Class 11 Chemistry Chapter 1 Some Basic Concepts of Chemistry MCQs

1. A pure substance which contains only one type of atom is called —------------.

   (a) An element   (b) a compound
   (c) a solid   (d) a liquid

   Answer: (a) An element

   Explanation: An element is made up of only one type of atom.

2. The smallest particle that can take part in chemical reactions is —------------.

   (a) Atom   (b) molecule
   (c) Both (a) and (b)   (d) none of these

   Answer: (c) Both (a) and (b)

   Explanation: The smallest particle that can take part in chemical reactions is both an atom and a molecule.

3. Which of the following is a homogeneous mixture?

   (a) Mixture of soil and water   (b) Sugar Explanation
   (c) Mixture of sugar, salt and sand   (d) Iodised table salt

   Answer: (b) Sugar Explanation

   Explanation: Sugar Explanation is a homogeneous mixture. A homogeneous mixture is a mixture in which the composition is uniform throughout the mixture

4. The significant figures in 0.00051 are —------------.

   (a) 5   (b) 3
   (c) 2   (d) 26

   Answer: (c) 2

Explanation: The significant figures in 0.00051 are 2.

5. Formation of CO and CO_2 illustrates the law of ————.

   (a) Law of conservation of mass
   (b) Law of Reciprocal proportion
   (c) Law of Constant Proportion
   (d) Law of Multiple Proportion

   Answer: (d) Law of Multiple Proportion

   Explanation: If an element forms more than one compound with another element for a given mass of an element, masses of other elements are in the ratio of small whole numbers.

6. The number of significant figures in 6.02×10^{23} is ————.
   (a) 23   (b) 3
   (c) 4   (d) 26

   Answer: (b) 3

   Explanation: The number of significant figures in 6.02×10^{23} is 3

7. The prefix 10^{18} is ————.

   (a) giga   (b) exa   (c) kilo   (d) mega

   Answer: (b) exa

   Explanation: The prefix 10^{18} is exa

8. The mass of an atom of carbon is ————.

   (a) 1g   (b) 1.99×10^{-23} g   (c) 1/12 g   (d) 1.99×10^{23} g

   Answer: (b) 1.99×10^{-23} g

   Explanation: The mass of an atom of carbon is $\{12 / (6.02 \times 10^{23})\}$ = 1.99×10^{-23} g

9. A measured temperature on the Fahrenheit scale is 200F. What will this reading be on the Celsius Scale?

(a) 40 $^{\circ}C$ (b) 94 $^{\circ}C$ (c) 93.3 $^{\circ}C$ (d) 30 $^{\circ}C$

Answer: (c) 93.3 $^{\circ}C$

Explanation: The relationship between Fahrenheit and degree Celsius is: $(^{0}F) = 9/5 \, (^{\circ}C) + 32$.

10. Which of the following pairs of gases contains the same number of molecules?

    (a) 16 g of O_2 and 14 g of N_2 (b) 6 g of O_2 and 22 g of CO_2
    (c) 28 g of N_2 and 22 g of CO_2 (d) 32 g of CO_2 and 32g of N_2

Answer: (a) 16 g of O_2 and 14 g of N_2

Explanation: Divide the given mass by its molar mass to get moles, then multiply times 6.022×10^{23} to get the number of molecules.