

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



End Semester Examination July / August 2016
Year IV Semester I

Experimental Design and Analysis (EAG 401-0)

Instructions

Answer All Questions

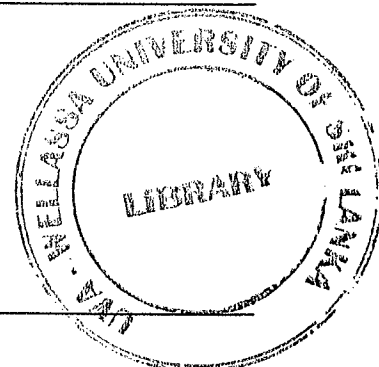
No of Questions : Two (02) Questions

No of Pages : Two (02) pages

Marks Allocated : 50%

Time : One (01) hour

Scientific Calculators are allowed.



PART II - ESSAY

Question 01

"Experiments are conducted to obtain correct information about real world phenomena"

- 1.1 Briefly discuss the importance of Experimental Designs in agricultural research with examples. (10 marks)
- 1.2 What are the main principles of Experimental Designs? (05 marks)
- 1.3 What are the differences between Latin Square Design and two factor factorial experiments? (05 marks)
- 1.4 Compare Randomized Complete Block Design (RCBD) and Analysis of Covariance (ANOCOVA) technique in Experiments. (05 marks)

Question 02

A researcher conducted a study to identify the effect of four fertilizers, Nitrogen (A), Potassium (B), Cow dung (C) and compost (D), on the yield of potatoes using 2^4 (Each factor has two levels) factorial experiment in Complete Randomized Design with three replicates.

- 2.1 How many experimental units did he use to conduct the research? (05 marks)
- 2.2 List all treatment combinations using standard notation (08 marks)
- 2.3 Illustrate the way of identifying the interaction effect using interaction plot. (07 marks)
- 2.4 If the researcher needs to conduct the same experiment using only 8 treatments, help him to select 8 treatments using your knowledge in fractional factorial experiment. (Hint: The researcher is not interested in four way interaction) (05 marks)

