

CHUKA



UNIVERSITY

**UNIVERSITY EXAMINATIONS
RESIT/SPECIAL EXAMINATION**

**EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF EDUCATION
BUST 212: QUANTITATIVE METHODS IN BUSINESS**

STREAMS: BED Y2S1

TIME: 2 HOURS

DAY/DATE: WEDNESDAY 03/11/2021

2.30 P.M – 4.30 P.M.

INSTRUCTIONS:

- Answer question ONE and any other TWO questions.

1. (a) Give Five uses quantitative data in decision making **(10 Marks)**

(b) Using suitable examples, distinguish between a discrete and continuous variable **(10 Marks)**

(c) A company has the following function; $AR = 250 - Q$ and $TC = -500 + 31Q^2 + 10Q$
Where AR is the average revenue, TC is the total cost and Q is the quantity sold.

- Determine
- (i) The profit function
 - (ii) The level of output that will maximize total profits
 - (iii) The maximum profit **(10 Marks)**

2(a) Give any Four qualities of a good measure of description that can be used in decision making **(8 Marks)**

(b) The following data shows the distribution of monthly rent in a high cost estate.

<u>Monthly Rent (000s)</u>	<u>Number of Houses</u>
40-60	16
60-80	24
80-100	59
100-120	100
120-140	41
140-160	31
160-180	19
180-200	10

Required

- (i) The mean Monthly rent
- (ii) The coefficient of variation for the data **(12 Marks)**

3.(a) Distinguish between correlation and regression **(5 Marks)**

(b) The following data was extracted from the records of a company showing the expenses that were incurred in running a production plant for the last 10 years

<u>Age of Plant in Years</u>	<u>Expenses in 000s</u>
1	5
2	4
3	10
4	12
5	15
6	15
7	20
8	12
9	25
10	30

Required

- (i) Calculate the Karl Pearson's Product Moment Co-efficient of Correlation. **(6 Marks)**
 - (ii) Formulate a regression equation from the data **(6 Marks)**
 - (iii) Using your equation , estimate the expected expenses for a plant that is 12 years old **(3Marks)**
- 4(a) Discuss the components of a Time Series **(10 Marks)**
- (b) What are the weaknesses of using quantitative data in decision making? **(10 Marks)**
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