



**NATIONAL OPEN UNIVERSITY OF NIGERIA
FACULTY OF SOCIAL SCIENCES
DEPARTMENT OF ECONOMICS
2025_1 EXAMINATION...**

COURSE TITLE: INTRODUCTION TO ECONOMETRICS II
COURSE CODE: ECO 453
CREDIT UNITS: 2 UNITS
TIME ALLOWED: 2 HOURS
INSTRUCTION: ANSWER QUESTION ONE AND ANY OTHER TWO (2) QUESTIONS

QUESTION ONE

1a. Given a multiple regression model; $Y = B_0 + B_1X_1 + B_2X_2 + e$, in which the demand for stationary (Y) is explained by prices (X_1) and budgetary allocation (X_2).

i. Explain the meaning of Y, B_0 , B_1X_1 , B_2X_2 , and e. **(5 Marks)**

ii. Interpret the estimated regression result, $Y = 84.14 + -1.045X_1 + 0.003X_2$ **(7 Marks)**

1b. Enumerate the six (6) reasons why autoregressive distributed lag (ARDL) model is superior to other estimation methods. **(12 Marks)**

1c. Discuss the sources of deviations in parameter model estimation. **(6 Marks)**

QUESTION TWO

The following table includes income (X) and demand for bread (Y) measured in arbitrary units of a consumer over 10 years period

Period	1	2	3	4	5	6	7	8	9	10
Y	6	7	8	10	8	9	10	9	11	10
X_1	50	52	55	59	57	58	62	65	68	70

(a) Estimate the food function $Y = b_0 + b_1X_1 + u$ and interpret the result. **(14 Marks)**

(b) Compute the coefficient of determination (R-squared) and find the unexplained variation. **(6 Marks)**

QUESTION THREE

3a. Discuss the Johansen Cointegration Test **(8 Marks)**

3b. What did you understand by the term “Bounds Co-integration Test” **(6 Marks)**

3c. Hypotheses Testing Using Wald-Test in EViews **(6 Marks)**

QUESTION FOUR

- 4a. List four (4) advantages of panel data. **(4 Marks)**
- 4b. Given a regression line, $Y = 300 + 0.6X$, calculate the value of Y if $X = \text{₦}100,000$. **(4 Marks)**
- 4c. Given that price elasticity is $b_i = X_i/Y_i$ where $Y_i = 160,000$, $X_i = 130,000$ calculate price elasticity. Interpret your result. **(6 Marks)**
- 4d. Discuss the CUSUM Chart and CUSUMSQ Chart **(6 Marks)**

QUESTION FIVE

- 5a. Advance three reasons why Panel Data is Important. **(8 Marks)**
- 5b. What is random effects method? **(12 Marks)**