UVA WELLASSA UNIVERSITY OF SRI LANKA
FACULTY OF ANIMAL SCIENCE & EXPORT AGRICULTURE

Uva Wellassa University

BSc in Export Agriculture
BSc in Palm & Latex Technology and Value Addition
BSc in Tea Technology and Value Addition
Second Year Second Semester Examination – December 2016 /January 2017

Basics in Statistics (EAG 201-1)

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Instructions:
Answer all questions in the given booklet.
No. of questions : Two (02)
No. of pages : Two (02)
Time : One (01) hour
Total marks allocated : 100%
Scientific calculators are allowed.

01.

"Rubber is of major economic importance because the milky latex extracted from the tree is the primary source of it. There are many diseases that can effect on yield of the rubber tree."

(I) Average yield of a newly introduced rubber variety follows a Normal distribution with mean 25 g/tree per day and standard deviation 5 g/tree per day. What is the probability that a rubber tree selected at random from this variety giving more than 35 g/tree yield per day? (15 marks)

(II) The incidence of Tapping Panel Dryness (TPD) in above rubber land is such that 25% of the rubber trees in the rubber land have the chance of being infected. What is the probability that out of seven (07) trees selected, at least three (03) will have the symptoms of the disease? (15 marks)

(III) A researcher wants to know whether TPD having an association with usage of rain guards. In order to test it, he took 100 rubber plants with similar conditions and 60 plants were protected with rain guards. After some period, he recorded the number of disease plants and healthy plants as given in the table below.

	No. of disease plants	No. of healthy plants
With rain guards	38	22
Without rain guards	11	29

Test the researcher's claim at 0.05 level of significance. (20 marks)

60

02.

(I) What are the scales of measurements? Write down two (02) examples for each scale. (10 marks)

(II) Discuss how sampling techniques are important in agricultural research. (15 marks)

(III) An aquaculturist is having a doubt with quality of drinking water in Anuradhapura district. It is known that Cadmium (Cd) concentration in unpolluted natural waters is usually bellow 1 $\mu g/l$. In order to test his idea, he took 20 water samples and measured the Cd concentration of each sample. Summery measures for those observations are given below

Mean = 1.5 $\mu g/l$

Standard Deviation = 0.2 $\mu g/l$

a) Write down the appropriate hypothesis for this test. (05 marks)

b) Test the above hypothesis at 0.05 level of significance. (20 marks)

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