CH3041 Tutorial 6 Analytical B

Name:

1. Indicate the typical features of a **chemiluminescence spectrometer** and how it functions.
   - What chemicals would you analyse for using chemiluminescence and give some typical IDLs for these analytes.
   - How does **chemiluminescence** differ from **fluorescence**?

2. How does ion chromatography separate the ions contained in a water sample, use phosphate and nitrate as analytes to illustrate your answer.

3. There are many solid state electrodes on the market that are used in environmental chemical applications.
   - Provide details of one of these electrodes including a sketch of the electrode and the basic physical principle of operation
   - Indicate the analyte detection limit and what interferences are possible.

4. Sketch the basic features of a typical gas chromatographic (GC) instrument that you would use to analyse fragrant organic molecules such as geraniol and farnesol.
   - Include details of the **stationary phase**, **mobile phase**, **detector** and the type of **output** that would be expect.
   - How would you **calibrate** this instrument for a particular terpene?