Eastern University, Sri Lanka

Second Year First Semester Examination in Science

2008/2009 (February 2010)

CH 202 ANALYTICAL CHEMISTRY

(Proper)

Answer **all** questions **Time: 01 hour**

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1. (a) "Thin Layer Chromatography is an adsorption chromatography". Exemplify this. **20 marks**

   (b) (i) Explain what is meant by two dimensional development technique in TLC **15 marks**

   (ii) Write short account on TLC detection methods **15 marks**

   (c) (i) Explain the advantage of using Hollow Cathode Lamp (HCL) as the light source in the Atomic Absorption Spectrometry **20 marks**

   (ii) How does a Hollow Cathode Lamp work in AAS? **20 marks**

   (iii) Give **four** analytical applications of the AAS. **10 marks**

2. (a) Suggest a solvent extraction method to separate K^+ and Li^+ ions in an aqueous sample containing both of these ions **30 marks**

   (b) Draw a fully labeled schematic diagram to show the basic components of a gas chromatography. Briefly describe the functions of each component. **40 marks**

Turn Over

(c) State the Beer's law and Lambert's law and derive an expression for the combined Beer-Lam law. Explain all the terms involved in the expressions. 15

A sample in a 1.0 cm cell is determined with a spectrometer to transmit 80% light at certain wavelength. If the molar extinction coefficient of this substance at this wavelength is 2.0, w the concentration of the substance? 15

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