



MAASAI MARA UNIVERSITY

**REGULAR UNIVERSITY EXAMINATIONS
2022/2023 ACADEMIC YEAR
FIRST YEAR FIRST SEMESTER**

**SCHOOL OF BUSINESS & ECONOMICS
DIPLOMA IN BUSINESS MANAGEMENT**

**COURSE CODE: DBM 04
COURSE TITLE: QUANTITATIVE SKILLS**

DATE: 14TH DECEMBER, 2022

TIME: 1430-1630

INSTRUCTIONS TO CANDIDATES

Answer Question ONE and any other THREE Questions.

QUESTION ONE

a) A lot of 24 bulbs contains 25% defective bulbs. A bulb is drawn at random from the lot. It is found to be not defective and it is not put back. Now, one bulb is drawn at random from the rest. What is the probability that the bulb is not defective (4 Marks)

b) Suppose a state's department of labour wants to compare the cost of family food buying over the years. Department officials decide that instead of using a single food item to do this comparison, they will use a food basket that consists of five items: eggs, milk, bananas, potatoes and sugar. The information is shown below:

Item	Quantity	Price	
		1995	2008
Eggs	45	0.78	1.06
Milk	60	1.14	1.56
Bananas	12	0.36	0.49
Potatoes	55	0.28	0.36
Sugar	36	0.35	0.43

Using laspeyres method, compute index for 2008 with 1995 as the base year. (4 Marks)

c) Explain the nature of statistical inquiry (6 Marks)

d. Differentiate between primary data and secondary data, giving examples of each. (4 Marks)

e. State four characteristics of a binomial distribution. (4 Marks)

f. You are given the following scores: 230, 452, 550, 110, 220, 465, 445, 990 and 770. Compute for the median score (3 Marks)

QUESTION TWO

You are given the following sample data.

Score limits	frequency
10-14	6
15-19	22
20-24	35
25-29	29
30-34	16
35-39	8
40-44	4
45-49	2

Compute the following measures of central tendency and measures of variation and dispersion:

- i. Mean (3 Marks)
- ii. Mode (2 Marks)
- iii. Median (4 Marks)
- iv. Variance (4 Marks)

v. Standard deviation

(2 marks)

QUESTION THREE

a. There are both random sampling methods and non-random sampling methods. Explain the four random sampling methods. (8 Marks)

b. i. Define census

(2 Marks)

ii. State five demerits of taking a census

(5 Marks)

QUESTION FOUR

a. Find the correlation for the following data where X is interest rate and Y is future index, using the Karl Pearson method of covariance method. (10 Marks)

X(Interest)	7.43	7.48	8.00	7.75	7.60	7.63	7.68	7.67	7.59	8.07	8.03	8.00
Y(Future index)	221	222	226	225	224	223	223	226	226	235	233	241

b. What is correlation? Explain the various degrees of correlation

(5 Marks)

QUESTION FIVE

a) i. Define quantitative techniques

(3 Marks)

ii. Explain the main stages of statistical inquiry

(7 Marks)

b. Give five characteristics of a normal distribution.

(5Marks)

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