



Riara School of Business
Nurturing business innovators

SEPTEMBER – DECEMBER 2019 TRIMESTER
**EXAMINATION FOR BACHELOR OF BUSINESS ADMINISTRATION/
DAY PROGRAMME**

RFN 202: STATISTICS AND DECISION MAKING ANALYSIS

DATE: 16TH DECEMBER 2019

TIME: 2 HOURS

GENERAL INSTRUCTIONS:

Students are NOT permitted to write on the examination paper during reading time.

This is a closed book examination. Text books/reference books/notes are not permitted.

SPECIAL INSTRUCTIONS:

1. Write your ADMISSION NUMBER clearly on the cover of the answer booklet(s).
 2. Answer Question ONE and ANY OTHER TWO questions.
 3. Questions in all sections should be answered in answer booklet(s).
 4. Marks allocated to each question are shown at the end of the question.
 5. PLEASE start the answer to EACH question on a NEW PAGE.
 6. Indicate the number of the questions answered on the cover of the answer booklet(s) in the order you answered them.
 7. Write your answers in paragraph form unless stated otherwise.
 8. Keep your phone(s) SWITCHED OFF at the front of the examination room.
 9. Keep ALL bags and caps at the front of the examination room and do not refer to any unauthorized material before or during the course of the examination.
 10. You are only allowed to leave the examination room 30 minutes to the end of the Examination.
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QUESTION ONE: COMPULSORY (30 Marks)

- a) Using examples distinguish the following terms as used in statistics and data analysis.
i) Quantitative variables and Qualitative variables
ii) Ratio and Nominal Levels of measurement
Finite and Infinite population **[9 Marks]**
- b) The simple interest on sh. 300 at the rate of 4% p.a. with that on ` 500 at the rate of 3% p.a. both for the same period, is sh. 162. Find the time period. **[5 Marks]**
- c) Evaluate the mean absolute deviation (MAD) from the following data showing prices of 11 substitute product for product Z
90, 95, 40, 60, 50, 65, 70, 80, 85 90, 105 **[5 Marks]**
- d) Below are weights of student samples results in a chemistry class in grams in a sample of 50 students calculate mean if the assumed average weight is 12 grams? **[5 Marks]**

Weight (x)	9	10	11	12	13	14	15	16	17
Frequency (f)	1	2	4	7	11	12	8	3	2

- e) Define a sample space. List the sample space when a coin is tossed three times. **[5 Marks]**

QUESTION TWO

- a) Consider the following data for 50 BBA students.

75 86 86 87 89 95 95 95 95 95 96 96 96 97 97 97 97 98 98 99
99 99 99 100 100 100 105 110 110 110 115 120 122 125 132 135
150 150 150 160 165 170 172 175 185 190 200 250 250 300

Construct a grouped frequency distribution for the above data **[8 Marks]**

- b) The frequency distribution table below shows the completion time of a sprint for 110 students during their school sport's day.

Completion Time (Sec.)	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99
Frequency	5	8	13	22	32	13	10	7

- i) Find the sample mean for the grouped data **[2 Marks]**
- ii) Find the sample variance and standard deviation for the grouped data **[6 Marks]**
- iii) Use the above data to construct a histogram. **[4 Marks]**

QUESTION THREE

- a) Explain **Four** uses of statistics in Business **[4 Marks]**
- b) The table below shows time in seconds that a random sample of employees took to complete a task.

63	229	165	77	49	74	67	59	66	
102	81	72	59	74	61	82	48	70	86

- i) Determine the median of the distribution. **[5 Marks]**
- ii) Compute the first and the third quartile of the distribution. **[4 Marks]**
- iii) Compute the arithmetic mean and standard deviation for the data. **[5 Marks]**
- iv) Identify any outliers in the data. **[2 Marks]**

QUESTION FOUR

- a) As the number of units manufactured in a factory is increased from 200 to 300, the total cost of production increases from Ksh. 16,000 to Ksh. 20,000. If the total cost of production is partly fixed and other part varies as number of units produced, find the total cost of for production 500 units. **[10 Marks]**
- b) In how many ways 6 books out of 10 different books can be arranged in a book-self so that 3 particular books are always together? **[5 Marks]**
- c) x and y are two variables such that $x \propto y$. Obtain a relation between x and y if $x = 20$. $Y = 4$. **[5 Marks]**

QUESTION FIVE

- a) A laboratory blood test is 95 percent effective in detecting a certain disease when it is, In persons tested. (That is, if a healthy person is tested, then, with probability 0.01, the test

result will imply he or she has that disease.) If 0.5 percent of the population actually has the disease, what is the probability a person has the disease given that the result is positive?

[5 Marks]

b) Use the graphical analysis method to determine the median of the following data.

Class	0-9	10-19	20-29	30-39	40-49
Frequency	5	10	15	8	7

[10 Marks]

c) Evaluate the median of the above data and compare your results with b) above. **[5 Marks]**