



# TECHNICAL UNIVERSITY OF MOMBASA

## SCHOOL OF HUMANITIES AND SOCIAL SCIENCES

### SOCIAL SCIENCES

#### UNIVERSITY EXAMINATION FOR:

DCDC Y1S2

BAC 2230: BUSINESS STATISTICS

**SERIES: APRIL 2016**

**TIME: 2 HOURS**

**DATE: 10 May 2016**

#### **Instructions to Candidates**

You should have the following for this examination

-Answer Booklet, examination pass and student ID

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

**Do not write on the question paper.**

#### **QUESTION ONE**

a) Differentiate between the following terms:

- Discrete data and Continuous data
- Null hypothesis and Alternative Hypothesis
- Primary data and secondary data
- Independent and Dependent variable **(10 Marks)**

b) The following are expenditures on food per day in USD among customers visiting Kenyan Hotels

63,35,59,20,68,21,65,37,64,34,42,65,45,58,74,59,25,71,58,39,27,49,43,46,64,42,42,20,36,29,67,58, 36,53.

Required:

i) Using 6 classes draw a frequency distribution table. (3 Marks)

ii) Using the table, calculate

a) Mean **(3 Marks)**

b) Median **(3 Marks)**

C) Mode **(3 Marks)**

d) Standard deviation **(4 Marks)**

e) Variance **(4 Marks)**

## QUESTION TWO

The tourist industry in Tanzania conducted a research on whether there exists any relationship between the number of lions in Ngorongoro Crater and the number of tourists visiting the site. The results are as shown:

lions	No. Of	No. Of tourists
	44	67
	19	65
	37	72
	11	62
	30	65
	51	75

Required:

Calculate the Karl Pearson correlation coefficient 'r' and interpret the results.

**(10 Marks)**

b) Explain any FIVE properties of a good measure of dispersion.

**(10 Marks)**

## QUESTION THREE

a) Consider the following marks obtained by 60 students in a statistics exam:

Marks	Frequency
0 - 20	5
20 - 40	15
40 - 60	25
60 - 80	10
80 - 100	5

i) Construct a cumulative frequency curve and graphically locate the median.

**(10 Marks)**

b) Construct a histogram and graphically locate the mode

**(10 Marks)**

#### QUESTION FOUR

a) Two judges in a beauty competition ranked 12 contestants as follows:

Judge X	Judge Y
1	12
2	9
3	6
4	10
5	3
6	5
7	4
8	7
9	8
10	2
11	11
12	1

Determine the rank correlation coefficient. Based on the value would it be rational to re-hire the two judges to officiate in future beauty competition. **(10 Marks)**

b) Discuss any FIVE limitations of Statistics. **(10 Marks)**

### QUESTION FIVE

a) Write notes on methods of collecting primary data. **(10 Marks)**

b) The following data has been provided by KUBZ company which operates in Jomvu.:

Machine hours	Overhead costs (£)
25	550
27	590
30	600
42	640
45	670

Required:

i) Determine the cost function using simple regression analysis. **(7 Marks)**

ii) Determine the overhead cost when the machine hours is 50 hours. **(3 Marks)**