Eastern University, Sri Lanka
Final Year First Semester Examination in Agriculture – 2005/2006
(December/2013)
CC 4101 Experimental Techniques in Agriculture
External Degree

Answer **ALL** Questions

Time allowed: 02 Hours

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1) An experiment was conducted to study the performance of five tomato varieties (V_1 ,V_2 ,V_3, V_4 and V_5) in a green house using CRD with 5 replicates (R_1 , R_2 ,R_3, R_4 and R_5). The yield values recorded from each plot are given below

Yield (kg/pot) recorded from the experiment

Variety	R_1	R_2	R_3	R_4	R_5
V_1	1.6	1.9	1.5	2.1	1.7
V_2	1.9	2.4	2.3	2.2	2.1
V_3	2.3	2.6	2.4	2.5	2.7
V_4	1.2	0.8	1.0	0.9	0.8
V_5	2.6	2.8	3.0	2.9	2.8

i. Perform ANOVA for the above data

ii. Interpret the results

2) Explain the requirements for a valid experimental design in Agriculture Researches

3) Write short notes on following

a) Use of Latin Square Design

b) Arcsine transformation

c) Importance of analysis of covariance in Agriculture Researches

Please turn over

4) A field experiment was conducted to study the effect of irrigation and nitrogen on paddy yield. Three levels of nitrogen (N_1,N_2 and N_3) and two levels of irrigation (I_1 and I_2) were used in the experiment. The results recorded from the experiment are given below

	The yield (kg/plot) recorded from the experiment					
Block	I_1 N_1	I_1 N_2	I_1 N_3	I_2 N_1	I_2 N_2	I_2 N_3
1	26.8	29.2	38.1	17.5	21.2	20.5
2	8.4	10.8	18.1	6.3	8.9	8.1
3	10.5	13.4	18.9	8.1	9.5	8.4

i. Perform ANOVA for the above factorial experiment
ii. Interpret the results