



**ZIMBABWE EZEKIEL GUTI UNIVERSITY**

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**FACULTY OF LAW, BUSINESS INTELLIGENCE AND ECONOMICS**

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**DEPARTMENT OF ECONOMICS, MARKETING AND ENTREPRENEURSHIP**

**EXAMINATION PAPER**

**MODULE CODE** : CEC122  
**MODULE TITLE** : Statistics for Economists II  
**DURATION** : 3 Hours  
**LEVEL** : 1.2  
**DATE** : 09 APR 2025

**INSTRUCTIONS TO CANDIDATES:**

1. No cell phones are allowed in the examination venue.
2. Use of silent, non-programmable calculators is allowed
3. Answer all questions.
4. Begin each question on a new page.
5. The number of marks for each question or part question is shown in brackets [ ]
6. Show all workings, where applicable.

### QUESTION 1

- a) Determine the reasons for high correlation between two variables. (9 marks)
- b) Assess the challenges that may be faced when using Spearman's rank correlation method. (10 marks)
- c) Compare Spearman's rank coefficient and the Spearman's correlation coefficient. (6 marks)

**Total marks [25 marks]**

### QUESTION 2

- a) Critically evaluate the efficiency and sufficiency properties of estimators. (13 marks)
- b) Evaluate the two situations under which estimators can be regarded as good. (12 marks)

**Total marks [25 marks]**

### QUESTION 3

The aggregate marks and the number of students who sat for an economics exam are given below:

<b>Number Of Students</b>	2	5	7	10	15	18	23	26	31	35
<b>Aggregate marks</b>	12	21	45	95	112	143	180	210	245	288

- a) Estimate the regression equation of the form  $Y = a + bX$ . (15 marks)
- b) Interpret the coefficients  $a$  and  $b$ . (5 marks)
- c) Find the number of students when the aggregate mark is 200. (5 marks)

**Total marks [25 marks]**

#### QUESTION 4

a) Evaluate the differences between one tailed test and two tailed test using clear examples and diagrams. **(8 marks)**

b) Given the table below for closed-end questionnaire responses for strongly agree (SA), strongly disagree (SD), disagree (D), agree (A) and Neutral (N) in a result for studying the impact of population on growth in Zimbabwe.

Strongly Agree	43
Agree	24
Neutral	24
Disagree	12
Strongly Disagree	47
<b>Total</b>	<b>150</b>

$H_0$ : Population has no impact on growth

$H_1$ : Population has an impact on growth

Utilise the Chi-square approach to test the hypothesis postulated above **(5 marks)**

c) Evaluate the four rules of the Central Limits Theorem using examples.

**(12 marks)**

**Total marks**

**[25 marks]**

**END OF EXAMINATION PAPER**

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