



THE NATIONAL OPEN UNIVERSITY OF NIGERIA
FACULTY OF SOCIAL SCIENCES
DEPARTMENT OF ECONOMICS
2023_2 EXAMINATIONS

COURSE TITLE: APPLIED ECONOMETRICS

COURSE CODE: ECO 453

UNITS: 2

TIME ALLOWED: 2 HOURS

**INSTRUCTIONS: ANSWER ANY THREE QUESTIONS. ALL QUESTIONS
CARRY EQUAL MARKS**

QUESTION ONE

1a. Write short notes on these three desirable properties of an estimator

(i). Unbiasedness. (2 Marks)

(ii). Efficiency. (2.3 Marks)

(iii). Consistency. (2 Marks)

1b. What are the four (4) assumptions of nonlinear regression? (8 Marks)

1c. Given the following Ordinary Least Square (OLS) estimation result, answer the following questions:

(i). Identify and interpret the (R^2) and calculate the unexplained variation known as the error term (μ or ϵ). (3 Marks)

(ii). Identify and interpret the constant. (3 Marks)

(iii). Identify and interpret the Durbin Watson (DW) statistics. (3 Marks)

Dependent Variable: Y

Method: Least Squares

Date: 02/21/22 Time: 13:21

Sample: 2011 2020

Included observations: 10

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	12.60429	2.305020	5.034355	0.0010
X	-0.074872	0.018697	-4.004470	0.0039

R-squared	0.767163	Mean dependent var	2.672000
Adjusted R-squared	0.625558	S.D. dependent var	3.002831
S.E. of regression	1.837482	Akaike info criterion	4.231526
Sum squared resid	27.01072	Schwarz criterion	4.292043
Log likelihood	-19.15763	Hannan-Quinn criter.	4.165139
F-statistic	16.03578	Durbin-Watson stat	2.008559
Prob(F-statistic)	0.003925		

QUESTION TWO

- 2a. What are the four (4) sources of deviations in parameter model estimation? (10 Marks)
- 2b. Discuss clearly the six (6) properties of a good econometric model. (13.3 Marks)

QUESTION THREE

- 3a. List four (4) ways in which econometric research (model) differs from economic research (model). (8 Marks)
- 3b. Attempt two (2) critiques of an econometric research. (5 Marks)
- 3c. What are the two (2) ways of performing the co-integration test? (4 Marks)
- 3d. Discuss model selection criteria. (6.3 Marks) s

QUESTION FOUR

- 4a. Describe the following terms in descriptive statistics in which a researcher must look out for their values. (11.3 Marks).
- (i) Mean
 - (ii) Skewness
 - (iii) Kurtosis
 - (iv) Jarque-Bera
 - (v) Probability
- 4b. Qualitative response models are termed probability models. Discuss the following terms used in qualitative models:
- (i). Dichotomous. (4 Marks).
 - (ii). Ordered category. (4 Marks).
 - (iii). Multinomial category. (4 Marks).