**Experiment 13**

**Spectrophotometric Estimation of Nitrate**

**Objective**

In this experiment, you will use a UV/VIS spectrophotometer to determine the nitrate concentration of an unknown water sample.

**Introduction**

In the Experiment 9, you learned to analyze the phosphate concentration in water samples. Phosphate estimation is performed in the *visible* region of the spectrum. Chemicals like nitrate absorb light in the *ultraviolet* region of the spectrum. The method is purely instrumental and does not involve the use of chemical reagents.

**Materials:** Water samples (please bring your own) UV/Visible Spectro.



**Procedure: I**nstructor will set up the instrument then the class will measure nitrate.

|  |  |  |  |
| --- | --- | --- | --- |
| **Data** | **Source** | **Concentration (ppm)** | **Absorbance** |
| Standard |  | 7 |  |
| Unknown #1 |  |  |  |
| Unknown #2 |  |  |  |
| Unknown #3 |  |  |  |
| Unknown #4 |  |  |  |

**Single Standard Method** to determine the nitrate concentration of the unknowns.

Concentrationunk #1: \_\_\_\_\_\_\_\_\_\_ ppm. Concentrationunk #2: \_\_\_\_\_\_\_\_\_ ppm

Concentrationunk #3: \_\_\_\_\_\_\_\_\_\_ ppm. Concentrationunk #4: \_\_\_\_\_\_\_\_\_ ppm