**COSTAATT**

**CHEM111 – Concepts in Chemistry I**

**Lesson 9**

**Worksheet– Concentrations, Dilutions & Titrations.**

(1) Some dilute sulphuric acid, H2SO4, had a concentration of 4.90 g dm-3. What is its concentration in mol dm-3?

(RAMs: H = 1; O = 16; S = 32)

(2) What mass of sodium carbonate, Na2CO3, would be dissolved in 100 cm3 of solution in order to get a concentration of 0.100 mol dm-3?

(RAMs: C = 12; O = 16; Na = 23)

(3) 25.0 cm3 of 0.100 mol dm-3 sodium hydroxide solution was neutralised by 20.0 cm3 of dilute nitric acid of unknown concentration.

NaOH(aq) + HNO3(aq)→ NaNO3(aq) + H2O(l)

Find the concentration of the dilute nitric acid.

(4) 25.0 cm3 of sodium carbonate solution of unknown concentration was neutralized by 30.0 cm3 of 0.100 mol dm-3 nitric acid.

Na2CO3(aq) + 2HNO3(aq) → 2NaNO3(aq) + CO2(g) + H2O(l)

Find the concentration of the sodium carbonate solution.