MACHAKOS UNIVERSITY

University Examinations for 2018/2019 Academic Year

SCHOOL OF BUSINESS AND ECONOMICS

DEPARTMENT OF ECONOMICS

FOURTH YEAR SUPPLEMENTARY EXAMINATION FOR

BACHELOR OF SCIENCE IN AGRI-BUSINESS MANAGEMENT AND TRADE

SST 404: ECONOMETRICS II

DATE: 22/7/2019 **TIME: 8:30 – 10:30 AM**

INSTRUCTIONS:

- **i) Answer question one (Compulsory) and any other two questions**
- **ii) Do not write on the question paper**
- **iii) Show your working clearly**

QUESTION ONE (COMPULSORY) (30 MARKS)

a) State two objectives of econometrics (2 marks)

b) Use examples to state exact and stochastic models (4 marks)

c) State assumptions of multiple regression model (5 marks)

d) Highlight steps used in hypothesis testing (5 marks)

e) Differentiate between theoretical and applied econometrics (4 marks)

f) Discuss two criteria used in evaluation of estimated models (4 marks)

g) State two types of simultaneous equation systems (2 marks)

QUESTION TWO (20 MARKS)

a) Discuss five steps used in estimating econometric models (10 marks)

b) Differentiate between multiple and multivariate regression models (4 marks)

c) What is simultaneous equation bias? (2 marks)

d) State four desired properties that a good estimator must possess (4 marks)

QUESTION THREE (20 MARKS)

a) Why would econometrics be considered good in forecasting (2 marks)

b) State and explain any three types of binary regression models (4 marks)

c) Explain the following terms as used under identification (6 marks)

  i. Under identified

  ii. Exactly identified

  iii. Over identified

d) State two methods of correcting multicollinearity (2 marks)

e) Use an equation to show log quadratic model (2 marks)

QUESTION FOUR (20 MARKS)

a) Describe the role of economic theories and empirical data in econometrics. (4 marks)

b) The error term is significant in econometric modelling. Explain any three sources of error term (6 marks)

c) Using an economic model, discuss endogenous and exogenous variables (4 marks)

d) State ways of establishing model fitness (3 marks)

e) State three methods used in addressing systems of equations that are over identified (3 marks)

QUESTION FIVE (20 MARKS)

The following information is concerning the amount of Loan defaulted (L), household income (Inc) and interest rate (R).

No. of observations	Amount of loan	Income	Interest Rate
1	15	0.3	16
2	17	1	18
3	14	1.5	20
4	8	0.2	22
5	12	0.8	24
6	18	2.1	26

i) Specify a multiple regression model based on the data provided (2 marks)

ii) Using OLS, estimate the regression model and interpret your result. (10 marks)

iii) What is the percentage of the total variation in the dependent variable explained by the explanatory variables in the estimated model (4 marks)

iv) Construct a 95% of confidence interval for the parameters of the model. (2 marks)

v) Conduct individual tests of hypothesis of the parameters at the 5% level of significance on apriorism economic criteria. (2 marks)