11-3RD-TEA 342-0

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Uva Wellassa University
Faculty of Animal Science and Export Agriculture
B.Sc. in Tea Technology and Value Addition

End Semester Examination February / March 2011
Year III Semester I

Instrumentation in Agriculture Research TEA 342-0

Instructions

Answer all questions
No. of questions : Two (02)
No. of pages : One (01)
Total marks allocated : 50%
Time : One hour (1 hr) **Index No:** .....

Part II

Question 1 **(25 marks)**

i. Formation of a line spectra by Hollow Cathode Lamp (HCL) in Atomic Absorption Spectroscopy proceeds via number of steps which is one of the key steps is "Sputtering". Explain how "Sputtering" process works for the formation of the line spectra.

ii. Determination of metal like Ca subject to lower the actual absorbance due to chemical interferences. Explain different strategies that can be applied to manage the chemical interferences.

iii. Comment on the advantages and the disadvantages of the management strategies that you proposed in part II.

Question 2 **(25 marks)**

i. Draw schematic diagrams of a Gas Chromatograph (GC) and High performance Liquid Chromatograph. Name all major components of both GC and HPLC

ii. Name 3 detectors used in Gas Chromatography.

iii. Name 4 detectors used in Liquid Chromatography