

Some Basic Concepts of chemistry

Set 3

Q101. The percentage of oxygen in H_2SO_4 is:

- a) 32.7%
- b) 65.3%
- c) 50%
- d) 75%

Answer: b) 65.3%

Q102. The percentage of nitrogen in N_2O is:

- a) 30.4%
- b) 46.6%
- c) 63.6%
- d) 70%

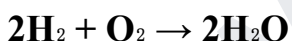
Answer: c) 63.6%

Q103. The mass of 22.4 L of N_2 gas at STP is:

- a) 14 g
- b) 28 g
- c) 32 g
- d) 44 g

Answer: b) 28 g

Q104. Which law is verified by the reaction:



- a) Law of multiple proportion
- b) Law of conservation of mass
- c) Law of definite proportion
- d) Avogadro's law

Answer: c) Law of definite proportion

Q105. The mass of 22.4 L of CO_2 at STP is:

- a) 11 g
- b) 22 g
- c) 44 g
- d) 88 g

Answer: c) 44 g

Q106. 1 mole of CaCO_3 contains how many oxygen atoms?

- a) $3 \times 6.022 \times 10^{23}$

b) 6.022×10^{23}

c) 9×10^{23}

d) 1.8×10^{24}

Answer: a) $3 \times 6.022 \times 10^{23}$

Q107. The molar mass of Na_2SO_4 is:

a) 120 g

b) 142 g

c) 106 g

d) 160 g

Answer: b) 142 g

Q108. Mass of 1 mole of Fe is:

a) 56 g

b) 28 g

c) 112 g

d) 26 g

Answer: a) 56 g

Q109. The molecular formula of urea is:

a) $\text{CH}_4\text{N}_2\text{O}$

b) NH_2COOH

c) CH_2O

d) CH_3COOH

Answer: a) $\text{CH}_4\text{N}_2\text{O}$

Q110. Molar mass of glucose is:

a) 160 g

b) 180 g

c) 200 g

d) 120 g

Answer: b) 180 g

Q111. The molecular mass of H_2SO_4 is:

a) 98 g/mol

b) 96 g/mol

c) 100 g/mol

d) 90 g/mol

Answer: a) 98 g/mol

Q112. Which of the following is a triatomic molecule?

a) O_3

b) N_2

c) H_2

d) He

Answer: a) O_3

Q113. Which of the following is a polyatomic ion?

a) Na^+

b) OH^-

c) Cl^-

d) K^+

Answer: b) OH^-

Q114. Normality is defined as:

a) gram equivalent solute / L of solution

b) gram solute / L of solution

c) moles solute / L of solution

d) mass solute / L of solution

Answer: a) gram equivalent solute / L of solution

Q115. Which of the following is a correct SI unit?

a) g/L

b) mol/L

c) mol/kg

d) kg/L

Answer: c) mol/kg

Q116. Which of the following is a non-SI unit?

a) Pascal

b) Joule

c) Erg

d) Kelvin

Answer: c) Erg

Q117. Which law is applied in gravimetric analysis?

a) Law of definite proportion

b) Law of multiple proportion

c) Law of conservation of mass

d) Avogadro's law

Answer: a) Law of definite proportion

Q118. SI unit of density is:

a) g/cm^3

b) kg/m^3

c) g/L

d) mol/L

Answer: b) kg/m³

Q119. Avogadro's law states that equal volumes of gases at STP contain:

a) Equal masses

b) Equal number of atoms

c) Equal number of molecules

d) Equal density

Answer: c) Equal number of molecules

Q120. The SI unit of molar volume is:

a) L/mol

b) m³/mol

c) cm³/mol

d) g/mol

Answer: b) m³/mol

Q121. Mass of 2 moles of NaOH is:

a) 20 g

b) 40 g

c) 80 g

d) 60 g

Answer: c) 80 g

Q122. Mass of 0.2 mol of CO₂ is:

a) 4.4 g

b) 8.8 g

c) 11 g

d) 22 g

Answer: b) 8.8 g

Q123. Number of molecules in 0.5 mol of O₂ is:

a) 3.011×10^{23}

b) 6.022×10^{23}

c) 12.044×10^{23}

d) 1.204×10^{24}

Answer: a) 3.011×10^{23}

Q124. Volume occupied by 0.25 mol of gas at STP is:

a) 11.2 L

b) 5.6 L

c) 22.4 L

d) 44.8 L

Answer: b) 5.6 L

Q125. Number of atoms in 2 moles of H_2 is:

a) 6.022×10^{23}

b) 1.204×10^{24}

c) 2.408×10^{24}

d) 12.044×10^{23}

Answer: c) 2.408×10^{24}

Q126. Moles of N_2 in 14 g are:

