

**FACULTY OF SOCIAL SCIENCES
DEPARTMENT OF ECONOMICS
2023 2 EXAMINATIONS**

COURSE TITLE: APPLIED ECONOMETRICS II

UNITS: 2

COURSE CODE: ECO454

TIME ALLOWED: 2 HOURS

INSTRUCTIONS: ANSWER QUESTION ONE AND ANY OTHER TWO.

1ai. Explain what is meant by Granger Causality test (6marks)

ii. Interpret the following Unit root result specimen

Null Hypothesis: D(INFR) has a unit root

Exogenous: Constant

Lag Length: 1 (Automatic - based on SIC, maxlag=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.509442	0.0438
Test critical values: 1% level	-3.661661	
5% level	-2.960411	
10% level	-2.619160	

*MacKinnon (1996) one-sided p-values.

(12Marks)

1bi What is co-integration? (6 marks)

ii Why is it important? (6 marks)

2a. Given the following Rank test for co-integration, establish whether or not there is existence of co-integration among the variables in the model that produces this result.

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.479957	20.34890	15.49471	0.0086
At most 1	0.002569	0.079751	3.841466	0.7776

(10 marks)

b. Discuss the properties of the Ordinary Least Squares (OLS) estimators. **(10 marks)**

3a) What is the difference between econometric model and economic model? **(10 marks)**

b) What are the advantages of parameter estimation procedure in econometrics? **(10 marks)**

4a. Discuss similarities and the dissimilarities between economics and econometrics models. Discuss **(10 marks)**

4b. What is unit root, and why is stationarity test important? **(10 marks)**