PAN AFRICA CHRISTIAN UNIVERSITY

SCHOOL OF LEADERSHIP, BUSINESS & TECHNOLOGY

END OF SEMESTER EXAMINATION FOR THE DEGREE OF

BACHELOR OF COMMERCE

DIPLOMA IN LEADERSHIP AND MANAGEMENT

DIPLOMA IN ENTREPRENEURSHIP MANAGEMENT

SEPTEMBER-DECEMBER 2019

CAMPUS: ROYSAMBU
DEPARTMENT: BUSINESS STUDIES
COURSE CODE: BCM105|DENT0112|DLM102
COURSE TITLE: QUANTITATIVE TECHNIQUES
EXAM DATE: TUESDAY 3RD DECEMBER 2019
DURATION: 2 HOURS
TIME: 2:00PM-4:00PM
INSTRUCTIONS

- Read the instructions and questions carefully before you write the answers.
- Write your **STUDENT NUMBER** in the Answer Booklet given
- *Write clearly and legibly.*
- This exam script consists of **Six (6)** questions.
- Answer ALL q**uestions in SECTION A (compulsory)** and A**ny other three (3)** questions from **SECTION B**

- *ALL PAC University's examination rules and regulations apply*

SECTION A: ANSWER ALL QUESTIONS IN THIS SECTION

QUESTION 1

a) Outline any three basic characteristics of statistics in quantitative methods (3 marks)

b) Distinguish between the following variables:
i) Independent Variable and Dependent Variable (4 marks)
ii) Discrete Variable and Continuous Variable (4 marks)

c) Outline four importance of time-series analysis in business (4 marks)

d) The following dataset contains the quantity of purchase orders generated by eleven salesmen in a month:
(30, 23, 25, 44, 20, 34, 23, 17, 50, 24, 23)
Find:
i) Mode (2 marks)
ii) Range (2 marks)
iii) Mean (2 marks)
iv) Median (2 marks)
v) Skewness (2 marks)

e) Your boss has asked you to estimate this year's sales units for a bank loan application. He has furnished you with a summarized data showing the frequency distribution of last year's daily sales as follows:

Daily sales units	50-59	60-69	70-79	80-89	90-99
Frequency	2	3	5	3	2

Required:
Compute the annual sales units that he should present to the bank. (5 marks)

SECTION B: ANSWER ANY THREE QUESTIONS

QUESTION 2

The following were the monthly Diaspora Remittances published by the Central Bank of Kenya for the last six months

Month	Jun	Jul	Aug	Sep	Oct	Nov
KSh. million	244	199	221	245	243	224

Compute the standard deviation (10 marks)

QUESTION 3

The following prices and quantities were obtained from a local supermarket for three commodities for the year 2015 and 2019:

Commodity	2015		2019	
	Price	Quantity	Price	Quantity
Sugar	200	5	390	7
Flour	80	6	150	8

Compute index numbers for year 2019 taking year 2015 as the base year using:

i) Laspeyres Price Index (5 marks)

ii) Paasche's Price Index (5 marks)

QUESTION 4

The following data was obtained on student enrolment from a local university.

Year	Number of students	Year	Number of students
2010	466	2014	670
2011	450	2015	800
2012	488	2016	990
2013	600	2017	1,100

a) Plot the data on a graph (5 marks)

b) Fit a trend line using the semi-average method (5 marks)

QUESTION 5

In the following table contains data showing the emotional intelligence test scores of six salesmen and their weekly sales performance.

Test score (in percent)	40	70	50	60	80	50
Sales (Sh. million)	2	4	4	5	6	2

Required:

a) Determine the regression line of sales on test scores (8 Marks)

b) Estimate the weekly sales of a salesman whose test score is zero (2 marks)

QUESTION 6

Discuss five probability sampling techniques (10 marks)