Q.1. Which of the difference between atom and molecules? **(2 Marks)**

Q.2. Which postulate of Dalton's atomic theory can explain the law of definite proportions? **(1 Mark)**

Q. 3. Define atomic mass unit. **(1 Mark)**

Q.4. Calculate the formula unit masses of ZnO, Na_2O, K_2CO_3, given atomic masses of Zn = 65 u, Na = 23 u, K = 39 u, C = 12 u, and O = 16 u.

(3 Marks)

Q.5. A 0.24 g sample of compound of oxygen and boron was found by analysis to contain 0.096 g of boron and 0.144 g of oxygen. Calculate the percentage composition of the compound by weight. **(3 Marks)**

Q.6. When 3.0 g of carbon is burnt in 8.00 g oxygen, 11.00 g of carbon dioxide is produced. What mass of carbon dioxide will be formed when 3.00 g of carbon is burnt in 50.00 g of oxygen? Which law of chemical combination will govern your answer? **(2 Marks)**

Q.7. Write the chemical formulae of the following:
(a) Magnesium chloride
(b) Calcium oxide
(c) Copper nitrate
(d) Aluminium chloride **(2 Marks)**

Q.8. Carbon dioxide produced by action of dilute hydrochloric acid on potassium hydrogen carbonate is moist whereas that produced by heating potassium hydrogen carbonate is dry. What would be the difference in the composition of carbon dioxide in the two cases? State the associated law.

(2 Marks)

Q.9. Write the cations and anions present (if any) in the following compounds:
(a) CH_3COONa
(b) NaCl
(c) H_2
(d) NH_4NO_3 **(2 Marks)**

Q.10. Classify each of the following on the basis of their atomicity.
(a) F_2 (b) NO_2 (c) CO_3^{2-} (d) C_2H_6 (e) CO (f) H_2O_2 (g) P_4O_{10} (h) O_3 (i) HC (j) CH_4
(k) He (l) Ag **(6 Marks)**

Q.11. What are the rules for writing the symbol of an element? **(2 Marks)**

Q.12. The formula of carbon-dioxide is CO_2. What information do you get from this formula? **(2 Marks)**

Q.13. Write down the chemical formula for the following compounds:
(a) Aluminium carbonate
(b) Calcium sulphide
(c) Zinc carbonate
(d) Copper phosphate
(e) Magnesium bicarbonate
(f) Aluminium hydroxide. **(3 Marks)**

Q.14. Calculate the formula unit mass of NaCl and $CaCl_2$.
(Na = 23, Cl = 35.5, Ca = 40) **(2 Marks)**

Q.15. Explain the difference between 2O, O_2 and O_3 **(2 Marks)**