EASTERN UNIVERSITY, SRI LANKA

FOURTH YEAR FIRST SEMESTER EXAMINATION IN AGRICULTURE –2012/2013

2015 (MARCH)

EC 4106 –BASIC ECONOMETRICS (2:30/00/60)

Answer **ALL** Questions

Time allowed: 02 hours

01) a)Give examples (2) for the following regressions in Agricultural Economics:

    i) Simple Regression (2)

    ii) Multiple Regression (2)

  b) Define the followings:

    i) Regression

    ii) Correlation

    iii) R-squared

c) Set and write the "Null and Alternative Hypotheses" for a two variable Regression model.

02) Write Short Notes on the following:

   a) Dummy variables

   b) Auto-correlation

   c) Test-statistics in Multiple Regression

03) a) Explain briefly what is meant by "Least Square Method of Estimation".

1

03) b) The n pairs of X and Y observations are given in the table below. The two sample regression functions (SRF) estimated for this given data are $\hat{Y_1} = 1.572 + 1.357X$ and $\hat{Y_2} = 3 + 1X$. Select the most suitable estimator or SRF for the given data set. Show all relevant calculations.

Y	X
4	1
5	4
7	5
12	6

c) Construct the ANOVA table for the above two variable regression model.

04) The results of the regression model to measure the productivity of Dairy Farmers in Sri Lanka is given in the table below.

Table 1: Regression model of productivity of Dairy Farmers

Variables	Co-efficients	P>(t)
Constant	-1.005	0.090
Experience in dairy sector (X_1)	0.122	0.001
Age of the farmer (X2)	-0.408	0.002
Training program [dummy] (X_3)	0.083	0.316
Extension visits (X_4)	0.010	0.326
Society member [dummy](X_5)	-0.009	0.913
Employed or not [dummy] (X_6)	0.294	0.006
Total cows (X_7)	0.175	0.013
Crossbred ratio (X_8)	-0.300	0.040
Education level (X_9)	0.315	0.000

(Sig. $P< 0.05$, Number of observations $=123$, R square$=0.3409$, Probability$>F =0.000$)

a) Write down the estimated regression model for the above results.

b) Interpret the results of the above regression.