



# **KIBABII UNIVERSITY COLLEGE (KIBUCO)**

## **MAIN CAMPUS**

**UNIVERSITY EXAMINATIONS  
2014 /2015 ACADEMIC YEAR**

**SECOND YEAR FIRST SEMESTER EXAMINATIONS**

**MAIN EXAMINATION (MAIN CAMPUS)**

## **FOR THE DEGREE OF BACHELOR OF COMMERCE**

**COURSE CODE:** BCO 204

**COURSE TITLE:** BUSINESS STATISTICS

**DATE:** JANUARY 2015                      **TIME:**

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### **INSTRUCTIONS TO CANDIDATES:**

Answer Question ONE and any other Two Questions

TIME: 2 Hours

### QUESTION ONE (30 MARKS)

- (a) Discuss the uses and limitations of statistics. (5 marks)
- (b) Explain the role of statistics in the management of business (5 marks)
- (c) Explain the following terms as used in statistics;
  - (i) Primary data (2 marks)
  - (ii) Secondary data (2 marks)
- (d) Explain any three methods of collecting the primary data giving their merits (3 marks)
- (e) Describe any four advantages of using questionnaire to collect data. (4 marks)
- (f) Questionnaires are pre-tested before being used. Why? (3 marks)
- (g) Explain any three different sources of secondary data. (6 marks)

### QUESTION TWO (20 MARKS)

- (a) Ten competitors in a beauty contest are ranked by three judges in the following order.

1 <sup>st</sup> Judge	1	6	5	10	3	2	4	9	7	8
2 <sup>nd</sup> Judge	3	5	8	4	7	10	2	1	6	9
3 <sup>rd</sup> Judge	6	4	9	8	1	2	3	10	5	7

Required:

Use the rank correlation coefficient to determine which pair of judges has the nearest approach to common tastes in beauty.

- (b) The frequency distribution of weight in grams of mangoes of a given variety is given below. Calculate the arithmetic mean and the median weight.

Weight in grams	410-419	420-429	430-439	440-449	450-459	460-469	470-479
Number of mangoes	14	20	42	54	45	18	7

- i) What do you understand by the term average?
- ii) What are the desirable properties for an average to possess?
- iii) Mention different types of averages
- iv) State why arithmetic mean is most commonly used.

### QUESTION THREE (20 MARKS)

- (a) Given the following data on a certain variable, evaluate the standard deviation.

240.12      240.13      240.15      240.12      240.17      240.15  
240.17      240.16      240.22      240.21

From the data given below marks obtained in Economics and Statistics, find;

- i) The two regression equations.
- ii) The two regression coefficients
- iii) The coefficient of correlation between the marks in Economics and Statistics.
- iv) The most likely marks in Statistics when marks in Economics are 30.

Marks in Economics: 25 28 35 32 31 36 29 38 34 32

Marks in Statistics: 43 46 49 41 36 32 31 30 33 39

**QUESTION FOUR (20 MARKS)**

(a) From the following series of annual data, find the trend line by the method of semi-averages. Also estimate the value for 1999.

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998
Actual value	170	231	261	267	278	302	299	298	340

(b) Given the following data, compute the Price Index and Quantity Index numbers for the year 2000 with 1995 as base year, using;

- i) Laspeyre’s method
- ii) Paasche’s method.
- iii) Fisher’s method

Commodity	Quantity (Units)		Value (Kshs)	
	1995	2000	1995	2000
A	100	150	500	900
B	80	100	320	500
C	60	72	150	360
D	30	33	360	297

**QUESTION FIVE (20 MARKS)**

(a) The life time of light bulbs in Soy Ltd is known to be normally distributed with the mean,  $\mu=100$  hours and the variance  $\sigma^2=64$  hours. What is the probability that a bulb picked at random will have a life time of

- i) Between 110 and 120 hours?
- ii) Will fail to last 100 hours?
- iii) Greater than 110 hours?
- iv) Less than 110 hours?

(b) Distinguish between the following terms as used in statistics;

- i) Population and sample
- ii) Qualitative variable and random variable
- iii) Descriptive statistics and inferential statistics