



**TECHNICAL UNIVERSITY OF MOMBASA**  
***Faculty of Business & Social Studies***

DEPARTMENT OF BUSINESS STUDIES

DIPLOMA IN PROCUREMENT AND MATERIALS MANAGEMENT  
DIPLOMA IN HUMAN RESOURCES MANAGEMENT

**BAC 2103: BUSINESS STATISTICS**

END OF SEMESTER EXAMINATIONS

**SERIES: DECEMBER 2014**

**TIME: 2 HOURS**

**INSTRUCTIONS:**

- This paper consists of **FIVE** questions.
- Answer question **ONE (Compulsory)** and any other **TWO** questions.

***This paper consists of Four printed pages.***

### QUESTION 1 (Compulsory)

- a) Describe **FOUR** methods of collecting primary data. **(8 marks)**
- b) Differentiate between the following terms as used in statistics:
- i) Quantitative and Qualitative data **(3 marks)**
  - ii) Descriptive statistics and inferential statistics. **(3 marks)**
- c) The table below shows the distribution of children's waist in a class of 195 students:

Size (cm)	Number of children
38 – 41	4
42 – 45	20
46 – 49	30
50 – 53	70
54 – 57	52
58 – 61	16
62 – 65	<u>3</u>
	<u>195</u>

#### Required:

- i) The mean size of the children's waists. **(3 marks)**
- ii) The standard deviation of the children's waists. **(4 marks)**
- iii) The coefficient of variation of the children's waists. **(2 marks)**
- iv) The mode. **(3 marks)**
- v) The coefficient of skewness and comment on the results obtained. **(4 marks)**

### QUESTION 2

- a) Describe **FOUR** features of a good questionnaire. **(10 marks)**
- b) What do you understand by the following terms as used in statistics:
- i) Absolute error **(2 marks)**
  - ii) Relative error **(2 marks)**
- c) The actual sales of an enterprise amounted to sh. 987,500 but the estimated sales were 1,000,000. Find the following:
- i) Absolute error **(3 marks)**
  - ii) Percentage error **(3 marks)**

### QUESTION 3

a) Draw a histogram and superimpose frequency polygon from the following data: **(12 marks)**

Marks	0 – 5	5 – 10	10 – 15	15 – 20	20 - 25	25 - 30	30 – 35	35 - 40	40 - 45	45 - 50
No. of students	7	8	15	16	19	13	12	10	5	2

b) Discuss the uses of statistics to a business organization. **(8 marks)**

### QUESTION 4

a) From the data below locate graphically:

- i) Median
- ii) Q1
- iii) Q3
- iv) D4
- v) P25

**(10 marks)**

Class	Frequency
10 – 20	15
20 – 30	18
30 – 40	23
40 – 50	30
50 – 60	13
60 – 70	8
70 – 80	6

b) Briefly explain **FIVE** statistical methods.

**(10 marks)**

### QUESTION 5

- a) Compute the index number of Marshall Edgeworth and Fishers ideal type for the following data:  
(12 marks)

Commodity	Base year		Current year	
	Price	Quantity	Price	Quantity
A	PO 7	qo 70	P1 5	q1 49
B	5	27	7	28
C	10	35	9	29
D	9	50	4	42
E	3	16	10	25

- b) The following is an extract from the monthly record of electricity consumption in thousand kilowatt hours of Chuma Enterprises Ltd:

12	36	40	30	28	20	19	10	10	16
19	27	15	26	20	19	7	45	33	21
26	37	6	20	11	17	37	30	20	5

- Represent this data in the form of a frequency distribution starting with 5 - 10 (exclusive method)  
(8 marks)