



PAN AFRICA CHRISTIAN UNIVERSITY

END OF SEMESTER EXAMINATION FOR THE DEGREE OF

SEPTEMBER- DECEMBER 2024

CAMPUS: ROYSAMBU

DEPARTMENT: BUSINESS

COURSE CODE:

COURSE TITLE: BUSINESS STATISTICS I

EXAM DATE:

TIME:

INSTRUCTIONS

- This examination script consists of **six (6)** questions.
- Answer question **ONE** and ANY other **four** Questions.
- Read all questions carefully before attempting.
- Write your **student number** on the answer booklet provided.

Question One (Compulsory= 10 marks)

- a. Statistics plays an important role in business management. State and explain **two** ways in which statistics is used in a business organization. (4 marks)
- b. Outline **three** importance of undertaking Pilot Survey (pre-test) before conducting the main survey in business management. (3 marks)
- c. Differentiate between primary and secondary data. Give examples. (3 marks)

Question Two (10 marks)

The following data relates to the daily bill on consumption of a certain commodity for 60 households

Daily bills (kshs)	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
No. of households	6	7	11	10	6	5	9	3	3

Calculate:

- a. The mean (2 marks)
- b. Standard deviation (2 marks)
- c. Coefficient of skewness (2 marks)
- d. Comment on the coefficient of skewness (2 marks)

QUESTION THREE (10 Marks)

Distinguish between the following terms giving relevant examples:

- i. Discrete and continuous data. (2 marks)
- ii. The mean deviation and the standard deviation. (2 marks)
- iii. The coefficient of variation and the coefficient of skewness. (2 marks)
- iv. Weighted and unweighted price index numbers. (2 marks)
- v. Price index and quantity index. (5 marks)

QUESTION FOUR**(10 Marks)**

A company buys four types of raw materials. The prices (in £) and annual quantities used in the years 2019 and 2020 are given below:

Materials	2019		2020	
	Price	Quantity	Price	Quantity
A	50	90,000	90	80,000
B	60	10,000	50	20,000
C	60	1,000	50	2,000
D	50	25,000	60	20,000

- Calculate a (weighted) Laspeyres price index for 2020, using 2019 as the base year. (5 marks)
- Calculate a (weighted) Paasche price index for 2020, using 2019 as the base year. (5 marks)

QUESTION FIVE**(10 Marks)**

- Briefly explain two components of a time series. (4 Marks)
- Consider the time series;

Period	Time Series
1	15
2	27
3	20
4	14
5	25
6	11

Calculate the centered moving average for the data

(6 marks)

QUESTION SIX**(10 Marks)**

The table below shows grouped distribution of the overdraft sizes of 400 bank customers.

Size in Kshs.	Number of customers
Less than 100	82
100 but less than 200	122
200 but less than 300	86
300 but less than 400	54
400 but less than 500	40
500 but less than 600	16

Using the above table calculate the following:

- i. Quartile 1 (Q_1) (2 marks)
- ii. Quartile 3 (Q_3) (3 marks)
- iii. Fourth Decile (D_4) (3 marks)
- iv. Ninety fifth percentile (P_{95}) (2 marks)