PAN AFRICA CHRISTIAN UNIVERSITY

SCHOOL OF LEADERSHIP, BUSINESS & TECHNOLOGY

END OF SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF COMMERCE

BACHELOR OF BUSINESS LEADERSHIP

BACHELOR OF BUSINESS AND INFORMATION TECHNOLOGY

DIPLOMA IN PROCUREMENT & SUPPLY CHAIN MANAGEMENT

JANUARY-APRIL 2019 SEMESTER

CAMPUS: ROYSAMBU

DEPARTMENT: BUSINESS STUDIES

COURSE CODE: BUS2243|BCM108|BIT210|DSM203

COURSE TITLE: BUSINESS STATISTICS

EXAM DATE: TUESDAY 16th APRIL 2019

DURATION: 3 HOURS

TIME: 9:00AM-12:00PM

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 examination script consists of **Six (6)** questions.
- Answer Question **ONE** and any other **FOUR** questions
- Question one is **40 MARKS** while the rest of the questions are **15 MARKS** each.
- *ALL PAC*

QUESTION ONE: COMPULSORY [40MKS]

(a) Differentiate the following pairs of concepts.

(i) Descriptive statistics and Inferential statistics [4mks]

(ii) A Parameter and a statistic [4mks]

(b) Discuss three probability sampling methods used in selecting a sample for analysis. [6mks]

(c) Explain two factors to consider when determining the class interval size. [4mks]

(d) The following table shows the time in minutes required to complete a sample assembly task for 30 employees who have applied for a promotional transfer to a job requiring precision assembly.

10	14	15	13	17	16	12	14	11	13
15	18	9	14	14	9	15	11	13	11
12	10	17	16	12	11	16	12	14	15

(i) Suppose a researcher would want to organize the data into five classes with equal class sizes. Determine the convenient interval size. [2mks]

(ii) Prepare a frequency distribution [5mks]

(iii) Construct a histogram for the frequency distribution. [5mks]

(iv) Prepare a relative frequency distribution using exact class limits. [5mks]

(v) Construct a percentage ogive for the data. [5mks]

QUESTION TWO [15MKS]

(a) Differentiate between time-series data and cross-sectional data. [3mks]

(b) Discuss three data measurement levels. [6mks]

(c) Explain three potential problems one might encounter during data collection process. [6mks]

QUESTION THREE [15MKS]

(a) The automobile industry is a significant part of the U.S., Japanese, and German economies. When car sales are up, the economies of these countries are up, and vice versa. The table below displays data showing the total number of cars sold in April 2015 and April 2016 by the six largest automobile companies in the world.

Company	**April 2015 sales**	**April 2016 Sales**
General Motors	300,000	282,000
Ford	220,000	206,000
Toyota	200,000	215,000
Chrysler	180,000	160,000
Honda	110,000	138,000
Nissan	50,000	88,000

(i) Use the information to construct a column bar chart to effectively compare the automobile sales for April 2016 and April 2015. [8mks]

(ii) Comment on your results. [2mks]

(iii) Develop a pie chart to display company sales for April 2016. [5mks]

QUESTION FOUR [15MKS]

(a) Hawkins Associates is a management search firm that recruits qualified management talent for companies looking to fill a position. They have selected a sample of seven recent placements and recorded the following data for their starting salaries in Ksh as follows:

144000	98000	204000	177000	155000	316000	100000

Describe the data in terms of skewness. [7mks]

(b) A random sample of the miles driven by 20 rental car customers is shown as follows:

25	65	45	19	35	28	39	100	50	26	25	27
24	17	12	106	23	19	39	70	20	18	44	31

Develop a box and whisker plot. [8mks]

QUESTION FIVE [15MKS]

The following set of data shows a sample for the number of soft drinks that students at PAC University reported they had consumed in the past month.

24	16	23	26	30	21	15	9
18	27	14	6	14	10	12	13

Use the data set to calculate:

(i) The variance [5mks]
(ii) The standard deviation [2mks]
(iii) The coefficient of variation [4mks]
(iv) The coefficient of skewness [4mks]

QUESTION SIX [15MKS]

(a) Differentiate between price index numbers and quantity index numbers. [3mks]

(b) You are given the following price and quantity data with price quoted in Ksh per kg and production in quantities.

1980			1985	
Item	Price	quantity	Price	production
Fish	15	500	20	600
Mutton	18	590	23	640
Chicken	22	450	24	500

Using 1980 as a base year, calculate the following price and quantity indices for 1985.

(i) Laspeyre's Price Index [3mks]
(ii) Laspeyre's Quantity Index [3mks]
(iii) Paasche's Price Index [3mks]
(iv) Paasche's Quantity Index [3mks]