



NATIONAL OPEN UNIVERSITY OF NIGERIA
FACULTY OF SOCIAL SCIENCES
DEPARTMENT OF ECONOMICS
2024_2 EXAMINATION

COURSE TITLE: APPLIED ECONOMETRICS
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. Discuss the history of methodological developments in econometrics (7 marks)
- 1b. Define the random or stochastic process (2 marks)
- 1c. Can time series data be stationary? Give reasons for your answer (4 marks)
- 1d. Define the Linear Probability Model (LPM) (2 marks)
- 1e. List and explain the basic problems of using LPM (15 marks)

QUESTION TWO

- 2a. Give the three reasons why presently the Lagrange Multiplier (LM) test is more popularly used for the test of serial correlation (3 marks)
- 2b. Discuss the consequences of serial correlation (6 marks)
- 2c. Define an Autoregressive (AR) model (3 marks)
- 2d. Explain the steps for carrying out the LM test (8 marks)

QUESTION THREE

- 3a. List the statistical criteria that are applicable when models are nested (one model is a special case of another) (4 marks)
- 3b. How does a researcher know if a fixed and/or random effects exist in panel data in hand? (5 marks)
- 3c. How do we know which effect (fixed effect or random effect) is more relevant and significant in the panel data? (7 marks)
- 3d. Explain the two recommendations for panel data modeling (4 marks)

QUESTION FOUR

- 4a. Define the vector autoregressive (VAR) model (2 marks)
- 4b. Discuss the three broad types of VAR models (8 marks)
- 4c. List and explain the most commonly used tool/criteria in lag selection under the VAR models (8 marks)
- 4d. List the items we often use special language to specify when referring to VAR models (2 marks)