QUIZEN – Atoms and Molecules(9C03)

Learning Level 1	***Learning Level 2***	***Learning Level 3***
Q - Remembering (knowledge-based questions) U - Understanding (comprehension-based questions)	I - Applying (application-based questions) Z - Analyzing (analysis-based questions)	*E - Evaluating (evaluation-based questions)* *N - Creating (creation-based questions)*

Learning Level 1

1. What is an ion? Give an example of a cation and an anion.
2. Define the term 'molecule.' Give an example of a diatomic molecule.
3. How is the valency of an element determined?
4. What is the difference between a molecular formula and an empirical formula?
5. What is Avogadro's number and what is its significance in chemistry?

Learning Level 2

6. Write the formula for the following compounds:
   a. Potassium chloride
   b. Aluminum oxide
   c. Nitric acid
7. Identify the molecular formula and the empirical formula of glucose ($C_6H_{12}O_6$).
8. How many atoms are present in a molecule of CO_2?
9. What is the mass of one molecule of water (H_2O)?
10. How many moles of HCl are present in 500 mL of a 2M solution of HCl?

Learning Level 3

11. A sample of a compound contains 2.3 g of hydrogen and 28.1 g of sulfur. Find the empirical formula of the compound.
12. A compound is found to have the following percentage composition: 29.09% sodium, 41.63% sulfur, and 29.28% oxygen. Find the empirical formula of the compound.
13. What is the molecular formula of a compound that has an empirical formula of CH_2O and a molar mass of 180 g/mol?
14. Write the balanced chemical equation for the reaction between zinc and hydrochloric acid to form zinc chloride and hydrogen gas.
15. How many grams of sodium chloride (NaCl) are required to prepare 500 mL of a 0.1M solution of NaCl?