 g mol⁻¹