

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

SUPPLEMENTARY EXAMINATION

**UNIVERSITY EXAMINATIONS FOR THE AWARD OF BACHELOR OF SCIENCE IN
ECONOMICS AND STATISTICS, BACHELOR OF ARTS IN ECONOMICS AND
SOCIOLOGY, BACHELOR OF ARTS IN ECONOMICS & MATHEMATICS**

ECON 332: ECONOMETRICS II

STREAMS: BSC (ECON & STATS), BA (ECON & SOCI), BA (ECON & MATHS)

TIME: 2 HOURS

DAY/DATE: WEDNESDAY 12/9/2018

11.30 A.M. – 1.30 P.M.

INSTRUCTIONS: ANSWER ALL QUESTIONS

QUESTION ONE

- i. Distinguish between autocorrelation and multicollinearity and explain why they are problems in econometric modeling [10 Marks]
- ii. Indicate the causes of autocorrelation and multicollinearity and explain how each problem can be detected and minimized in econometrics research [10 Marks]

QUESTION TWO

Given the following regression model

$$Y = \alpha_0 + \alpha_1 X_1 + \alpha_2 X_2 + \varepsilon_i$$

- i. Derive the normal equations for the model [10 Marks]
- ii. Estimate the parameters of the model using Ordinary Least Squares method [10Marks]

QUESTION THREE

The following two equations represent a simple wage price model

$$W_t = \alpha_0 + \alpha_1 P_t + \alpha_2 Q_t + \mu_{1t}$$

$$P_t = \beta_0 + \beta_1 W_t + \mu_{2t}$$

- i. Why is this simultaneous equation model? [5 Marks]
- ii. Which are the endogenous and exogenous variables? [2 Marks]
- iii. Why would the estimation of W_t and P_t equations by OLS give biased and inconsistent parameter estimates? [5 Marks]
- iv. Find the reduced form equations for the wage price model [8 Marks]

QUESTION FOUR

Consider the following model:

$$Y_i = \alpha_0 + \alpha_1 X_{1i} + \alpha_2 X_{2i} + \varepsilon_i$$

Where

- Y - Expenditure on ladies' clothings
X₁ - Income
X₂ - Wealth

You are told that low incomes are normally associated with low wealth and high incomes, with abundant wealth.

- i. What problem is likely to manifest in this model? Describe the problem. [5 Marks]
 - ii. If the problem is severe, what are the likely consequences? [5 Marks]
 - iii. Under condition (ii) what would you suggest for remedy? [5 Marks]
 - iv. Briefly describe Friesch's Confluence Analysis in econometric diagnostics [5 Mark]
-