



**NATIONAL OPEN UNIVERSITY OF NIGERIA  
FACULTY OF SOCIAL SCIENCES  
DEPARTMENT OF ECONOMICS  
2024 1 EXAMINATION**

**COURSE TITLE:** APPLIED ECONOMETRICS II  
**COURSE CODE:** ECO 454  
**CREDIT UNITS:** 2 UNITS  
**TIME ALLOWED:** 2 HOURS  
**INSTRUCTION:** ANSWER ANY THREE (3) QUESTIONS

**QUESTION ONE**

**1a.** State five basic fundamental properties of econometric model

**1b(i).** Given the equations  $\bar{y} = \alpha + \beta_1\bar{x}_1 + \beta_2\bar{x}_2$ ,  $\sum x_1y = \beta_1\sum x_1^2 + \beta_2\sum x_1x_2$  and  $\sum x_2y = \beta_1\sum x_1x_2 + \beta_2\sum x_2^2$  derive the estimator for  $\alpha$ ,  $\beta_1$  and  $\beta_2$

**1b(ii).** Discuss briefly the following test of analysis (a) Coefficient of determination (b) The standard error test (c). The z test

**QUESTION TWO**

**2a.** State the Dickey Fuller Test Hypotheses

**2bi.** State four uses of forecasting

**2bii.** What is manpower forecasting?

**QUESTION THREE**

**3a** What is two stage least square

**3b** Discuss what is Simultaneous Equation Models and three Characteristics of Simultaneous Equation Models

**QUESTION FOUR**

**4a.** State the five the assumptions of the instrumental variable

**4b** Discuss the meaning and five Properties of Three Stage Estimates