

|          |                        |          |    |        |                      |
|----------|------------------------|----------|----|--------|----------------------|
| NAME:    |                        | ROLL NO: |    | TIME:  | 15: MIN              |
| SUB:     | Chemistry              | Date:    |    | CLASS: | 1 <sup>st</sup> Year |
| SYLLABUS | Chp. 4 (Stoichiometry) | T. MARKS | 12 | OBT. M |                      |

**Q. 1 Choose the Correct Answer. Cutting, Erasing, Double Selection is Strictly Prohibited. (1x12=12)**

**1. 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

**2. Which one of the following has greatest mass?**

- (A) 0.5 mol of N<sub>2</sub>      (B) 0.5 mol of NH<sub>3</sub>      (C) 0.5 mol of He      (D) 0.5 mol of CO<sub>2</sub>

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

- (A) 22 g of CO<sub>2</sub>      (B) 88 g of N<sub>2</sub>O      (C) 28 g of CO      (D) 28 g of N<sub>2</sub>

**4. Which one 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<sub>8</sub> molecules (Atomic mass S = 32)      (D) 40 g of carbon monoxide (molar mass of CO = 28)

**5. Volume at S.T.P of 22 g of CO<sub>2</sub> is same as that of:**

- (A) 2 g of hydrogen      (B) 8.5 g of NH<sub>3</sub>      (C) 64 g of gaseous SO<sub>2</sub>      (D) 7 g of CO

**6. 4.0 g of NaOH (molar mass 40 g mol<sup>-1</sup>) contains same number of sodium ions as are present in:**

- (A) 10.6 g of Na<sub>2</sub>CO<sub>3</sub>, (molar mass 106)      (B) 58.5 g of NaCl (molar mass 58.5)  
 (C) 76 g Na<sub>2</sub>SO<sub>4</sub> (formula mass 142)      (D) 85 g of NaNO<sub>3</sub> (molar mass 85)

**7. A container holds 0.5 moles of an ideal gas at STP. What is the volume of the gas in dm<sup>3</sup>?**

- (A) 11.2 dm<sup>3</sup>      (B) 22.4 dm<sup>3</sup>      (C) 44.8 dm<sup>3</sup>      (D) 12.2 dm<sup>3</sup>

**8. A solution contains 4.0 g of sodium hydroxide (NaOH, molar mass = 40.0 g mol<sup>-1</sup>) in 250 cm<sup>3</sup> of solution. What is the molar concentration of this solution?**

- (A) 0.10 mol dm<sup>-3</sup>      (B) 0.20 mol dm<sup>-3</sup>      (C) 0.40 mol dm<sup>-3</sup>      (D) 0.80 mol dm<sup>-3</sup>

**9. A solution contains 10.0 g of an unknown solute in 250 cm<sup>3</sup> of solution. If the molar concentration of the solution is 0.20 mol dm<sup>-3</sup>, what is the molar mass of the solute?**

- (A) 50 g mol<sup>-1</sup>      (B) 100 g mol<sup>-1</sup>      (C) 200 g mol<sup>-1</sup>      (D) 400 g mol<sup>-1</sup>

**10. A sample of nitrogen gas (N<sub>2</sub>, molar mass = 28.0 g mol<sup>-1</sup>) has a mass of 14.0 g. How many nitrogen atoms are present in this sample?**

- (A) 3.01 x 10<sup>23</sup> atoms      (B) 6.02 x 10<sup>23</sup> at  
 (C) 1.20 x 10<sup>24</sup> atoms      (D) 2.40 x 10<sup>24</sup> atoms

**11. A gas has density of 1.43 gdm<sup>-3</sup> at STP. What is the molar mass of the gas? (Molar volume at STP = 22.4 dm<sup>3</sup> mol<sup>-1</sup>)**

- (A) 14.3 g mol<sup>-1</sup>      (B) 22.4 g mol<sup>-1</sup>      (C) 32.0 g mol<sup>-1</sup>      (D) 64.0 g mol<sup>-1</sup>

**12. A gas has a density of 1.96 gdm<sup>-3</sup> at STP (0°C and 1.00 atm). What is its molecular mass? (Molar volume at STP = 22.4 dm<sup>3</sup> mol<sup>-1</sup>)**

- (A) 11.2 g mol<sup>-1</sup>      (B) 22.4 g mol<sup>-1</sup>      (C) 44.0 g mol<sup>-1</sup>      (D) 88.0 g mol<sup>-1</sup>



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1<sup>ST</sup> YEAR SOLVED EXERCISE MCQs



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## Answer Key

|   |   |    |   |    |   |    |   |
|---|---|----|---|----|---|----|---|
| 1 | C | 2  | D | 3  | D | 4  | D |
| 5 | B | 6  | A | 7  | A | 8  | C |
| 9 | C | 10 | B | 11 | C | 12 | C |