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KIRIRI WOMENS' UNIVERSITY OF SCIENCE AND TECHNOLOGY
UNIVERSITY EXAMINATION, 2017/2018 ACADEMIC YEAR
CERTIFICATE IN BUSINESS ADMINISTRATION
CBM 17 BUSINESS CALCULATIONS AND STATISTICS

Date: 15th August 2018
 Time: 8.30 Am- 10.30 Am

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS

QUESTION ONE (30MARKS)

- a) Explain each of the following.
- i) Frequency distribution (2 Marks)
 - ii) Descriptive statistics (2 Marks)
 - iii) Population (2 Marks)
- b) Outline three limitations of statistics (6 Marks)
- c) Use matrix method to solve the simultaneous equations (5Marks)

$$4p + q = 6$$

$$2p - q = -3$$

- d) The following relates to the number of successful sales made by the salesmen employed by a large microcomputer firm in a particular quarter.

No of sales	40-44	45-49	50-54	55-59	60-64
No of sales men	4	10	15	8	3

Required

- i) State the modal class (1 Mark)
- ii) Calculate the median sales (4 Marks)

- e) The table below shows the numbers of defective bolts from 40 samples

No of defective bolts(x)	0	1	2	3	4	5
Frequency	20	8	6	4	1	1

Calculate the standard deviation (2 Marks)

- f) A bucket contains 3 oranges and 5 mangoes. Jane picks a fruit at random from the bucket and then replacing it back. She mixes them and picks another fruit at random from the bucket.
- i) Calculate the probability that Jane picks an orange in 1st draw and a mango in the 2nd draw. (4 Marks)
 - ii) Calculate the probability that Jane picks same type of fruit in the 1st draw and 2nd draw (4 Marks)

QUESTION TWO (20 MARKS)

- a) The following relates to the number of successful sales made by the salesmen employed by a large microcomputer firm in a particular quarter.

No of sales	0-4	5-9	10-14	15-19	20-24	25-29
No of sales men	1	14	23	21	15	6

- i) Calculate the Mean number of sales (3 Marks)
ii) Calculate the Medium of sales (4 Marks)
iii) State the Modal class (2 Marks)
b) Compute for:
i) Standard variation (5 Marks)
ii) Co-efficient of variation (3 Marks)
c) List three advantages of Arithmetic mean (3Marks)

QUESTION THREE (20MARKS)

- a) Explain each of the following.
i) Inference Statistics (2 Marks)
ii) Inductive statistics (2 Marks)
b) Discuss any THREE limitations of statistics (6 Marks)
c) The marks Obtained by 10 pupils in a test were 15, 14, 12,13,k,16,11,13,12 and 17.The sum of the squares of the marks $\sum x^2$ is 1794
i) Calculate the value of k (5 Marks)
ii) The standard deviation (5 Marks)

QUESTION FOUR (20MARKS)

- a) Define data tabulation highlighting its Five advantages (7 Marks)
b) Discuss the Four sampling techniques in data collection (8 Marks)
c) State five properties of Arithmetic mean (5 Marks)

QUESTION FIVE (20MARKS)

- a) A husband and wife appear in an interview for two vacancies in the same post. The Probability of husband's selection is $\frac{1}{7}$ and that of wife's selection is $\frac{1}{5}$. What is the Probability that:
i) Both of them will be selected (4 Marks)
ii) Only one of them will be selected (3 Marks)
iii) None of them will be selected (3 Marks)

- b) The table below shows the foreign exchange earnings from the export of various agricultural commodities by a certain country for the year 2000 to 2004 in millions of US dollars

Year	2000	2001	2002	2003	2004
coffee	76	79	95	110	100
Tea	59	65	70	75	84
sisal	19	23	28	25	29
Pyrethrum	13	15	14	15	23

Present this information in a composite bar chat (10Marks)