QUIZEN – Basic concept of chemistry (11C01)

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. Write the balanced chemical equation for the reaction between sodium (Na) and chlorine (Cl_2) to form sodium chloride (NaCl).

2. What is the molar mass of water (H_2O)?

3. How many moles of carbon dioxide (CO_2) are produced when 2 moles of methane (CH_4) react completely with oxygen (O_2)?

4. Define the term "stoichiometry" in chemistry.

5. Calculate the percentage composition of carbon (C) in glucose ($C_6H_{12}O_6$).

Learning Level 2

6. In the reaction between sulfuric acid (H_2SO_4) and potassium hydroxide (KOH), calculate the number of moles of sulfuric acid required to neutralize 25 grams of potassium hydroxide.

7. A reaction between magnesium (Mg) and oxygen (O_2) produces magnesium oxide (MgO). If 3 moles of magnesium react with excess oxygen, how many moles of magnesium oxide will be produced?

8. A balanced chemical equation is given: 2H2 + O2 -> 2H2O. How many grams of water will be produced when 5 grams of hydrogen (H2) react completely with excess oxygen?

9. How many moles of carbon dioxide (CO2) are produced when 10 moles of ethane (C2H6) react completely with oxygen (O2)?

10. Calculate the volume of hydrogen gas (H2) produced at STP (standard temperature and pressure) when 2.5 grams of zinc (Zn) react completely with hydrochloric acid (HCl).

Learning Level 3

11. Define the term "limiting reagent" in a chemical reaction.

12. In a reaction, 8 moles of sulfur (S) react with 16 moles of oxygen (O2). Which one is the limiting reagent? Calculate the moles of sulfur dioxide (SO2) formed.

13. What is the excess reagent in a chemical reaction?

14. How can you determine the limiting reagent in a given reaction?

15. Calculate the mass of water (H2O) formed when 25 grams of hydrogen (H2) reacts with 64 grams of oxygen (O2). Identify the limiting reagent.