MUEO

MOI UNIVERSITY

OFFICE OF THE DEPUTY VICE CHANCELLOR
(ACADEMICS, RESEARCH & EXTENSION)

UNIVERSITY EXAMINATIONS
2021/2022 ACADEMIC YEAR

SECOND YEAR EXAMINATION

FOR THE DEGREE OF

BACHELOR
OF SCIENCE IN
BUSINESS MANAGEMENT AND HUMAN RESOURCE MANAGEMENT

COURSE CODE: BBM 211/BHR 200

COURSE TITLE: BUSINESS STATISTICS

DATE: 27/07/2022 **TIME:** 9.00 A.M. – 12.00 NOON.

INSTRUCTION TO CANDIDATES

- SEE INSIDE.

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BBM 211: BUSINESS STATISTICS

INSTRUCTIONS: ANSWER QUESTION *ONE* AND ANY OTHER *THREE*

QUESTION ONE

a) Distinguish between descriptive Statistics and inferential Statistics (5 marks)

b) A number of particular articles have been classified according to their weights. After drying for two weeks, the same articles have again been weighed and similarly classified. It is known that the median weight in the first weighing was 20.83 gm while in the second weighing it was 17.35 gm. Some frequencies a and b in the first weighing and x and y in the second are missing. It is known that $a = 1/3x$ and $b = 1/2\ y$. Find out the values of the missing frequencies. (8 marks)

Class	First Weighing Frequencies	Second Weighing Frequencies
0-5	a	Z
5-10	b	y
10-15	11	40
15-20	52	50
20-25	75	30
25-30	22	28

c) Why is the standard deviation the most widely used measure of dispersion? Explain. (5 marks)

d) Describe the process of planning a statistical enquiry with special reference to its scope and purpose. (7marks)

QUESTION TWO

a) What's the purpose of classifications in statistics? (4 marks)

b) The following distribution are class marks of 107 students

Class Marks	4	11	18	25	32	39	46	53
No. of students	5	12	18	40	15	7	3	2

Determine the classification and construct an ogive from the data and use it to estimate and calculate the Mean, mode, median, Variance. (11marks)

QUESTION THREE

a) Distinguish Kurtosis and skewness. (2 marks)

b) Sketch and explain the different types of skewness? (6 marks)

c) Calculate coefficients of skewness and kurtosis (7 marks)

Weekly Sales	Number of Companies
10-12	12
12–14	18
14–16	35
16–18	42
18–20	50
22-24	30
24-26	8

QUESTION FOUR

a) Distinguish between correlation and regression (4 marks)

b) The following table shows sales (in thousand units) and expenses (in thousand shillings) of 10 firms: Let sales of a firm be denoted by X and expenses be denoted by Y.

Firm	1	2	3	4	5	6	7	8	9	10
Sales	50	50	55	60	65	65	65	60	60	50
Expenses	11	13	14	16	16	15	15	14	13	13

(i) Determine the least square regression equation of Y on X. (4 marks)

(ii) Estimate the blood pressure of a woman whose age is 45 years. (2 marks)

(iii) Find the correlation coefficient between X and Y. (5 marks)

QUESTION FIVE

a) What is probability and how is probability related to uncertainty cases. (4 marks)

b) Among the sales staff engaged by a company 60% are males. In terms of their professional qualifications, 70% of males and 50% of females have a degree in marketing. Find the probability that a sales person selected at random will be;

i) A female with degree in marketing (1.5 marks)

ii) A male without degree in marketing. (1.5 marks)

iii) Either a male or female with degree in marketing. (1.5 marks)

iv) Either of the gender has no degree (1.5 marks)

c) Discuss the axioms of probability. (5 marks)

QUESTION SIX

a) Describe each of the following:

i. Base period

ii. Price relatives

iii. Fixed-base index numbers

iv. Chain-base index numbers (6 marks)

b) Given are the following price-quantity data of fish, with price quoted in Ksh per kg and production in kg.

Year	1980	1981	1982	1983	1984	1985
Price	15	17	16	18	22	20
Production	500	550	480	610	650	600

Construct:

i. The price index for each year taking price of 1980 as base, (5 marks)

ii. The quantity index for each year taking quantity of 1980 as base. (4 marks)