



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

COURSE TITLE: INTRODUCTION TO ECONOMETRICS
COURSE CODE: ECO 356
CREDIT UNITS: 3 UNITS
TIME ALLOWED: 3 HOURS
INSTRUCTION: ANSWER QUESTION ONE AND ANY OTHER THREE QUESTIONS

Question 1

- a. What is heteroscedasticity? 5 marks
- b. What are the consequences of heteroscedasticity? 10 marks
- c. What are the solutions to the problem of heteroscedasticity? 10 marks

Question 2

- a. What is multicollinearity? 4 marks
- b. List and explain 3 consequences of multicollinearity 3 marks
- c. What are ways to solve the problem of multicollinearity? 8 marks

Question 3

- a. Discuss the concept of homoscedasticity and heteroscedasticity in the context of variance. 3 marks
- b. List three implications of both on regression estimates 12 marks

Question 4

- a. What is sampling bias 3 marks
- b. How can it impact the validity of research findings? 8 marks
- c. List and explain two ways to minimize sampling bias 4 marks

Question 5

- a. What is the purpose of random sampling? 4 marks
- b. Suppose you have conducted a hypothesis test and obtained a p-value of 0.03 for a specific regression coefficient. How would you interpret this result? What decision would you make regarding the null hypothesis at a significance level of 0.05? 5 marks
- c. List and explain 3 consequences of autocorrelation 6 marks