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KIRIRI WOMENS' UNIVERSITY OF SCIENCE AND TECHNOLOGY
UNIVERSITY EXAMINATION, 2 018/2019 ACADEMIC YEAR
DIPLOMA IN PROCUREMENT AND SUPPLIES MANAGEMENT
DBA 1104- QUANTITATIVE METHODS

Date: 9th August 2018
Time: 2.30 Pm-4.30Pm

INSTRUCTIONS TO CANDIDATES
ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS
QUESTION ONE (30 MARKS)

a) Discuss the difference between primary and secondary data and give example in each case. (4 Marks)

b) The following figures represent the number of books issued at the counter of a commerce library.

96, 180, 98, 75, 270, 20, 102, 100, 94, 75

Find:

i) Median (2 Marks)

ii) Standard deviation (4 Marks)

c) Discuss five limitations of statistics as a tool for management. (5 Marks)

d) Given below are profits earned by franchise branches of a food outlet.

Profit (ksh '000)	5 - 9	10 - 14	15 - 19	20 - 24	25 – 29	30 - 34
No. of shops	8	18	27	21	10	28

Calculate:

i) Mean (5 Marks)

ii) Median (4 Marks)

e) Nine balls, each marked with a number 1 to 9 are place in a bag and one ball is drawn out at random. What is the probability that the number on the ball is:

i) A multiple of three (3 Marks)

ii) A 5 or 2 (3 Marks)

QUESTION TWO (20 MARKS)

a) Discuss four advantages of data presentation tools? List four methods of data presentation. (4 Marks)

b) A researcher studied the connection between x (the age in years of a licensed driver) and y (the percentage of fatal accidents for drivers of that age which are caused by speeding). The collected data is shown below.

X	17	27	37	47	57	67	77
Y	36	25	20	12	10	7	5

Using this data to:

i) Sketch a scatter diagram. (3 Marks)

ii) Calculate the coefficients of correlation (6 Marks)

iii) Find regression equation that adequately represents the data. (7 Marks)

QUESTION THREE (20 MARKS

a) The following data shows housing rent in a locality. Find the coefficient of mean . (5 Marks)

110, 145, 150, 130, 128, 160, 120, 115, 108, 125

b) The mean wage of labourers working in a factory running two shifts of 60 and x workers respectively is Rs.38. The mean wage of 60 labourers working the morning shift is Rs. 40. Find the mean wage of x labourers working in the evening shift. (4 Marks)

c) The scores in an aptitude test are normally distributed with a mean of 100 and with standard deviation of 15.

i) What proportion of students is likely to score between 85 and 115? (3 Marks)

ii) The probability that a student will score above 130. (3 Marks)

iii) What is the minimum score attained by the top 15% of the students. (5 Marks)

QUESTION FOUR (20 MARKS)

a) In a clinical trial a certain drug has a 0.8 success rate of curing a known disease. If 5 people known to have the diseases are given the drug, find the probability of at least three people are cured (5 Marks)

b) Use the matrix method to evaluate the following system of equations. (5 Marks)

$$3x - 4y = 9$$

$$2x + 5y = -5.5$$

c) Using the figures below, calculate the following

i) Laspeyre's price index (4 Marks)

ii) Fisher's ideal index (3 Marks)

iii) Paasche's index number (3 Marks)

Commodity	1990		1995	
	Price	Quantity	Price	Quantity
Maize	65	20	90	30
Wheat	115	8	160	7
Beans	250	5	300	8
Barley	300	2	420	5

QUESTION FIVE 20 MARKS

a) The following are marks scored by 42 students in a test.

35	49	69	57	58	75	48
40	46	86	47	81	67	63
56	80	36	62	49	46	26
41	58	68	73	65	59	72
64	70	64	54	74	33	51
73	25	41	61	56	57	28

i) Starting with the mark of 20-29, 30 -39 etc make a frequency distribution table. (3 Marks)

Calculate:

ii) The mean (3 Marks)

iii) Standard deviation (6 Marks)

iv) |Mode (4 Marks)

v) Median (4 Marks)