(*Knowledge for Development*)

KIBABII UNIVERSITY

UNIVERSITY EXAMINATION

2021/2022 ACADEMIC YEAR

SECOND YEAR SEMESTERONE

SPECIAL/SUPPLEMENTARY EXAMINATION

FOR THE DEGREE OF BACHELOR OF COMMERCE

COURSE CODE: BCO 212/BBM211/BCO204/BCO214

COURSE TITLE: BUSINESS STATISTICS

DATE: 19TH JULY,2022   **TIME:** 2.00PM – 4.00PM

INSTRUCTIONS TO CANDIDATES

1. Answer Question One in Section A and Any other TWO (2) Questions in Section B

2. Question **one** carries **30**marks and each of the other two questions carry **20** marks each.

TIME: 2 Hours

KIBU observes ZERO tolerance to examination cheating

SECTION A

QUESTION ONE

a) Define the following terms as used in business statistics.
   i)   Measures of central tendency
   ii)   Measures of dispersion   2mks
b) Distinguish between continuous variables and discrete variables and give one example
   in each case.   4mks
c) The mean weight of 150 students in a class is 60 kg. The mean weight of boys in the
   class is 70 kg and that of the girls is 55 kg. Find the number of boys and girls in the class.
                                                                                      4mks
d) Highlight two differences between correlation and regression.   4mks
e) Find the geometric mean of 2, 4, 8,12,16,24.   3mks
f) Outline three merits of the mode as a measure of central tendency.   3mks
g) Identify three characteristics of index numbers.   3mks
h) From the following observations, find the standard deviation.
   7,8,10,13,14,19,20,25,26,28   4mks
i) Define skewness and distinguish between positive and negative skewness.   3mks

SECTION B (ANSWER ANY TWO QUESTIONS)

QUESTION TWO

a) The table below shows the test scores made by salesmen on an intelligence test and their
   weekly sales.

Salesmen	1	2	3	4	5	6	7	8	9	10
Test score (X)	40	70	50	60	80	50	90	40	60	60
Sales Y ('000'sh)	2.5	6.0	4.0	5.0	4.0	2.5	5.5	3.0	4.5	3.0

   Estimate the regression line of sales on test scores and estimate the probable weekly sales
   volume if a salesman makes a score of 100.   10mks
b) From the following data, calculate the following index numbers for 1996 taking 1989 as the base
   year.
   (i)   Laspeyre's
   (ii)   Paasche's
   (iii)   Fisher's
   (iv)   Marshall-edgeworth   10mks

	1989		1996	
	Price (sh)	Quantity (bags)	Price (sh)	Quantity (bags)
Maize	65	20	135	30
Wheat	95	8	160	7
Beans	150	5	320	8

QUESTION THREE

State and clearly explain the characteristics and limitations of statistics.   20mks

QUESTION FOUR

a) Calculate the karlpearson coefficient of skewness from the following data using mean, median and standard deviation and comment about it.   10mks

Marks	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
No of students	10	40	20	0	10	40	16	14

b) Calculate coefficient of correlation from the following data and comment about it. 10mk

X	51	54	55	59	65	60	70
Y	38	44	33	36	33	23	10

QUESTION FIVE

(a) The table below shows profit before taxation in pounds and turnover in pounds for a period of six years for Riziki business Enterprises Company.

Year	1977	1978	1979	1980	1981	1982
Turnover(pounds) (X)	106	125	147	167	187	220
Profit before taxation(pounds) (Y)	10	12	16	17	18	22

(i) Plot a scatter diagram showing the relationship between profit before taxation and turnover and comment about it. 6mks

(ii) Determine the least square regression line of profit before taxation on turn over.

10mks

(iii) Estimate the profit before taxation when turnover was 300 in 1987. 4mks