



*"Investing in Africa's Future"*

**COLLEGE OF BUSINESS, PEACE, LEADERSHIP AND  
GOVERNANCE**

**NMEC 407: ECONOMETRICS 2**

**END OF SECOND SEMESTER EXAMINATIONS**

**MAY 2021**

**LECTURER: MR G. MANDEWO**

**TIME: 7 HOURS**

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***INSTRUCTIONS***

Answer **ONE** question. Total possible mark is **100**.

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Start **each** question on a new page in your answer booklet.

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The marks allocated to **each** question are shown at the end of the question.

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**Show all your workings.**

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Credit will be awarded for logical, systematic and neat presentations.

1. The functional form of an econometric model will influence the interpretation of partial regression coefficients. Considering the following models
  - (a) Linear
  - (b) Linear-Log
  - (c) Reciprocal
  - (d) Quadratic
  - (e) Interaction
  - (f) Log Linear
  - (g) Log reciprocal
  - (h) Log quadratic
  - (i) Log-log
  - (j) Logistic

Use your own examples to regress the above functional forms and interpret the partial regression coefficients for each model. **[100 Marks]**

2. It is possible to carry out regression analysis using qualitative data. The use of dummy variables is recommended. You are required to demonstrate regression analysis for the following models:
  - (a) Dependent variable as a function of an independent dummy variable
  - (b) Dependent variable as a function of a dummy variable and a quantitative variable
  - (c) Dependent variable as a function of two dummy variable and one independent quantitative variable
  - (d) Dependent variable as a function of two dummy variables and two independent quantitative variables

In each of the above cases show how the model can be interpreted **[100 Marks]**

3. The problem of heteroscedasticity in econometrics may hinder the estimation of regression equations. You are required to fully conceptualise the problem, discuss the causes, illustrate the effects, demonstrate the detection methods and suggest possible solutions to the problem. In your responses you are supposed to give concrete examples. **[100 Marks]**

**END OF EXAMINATION**