

THE OPEN UNIVERSITY OF SRI LANKA
 DEPARTMENT OF SOCIAL STUDIES
 BA DEGREE IN SOCIAL SCIENCES – LEVEL 5
 FINAL EXAMINATION – 2018/2019
 SSU3137/ DSU5337 – PRINCIPLES OF ECONOMETRICS



DURATION: THREE HOUR (03 HOUR)

Date: 06th January 2019

Time: 09.30 a.m. – 12.30 p.m.

Instructions:

➤ **Answer 5 questions only**

1. (a) What is “Econometrics”? (8 Marks)
 (b) Explain the uses of econometric models in economic research. (12 Marks)
2. (a) Briefly explain the estimated regression model results below. (8 Marks)

$$\hat{Y} = 134.5 - 0.453X_1 + 2.34X_2$$

$$R^2 = 0.23$$

Y = Demand for Bread

X_1 = Price of Bread

X_2 = income

- (b) Explain the methodology of Econometrics by using an example (12Marks)
3. (a) Briefly explain the Gauss-Markov Theorem. (8 Marks)
 (b) Explain the assumptions of Ordinary Least Squares (OLS) method. Use examples if necessary. (12 Marks)
4. (a) Briefly explain the two concepts below (10 Marks)
 I. Correlation
 II. Causation
 (b) What is the use of the Error Term in a regression model? Explain by using graphs. (10 Marks)
5. Explain the Simple Linear Regression (SLR) and Multiple Linear Regression (MLR) and their differences. (20 Marks)
6. What is a dummy variable? Explain its role in Econometric Research. (20 Marks)
7. Explain the terms, Multicollinearity, Specification Errors and Autocorrelation. (20 Marks)

8. Explain Two Econometrics Tools that can be used in Economic research? (20 Marks)
9. Write short notes on any four (04) of the following: (5 Marks Each)
- (a) Time series data and Cross Sectional data
 - (b) Heteroscedasticity
 - (c) Explained Variables and Explanatory Variables
 - (d) β_0 and β_1
 - (e) Continuous Variables' and Discrete Variables

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