TECHNICAL UNIVERSITY OF MOMBASA
Faculty of Business & Social Studies

DEPARTMENT OF BUSINESS STUDIES

DIPLOMA IN BUSINESS ADMINISTRATION
DIPLOMA IN ACCOUNTANCY

BAC 2103: BUSINESS STATISTICS

END OF SEMESTER EXAMINATIONS

SERIES: APRIL 2015

TIME: 2 HOURS

INSTRUCTIONS:

- This paper consists of **FIVE** questions.
- Answer question **ONE (Compulsory)** and any other **TWO** questions.
- Do not write on the question paper

This paper consists of Four printed pages.

QUESTION 1 (Compulsory)

a) The distribution of monthly income per family are as shown below:

Monthly income	Cumulative frequencies
100 – 120	30
120 – 160	55
160 – 200	75
200 – 240	90
240 – 280	100

  Required:
  i)   The mean monthly income.   **(6 marks)**
  ii) The standard deviation.   **(5 marks)**
  iii) Coefficient of variation.   **(4 marks)**

b) Giving examples, define the following types of data as used in business statistics:
  i)   Primary data   **(2 marks)**
  ii) Secondary data   **(2 marks)**
  iii) Quantitative data   **(2 marks)**
  iv) Qualitative data   **(2 marks)**

c) Describe the following methods of sampling:
  i)   Simple random sampling.   **(3 marks)**
  ii) Stratified sampling   **(4 marks)**

QUESTION 2

The following table gives the number of people in a country and their share of national wealth.

Number of people in thousands	Wealth in thousands of shillings
13,000	5,200
16,000	12,800
16,000	48,000
2,000	50,000
500	25,000
__47,500__	__141,000__

Required:

a) Lorenz curve to represent the data.   **(17 marks)**

b) Interpret the distribution   **(3 marks)**

QUESTION 3

a) Explain **FOUR** qualities of a good measure of central tendency. **(8 marks)**

b) The following data have been collected regarding sales and advertising expenditure:

Month	Jan.	Feb.	Mar.	April	May	June
Sales (sh. millions)	8.5	9.2	7.9	8.6	9.4	10.1
Advertising expenditure (shs. '000')	210	250	290	330	370	410

Required:

i) Determine the regression line of advertising expenditure on sales. **(10 marks)**

ii) During the 9th month, the sales department expects sales to be shs. 7.6 millions. Calculate the expected advertising expenditure. **(2 marks)**

QUESTION 4

a) Giving examples, explain the uses of index numbers. **(4 marks)**

b) In 2005 and 2006, the prices and quantities of each of the three commodities were as shown in table below:

2005			2006	
Product	**Price (shs.)**	**Quantity (Kg.)**	**Price (shs.)**	**Quantity (Kg.)**
X	2	25	3	30
Y	3	15	4	20
Z	15	4	20	3

Calculate:

i) Laspeyre's quantity index **(4 marks)**

ii) Paasche quantity index **(4 marks)**

iii) Fisher's ideal quantity index **(4 marks)**

iv) Marshall edgeworth quantity index **(4 marks)**

QUESTION 5

a) Highlight features of a good questionnaire. **(4 marks)**

b) The following data shows frequency distribution of heights of workers working in a chemical plant:

Heights	64.5 - 66.5	66.5 – 68.5	68.5 – 70.5	72.5 – 72.5	72.5 – 74.5
Number of employee	1	4	9	4	2

   i) Draw an ogive to represent the data. **(9 marks)**

   ii) Use the graph to estimate the lower and upper quartile. **(5 marks)**

   iii) Hence evaluate the interquartile range. **(2 marks)**