CH3041 Tutorial 2 Water Chemistry A

Name:

1. Explain the chemical basis for the **BOD** test and the similarities and differences to the **COD** test.

2. Calculate the **total alkalinity** (meq/L) of a sample of river water which has a carbonate alkalinity of 3.0×10^{-4} M; the pH is 10.7; the bicarbonate ion concentration is equal to the hydroxide ion concentration due to equilibrium conditions.

3. Explain the term **Acid Neutralising Capacity**. How does this parameter differ from the pH of a water sample?

4. **Humic** and **Fulvic acids** are polyprotic, polymeric weak organic acids containing carboxyl, phenol and alcohol groups. Explain what this means and what are the differences between these two classes of acids.

5. Rivers carry the products of chemical and physical erosion from the continental land mass due to runoff, yet the **river elemental chemical composition** does not resemble the average crustal elemental composition - why?