



NATIONAL OPEN UNIVERSITY OF NIGERIA
FACULTY OF SOCIAL SCIENCES
DEPARTMENT OF ECONOMICS

SEMESTER EXAMINATION 2018/2019 ACADEMIC SESSION

SUBJECT TITLE: INTRODUCTION ECONOMETRICS II

SUBJECT CODE: ECO 356

TIME ALLOWED: 3 HOURS

INSTRUCTIONS: ANSWER FOUR (4) QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS (17.5 marks)

QUESTION 1

(a) Name and explain two (2) types of sampling techniques in econometrics.

(7.5 marks)

(b) Consider the finite population with $N = 4$ elements $\{0, 2, 4, 6\}$ for this population $\mu = 3$ and $\sigma^2 = 5$. Simple random samples without replacement of size $n = 2$ are selected from the population.

Samples	(0,2)	(0,4)	(0,6)	(2,4)	(2,6)	(4,6)
Probability	1/6	1/6	1/6	1/6	1/6	1/6
mean	1	2	3	3	4	5
Variance	2	8	18	2	8	2

Calculate the variance of the population mean using the above data. (10Marks)
(17.5Marks)

QUESTION 2

(a). State the property of a good estimator (3.5 Marks)

(b). Given the following multiple regression model below:

$$\text{GDP} = -3.6121 + 0.7499\text{INF} - 0.1558\text{EXR} + 1.3418\text{INT}$$

and t calculated for $\text{INF} = 1.7663$, $\text{EXR} = 1.9921$ and $\text{INT} = 1.5384$

where GDP = Gross Domestic Product (Proxy for Economic growth), INF = Inflationary rate, EXR = Exchange rate, INT = Interest rate.

You are required to:

(i) Interpret the result above completely. (5marks)

(ii) Test for the level of significance of t statistics at 5% level of significance (1.96).

(9marks)

(17.5Marks)

QUESTION 3

(a). Describe how multicollinearity can be detected. (3.5 marks)

(b). Discuss why is heteroscedasticity regarded as a problem. (5 marks)

(c). Discuss the Durbin-Watson Test. (6 marks)

(d). Describe the term 'Dummy variable'. (3 marks)

(17.5Marks)

QUESTION 4

- (a). Discuss at least five (5) differences between Multiple and simple regression. **(7.5marks)**
 - (b). What are the Causes of the Existence of the Disturbance Term in a regression model?
(10marks)
- (17.5Marks)**

QUESTION 5

- (a). Define the term 'Model transformation' **(5.5Marks)**
 - (b). Discuss the two (2) types of model transformation. **(6Marks)**
 - (c). Explain what is expected to happen if a dummy variable is included in a reference category. **(6Marks)**
- (17.5marks)**

QUESTION 6

- (a). Explain the term 'Model Specification'. **(4.5Marks)**
 - (b). Discuss the adaptive expectation model. **(7Marks)**
 - (c). Discuss the structural and reduced form equation of simultaneous equation model.
(6Marks)
- (17.5Marks)**