

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

FOURTH YEAR EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF COMMERCE

BCOM 436: FINANCIAL ECONOMETRICS

STREAMS: BCOM Y4S2 (ODEL)

TIME: 2 HOURS

DAY/DATE: WEDNESDAY 15/04/2020

11.30 A.M. – 1.30 P.M.

INSTRUCTIONS: Answer question ONE and any other TWO

QUESTION ONE

- (a) Discuss the relevance of financial econometrics to the field of finance [8 marks]
- (b) Compute and contrast regression analysis and correlation analysis [6 marks]
- (c) The following data relate to the performance of eight companies publicly listed in the course. Its assumed that performance of these companies depends on the boards of management age in operation and their bonds rating

Company	A	B	C	D	E	F	G	H
Boards age	16	12	18	4	3	10	5	12
Bonds rating	87	88	89	68	78	80	75	83

Required:

- (i) Fit a linear regression equation using the method of least square [8 marks]
- (ii) Explain the meaning of your results [2 marks]
- (iii) Discuss four possible causes of muticollinearity in data [6 marks]

QUESTION TWO

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- (a) Discuss the following terms as used in multivariate analysis
- (i) Heteroscedasticity [3 marks]
 - (ii) Autocorrelation [2 marks]
 - (iii) Specification error [2 marks]
 - (iv) Normality [2 marks]
- (b) Below are given figures about profits of manufacturing firms listed in the stock exchange

Year	2013	2014	2015	2016	2017	2018	2019
Profit (ksh in)	77	88	94	85	91	98	90

Required: Fit a straight line trend by use of least square method and tabulate the trend values [10 marks]

QUESTION THREE

- (a) Discuss three types of variations in time series analysis and explain how they affect performance of a given company. [6 marks]
- (b) Explain advantages of business forecasting using time series data [5 marks]
- (c) In an attempt to control quality of output for manufactured parts, a sample of the parts is chosen randomly and examined in order to estimate the population proportions of parts that are defective.

The manufacturing process operates continuously unless it must be stopped for inspection or adjustments. In the last sample of 90 parts, 15 parts are found to be defective.

Required:

Determine the following estimates of the population proportion defective on:

- (i) Point estimate [2 marks]
- (ii) 98% interval estimate [3 marks]
- (d) Discuss various methods of parameter estimation [4 marks]

QUESTION FOUR

- (a) “Time variation in volatility is a common feature of macroeconomic data”. Discuss this statement and suggest solutions to challenges a financial analyst is likely to experience if assumptions of OLS are violated [10 marks]
- (b) The following data relates to age of a firm and performance of 10 firms listed in the NSE

Age	56	42	36	47	49	42	60	72	63	55
Profits	145	125	118	128	145	140	155	160	149	150

Required:

- (i) Find the correlation coefficient between age and profit of the firm [8 marks]
- (ii) Interpret your results [2 marks]
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