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NEET SOME BASIC CONCEPTS OF CHEMISTRY — STOICHIOMETRY AND STOICHIOMETRIC CALCULATIONS — PYQS

Max. Marks: 56 **Questions:** 14

Section A (MCQ) — 14 questions

Q.1 When 1 dm^3 of CO_2 gas is passed over hot coke, the volume of gaseous mixture after complete reaction at STP becomes 1.4 dm^3. The composition of the gaseous mixture at STP is : [NEET (UG) 2026]

(1) 0.6 dm^3 of CO, 0.8 dm^3 of CO_2
(2) 0.8 dm^3 of CO, 0.8 dm^3 of CO_2
(3) 0.6 dm^3 of CO, 0.4 dm^3 of CO_2
(4) 0.8 dm^3 of CO, 0.6 dm^3 of CO_2

Scan or tap for the full solution

Q.2 The amount of carbon dioxide evolved upon complete combustion of 116 g of n-butane is (Given: atomic mass in amu H = 1, C = 12 and O = 16) [RE-NEET (UG) 2026]

(1) 362 g (2) 352 g (3) 322 g (4) 176 g

Scan or tap for the full solution

Q.3 1 gram of sodium hydroxide was treated with 25 mL of 0.75 M HCl solution, the mass of sodium hydroxide left unreacted is equal to [NEET (UG) 2024]

(1) 750 mg (2) 250 mg (3) Zero mg (4) 200 mg

Scan or tap for the full solution

Q.4 The number of moles of hydrogen molecules required to produce 20 moles of ammonia through Haber's process is : [NEET (UG) 2019]

(1) 10 (2) 20 (3) 30 (4) 40

Scan or tap for the full solution

Q.5 A mixture of 2.3 g formic acid and 4.5 g oxalic acid is treated with conc. H_2SO_4. The evolved gaseous mixture is passed through KOH pellets. Weight (in g) of the remaining product at STP will be [NEET 2018]

(1) 1.4 (2) 3.0 (3) 2.8 (4) 4.4

Scan or tap for the full solution

Q.6 What is the mass of the precipitate formed when 50 mL of 16.9% solution of $AgNO_3$ is mixed with 50 mL of 5.8% NaCl solution ? (Ag = 107.8, N = 14, O = 16, Na = 23, Cl = 35.5) [AIPMT 2015]

(1) 3.5 g (2) 7 g (3) 14 g (4) 28 g

Scan or tap for the full solution

Q.7 When 22.4 litres of $H_{2(g)}$ is mixed with 11.2 litres of $Cl_{2(g)}$, each at S.T.P. the moles of $HCl_{(g)}$ formed is equal to [AIPMT 2014]

(1) 1 mol of $HCl_{(g)}$ (2) 2 mol of $HCl_{(g)}$
(3) 0.5 mol of $HCl_{(g)}$ (4) 1.5 mol of $HCl_{(g)}$

Scan or tap for the full solution

Q.8 1.0 g of magnesium is burnt with 0.56 g O_2 in a closed vessel. Which reactant is left in excess and how much ? (At. wt. Mg = 24, O = 16) [AIPMT 2014]

(1) Mg, 0.16 g (2) O_2, 0.16 g
(3) Mg, 0.44 g (4) O_2, 0.28 g

Scan or tap for the full solution

Q.9 In an experiment it showed that 10 mL of 0.05 M solution of chloride required 10 mL of 0.1 M solution of $AgNO_3$, which of the following will be the formula of the chloride (X stands for the symbol of the element other than chlorine) [NEET 2013 (Karnataka)]

(1) X_2Cl_2 (2) XCl_2 (3) XCl_4 (4) X_2Cl

Scan or tap for the full solution

Q.10 10 g of hydrogen and 64 g of oxygen were filled in a steel vessel and exploded. Amount of water produced in this reaction will be [AIPMT 2009]

(1) 3 mol (2) 4 mol (3) 1 mol (4) 2 mol

Scan or tap for the full solution

Q.11 Volume of CO_2 obtained by the complete decomposition of 9.85 g of $BaCO_3$ is [AIPMT 2000]

(1) 2.24 L (2) 1.118 L (3) 0.84 L (4) 0.56 L

Scan or tap for the full solution

Q.12 What volume of oxygen gas (O_2) measured at 0°C and 1 atm, is needed to burn completely 1 L of propane gas (C_3H_8) measured under the same conditions? [AIPMT 2008]

(1) 5 L (2) 10 L (3) 7 L (4) 6 L

Scan or tap for the full solution

Q.13 How many moles of lead (II) chloride will be formed from a reaction between 6.5 g of PbO and 3.2 g of HCl? [AIPMT 2008]

(1) 0.011 (2) 0.029 (3) 0.044 (4) 0.333

Scan or tap for the full solution

Q.14 In Haber process 30 litres of dihydrogen and 30 litres of dinitrogen were taken for reaction which yielded only 50% of the expected product. What will be the composition of gaseous mixture under the aforesaid condition in the end ? [AIPMT 2003]

(1) 20 litres ammonia, 20 litres nitrogen, 20 litres hydrogen

(2) 10 litres ammonia, 25 litres nitrogen, 15 litres hydrogen

(3) 20 litres ammonia, 10 litres nitrogen, 30 litres hydrogen

(4) 20 litres ammonia, 25 litres nitrogen, 15 litres hydrogen

Scan or tap for the full solution

ANSWER KEY

Ques.	1	2	3	4	5	6	7	8	9	10	11
Ans.	**4**	**2**	**2**	**3**	**3**	**2**	**1**	**1**	**2**	**2**	**2**
Ques.	12	13	14								
Ans.	**1**	**2**	**2**								