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## Chemistry Class-11: Chapter – 1. Some Basic Concepts of Chemistry – Part-3 (For CBSE, ICSE, IAS, NET, NRA 2022)

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### **II. Multiple Choice Questions (Type-II)**

**In the following questions two or more options may be correct.**

#### **Question-16:**

One mole of oxygen gas at STP is equal to \_\_\_\_\_.

- (i)  $6.022 \times 10^{23}$  molecules of oxygen
- (ii)  $6.022 \times 10^{23}$  atoms of oxygen
- (iii) 16g of oxygen
- (iv) 32g of oxygen

**Answer: (i, iv)**

#### **Question-17:**

Sulphuric acid reacts with sodium hydroxide as follows:



When 1 L of 0.1 M sulphuric acid solution is allowed to react with 1 L of 0.1 M sodium hydroxide solution, the amount of sodium sulphate formed and its molarity in the solution obtained is

- (i) 0.1 mol  $L^{-1}$
- (ii) 7.10g
- (iii) 0.025 mol  $L^{-1}$
- (iv) 3.55g

**Answer: (ii, iii)**

**Question-18:**

Which of the following pairs have the same number of atoms?

- (i) 16g of  $O_2(g)$  and 4g of  $H_2(g)$
- (ii) 16g of  $O_2$  and 44g of  $CO_2$
- (iii) 28g of  $N_2$  and 32g of  $O_2$
- (iv) 12g of  $C(s)$  and 23g of  $Na(s)$

**Answer: (iii, iv)**

**Question-19:**

Which of the following solutions have the same concentration?

- (i) 20g of NaOH in 200 mL of solution
- (ii) 0.5 mol of KCl in 200 mL of solution
- (iii) 40g of NaOH in 100 mL of solution
- (iv) 20g of KOH in 200 mL of solution

**Answer: (i, ii)**

**Question-20:**

16g of oxygen has same number of molecules as in

- (i) 16g of CO
- (ii) 28g of  $N_2$
- (iii) 14g of  $N_2$
- (iv) 1.0g of  $H_2$

**Answer: (iii, iv)**

**Question-21:**

**Which of the following terms are unitless?**

- (i) Molality
- (ii) Molarity
- (iii) Mole fraction
- (iv) Mass percent

**Answer: (iii, iv)**

**Question-22:**

One of the statements of Dalton's atomic theory is given below:

“Compounds are formed when atoms of different elements combine in a fixed ratio”

Which of the following laws is not related to this statement?

(i) Law of conservation of mass

(ii) Law of definite proportions

(iii) Law of multiple proportions

(iv) Avogadro law

**Answer: (i, iv)**

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