

CHUKA



UNIVERSITY

## UNIVERSITY EXAMINATIONS

## EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF COMMERCE

## BCOM 436: FINANCIAL ECONOMETRICS

STREAMS: BCOM (ODEL)

TIME: 2 HOURS

DAY/DATE: TUESDAY 05/10/2021

2.30 P.M – 4.30 P.M.

**INSTRUCTIONS:**

- Answer question ONE and any other TWO.

**QUESTION ONE**

- (a) Explain the importance of financial econometrics to a financial analyst. (6 marks)
- (b) Discuss four characteristics of a good estimator. (8 marks)
- (c) Discuss three types of variations in time series and briefly explain how they may affect performance of a given company. (6 marks)
- (d) The following data relate to the performance of eight companies listed in NSE. It is assumed that their performance depends on Board's years of experience and number of years they have been listed.

Company	1	2	3	4	5	6	7	8
Board's experience	16	12	18	4	3	10	5	12
Years listed	87	88	89	68	78	80	75	83

**Required:**

- (i) Fit a linear regression equation using method of least square. (8 marks)
- (ii) Explain the meaning of your equation. (2 marks)

**QUESTION TWO**

- (a) Compare and contrast regression analysis to correlation analysis. (8 marks)
- (b) Explain how correlation is relevant in the instruction of an efficient portfolio. (4 marks)
- (c) Below are given figures in Ksh 'm' of performance of a firm listed in the NSE

Year	2014	2015	2016	2017	2018	2019	2020
Profit	77	88	94	85	91	98	90

**Required**

- (i) Fit a straight line trend by use of least square method and tabulate trend value. (6 marks)
- (ii) Use your equation in (i) above to determine the firm's performance in 2021. (2 marks)

**QUESTION THREE**

- (a) Explain advantages of using time series type of data in business forecasting. (5 marks)
- (b) Discuss assumptions of ordinary least squares. (10 marks)
- (c) A company given on job training of its sales men and women which is followed by a test. Its considering whether it should terminate the service of any sales person who does not do well in the test. The following data give the test scores by nine officers during the last one year.

Test Score	14	19	24	21	26	22	15	20	19
Sales (Ksh '00')	31	36	48	37	50	45	33	41	39

**Required:**

Compute the coefficient of correlation between test scores and sales made by sales officers. (5 marks)

**QUESTION FOUR**

- (a) "Time variation in volatility is a common feature in microeconomic data." Discuss this statement and suggest solutions to challenge a financial analyst is likely to experience if OLS assumptions are violated. (8 marks)
- (b) Explain the following terms as used in multivariate analysis

- (i) Multicollinearity (2 marks)
  - (ii) Serial autocorrelation (2 marks)
  - (iii) Heteroscedasticity (2 marks)
  - (iv) Disturbance term (2 marks)
- (c) Briefly explain how each of the above can be statistically tested. (4 marks)
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