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		