RAJARATA UNIVERSITY OF SRI LANKA
FACULTY OF APPLIED SCIENCES

B.Sc. (General) Degree in Applied Science
Third Year – Semester I Examination – October/November 2015

CHE 3208- ENVIRONMENTAL CHEMISTRY AND RECYCLING OF WASTES

Answer **Only Four (4)** questions Time: Two hours

1. (a) Explain the regions of atmosphere in detail [25 marks]

(b)Describe the temperature variation from the Troposphere to the Thermosphere using illustrations [25 marks]

(c) What are the reactions of O_2 in the atmosphere? [30 marks]

(d) Give a brief description of atmospheric CO_2 and H_2O [20 marks]

2. (a) What is Alkalinity in water? Explain how you would measure alkalinity in the laboratory [40 marks]

(b) Explain the term total solids in water and what are the consequences, if the water has high concentration of dissolved solids [20 marks]

c. Describe analytical procedures to determine total solids and floatables [40 marks]

3. (a) Explain the Rock Cycle with illustrations [30 marks]

(b) What are the main Weathering Processes? [20 marks]

(c) Name the three processes for chemical weathering and explain each with relevant examples. [50 marks]

4. (a) Explain each step involved in the chemical treatment for drinking water, clearly explain the purpose of adding chemicals in each step. [70 marks]

   (b) Give a brief description of physical and chemical parameters in water [30 marks]

5. (a) What is Chemical Oxygen Demand (COD)? Give the analytical procedure to measure COD [50 marks]

   (b) Explain the difference between COD, Biological Oxygen Demand (BOD) and Dissolved Oxygen (DO). Why is it important to measure the BOD in water? [20 marks]

   (c) Explain the theory behind and the procedure in the determination of metal ions in water by Atomic Absorption Spectrometry. [30 marks]