



GARISSA UNIVERSITY

**UNIVERSITY EXAMINATION 2017/2018 ACADEMIC YEAR TWO
FIRST SEMESTER EXAMINATION**

SCHOOL OF BUSINESS AND ECONOMICS

FOR THE DEGREE OF BACHELOR OF BUSINESS MANAGEMENT

COURSE CODE: ECO 212

COURSE TITLE: ECONOMICS STATISTICS I

EXAMINATION DURATION: 3 HOURS

DATE: 06/12/17

TIME: 09.00-12.00 PM

INSTRUCTION TO CANDIDATES

- The examination has SIX (6) questions
- Question ONE (1) is COMPULSORY
- Choose any other THREE (3) questions from the remaining FIVE (5) questions
- Use sketch diagrams to illustrate your answer whenever necessary
- Do not carry mobile phones or any other written materials in examination room
- Do not write on this paper

This paper consists of FOUR (4) printed pages

please turn over



QUESTION ONE (COMPULSORY)

(a) Briefly explain the following terms

- i. Population [2 marks]
- ii. Sample mean [2 marks]
- iii. Frequency distribution [2 marks]

(b) Differentiate between the following terms

- i. Outcome and event [4 marks]
- ii. Coefficient of correlation and coefficient of determination [4 marks]
- iii. Random sampling and stratified sampling [6 marks]

(c) Outline with examples types of probabilities [4 marks]

(d) Arithmetic mean is widely used measure of central tendency. Explain any three properties of arithmetic mean [6 marks]

QUESTION TWO

(a) Explain the methods of studying correlation [8 marks]

(b) The owner of the Reliable Furniture Company was studying the relationship between sales and the amount spent on advertising. The sales information for the last four months is repeated below

Month	Advertising Expenses (Kshs. 000 million)	Sales Revenue (Kshs.000 Million)
July	2	7
August	1	3
September	3	8
October	4	10

- i. Determine the regression equation [8 marks]
- ii. Interpret the values of a and b [2 marks]
- iii. Estimate sales when Ksh. 3 million is spent on advertising. [2 marks]



QUESTION THREE

- (a) The frequency distribution of the vehicle selling prices at Whitener Pontiac is repeated in the table below

Selling Price (Ksh. '000'	Frequency
12 up to 15	8
15 up to 18	23
18 up to 21	17
21 up to 24	18
24 up to 27	8
27 up to 30	4
30 up to 33	2
Total	80

Construct a less-than cumulative frequency polygon. Fifty percent of the vehicles were sold for less than what amount? Twenty five of the vehicles were sold for less than what amount **[10 marks]**

- (b) The weights of the contents of several small aspirin bottles are (in grams): 4, 2, 5, 2 and 6. What is the sample variance? Compute the standard deviation. **[10 marks]**

QUESTION FOUR

- (a) The board of directors of Tarbell Industries consists of eight men and four women. A four member search committee is to be chosen at random to recommend a new company president.

- What is the probability that all four members of the search committee will be women **[5 marks]**
- What is the probability that all four members will be men? **[5 marks]**
- Does the sum of the probabilities for (a) and (b) equal 1? **[3 marks]**

- (b) Outline and explain any seven sampling techniques

[7 marks]



QUESTION FIVE

- (a) The following data relate to sizes of shoes sold at a store during a given week. Find the median size.

Size of Shoes: 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110

No of Pairs: 1, 2, 4, 5, 15, 30, 60, 95, 82, 75, 44, 25, 15, 4

[10 marks]

- (b) Calculate the arithmetic mean from the following data using short-cut method

[10 marks]

Values: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50

Frequency: 20, 43, 75, 67, 72, 45, 39, 9, 8, 6

QUESTION SIX

- (a) As a student of economics, explain the importance of statistic.

[10 marks]

- (b) Construct the chain base index numbers from the following data

Year: 1991 1992 1993 1994 1995 1996

Prices (Ksh.): 120 125 140 150 135 160

[10 marks]