a) 0.25 mol

b) 0.5 mol

c) 1 mol

d) 2 mol

Answer: b) 0.5 mol

Q127. Mass of 0.5 mol of CH_4 is:

a) 8 g

b) 16 g

c) 24 g

d) 32 g

Answer: a) 8 g

Q128. Number of moles in 2 g of H_2 is:

a) 1 mol

b) 0.5 mol

c) 2 mol

d) 4 mol

Answer: a) 1 mol

Q129. Number of molecules in 44 g of CO_2 is:

a) 6.022×10^{23}

b) 3.011×10^{23}

c) 12.044×10^{23}

d) 1.204×10^{24}

Answer: a) 6.022×10^{23}

Q130. Mass of 1 mole of NaCl is:

a) 50 g

b) 58.5 g

c) 60 g

d) 100 g

Answer: b) 58.5 g

Q131. Number of atoms in 23 g of Na is:

a) 3.011×10^{23}

b) 6.022×10^{23}

c) 12.044×10^{23}

d) 1.204×10^{24}

Answer: b) 6.022×10^{23}

Q132. Number of moles in 3.011×10^{23} molecules of H_2O is:

a) 0.25 mol

b) 0.5 mol

c) 1 mol

d) 2 mol

Answer: b) 0.5 mol

Q133. Volume occupied by 1.5 mol of gas at STP is:

a) 11.2 L

b) 22.4 L

c) 33.6 L

d) 44.8 L

Answer: c) 33.6 L

Q134. Mass of 1 mol of O_2 is:

a) 16 g

b) 32 g

c) 8 g

d) 64 g

Answer: b) 32 g

Q135. Moles of oxygen atoms in 16 g of O_2 are:

a) 1 mol

b) 2 mol

c) 0.5 mol

d) 4 mol

Answer: b) 2 mol

Q136. Mass of 0.1 mol of H_2SO_4 is:

a) 9.8 g

b) 98 g

c) 49 g

d) 19.6 g

Answer: a) 9.8 g

Q137. Number of atoms in 0.5 mol of O_2 is:

a) 3.011×10^{23}

b) 6.022×10^{23}

c) 1.204×10^{24}

d) 2.408×10^{24}

Answer: c) 1.204×10^{24}

Q138. Moles of hydrogen atoms in 18 g of H_2O is:

a) 1 mol

b) 2 mol

c) 3 mol

d) 6 mol

Answer: b) 2 mol

Q139. Number of molecules in 27 g of H_2O is:

a) 6.022×10^{23}

b) 9.033×10^{23}

c) 12.044×10^{23}

d) 1.204×10^{24}

Answer: b) 9.033×10^{23}

Q140. Mass of 0.2 mol of $NaCl$ is:

a) 11.7 g

b) 23.4 g

c) 58.5 g

d) 29.25 g

Answer: b) 11.7 g

Q141. Mass of carbon in 6 g of CO_2 is:

a) 2.4 g

b) 3 g

c) 1.2 g

d) 4 g

Answer: c) 1.2 g

Q142. Percentage of hydrogen in CH_4 is:

a) 12.5%

b) 25%

c) 50%

d) 75%

Answer: b) 25%

Q143. Percentage of sulphur in H_2SO_4 is:

a) 32.7%

b) 49%

c) 65.3%

d) 18%

Answer: a) 32.7%

Q144. Percentage of Na in Na_2CO_3 is:

a) 21.7%

b) 28.3%

c) 30%

d) 40%

Answer: b) 28.3%

Q145. Percentage of Ca in CaCO_3 is:

a) 20%

b) 30%

c) 40%

d) 50%

Answer: c) 40%

Q146. Percentage of oxygen in Al_2O_3 is:

a) 50%

b) 47%

c) 53%

d) 40%

Answer: b) 47%

Q147. Empirical formula of C_6H_{12} is:

a) CH_2

b) C_2H_4

c) C_6H_{12}

d) CH

Answer: a) CH_2

Q148. Empirical formula of benzene is:

a) C_6H_6

b) CH

c) CH_2

d) C_2H_2

Answer: b) CH

Q149. Mass of nitrogen in 44 g of N_2O is:

a) 14 g

b) 28 g

c) 42 g

d) 32 g

Answer: c) 28 g

Q150. The limiting reagent in $2\text{H}_2 + \text{O}_2 \rightarrow 2\text{H}_2\text{O}$ if 3 mol H_2 and 2 mol O_2 are taken is:

a) H_2

b) O_2

c) H_2O

d) Both reactants

Answer: a) H_2