BAS 204

MAIN EXAM   **BAS 204**

OFFICE OF THE DEPUTY PRINCIPAL
ACADEMICS, STUDENT AFFAIRS AND RESEARCH

UNIVERSITY EXAMINATIONS

2018 /2019 ACADEMIC YEAR

SECOND YEAR SECOND SEMESTER REGULAR EXAMINATION

FOR THE DEGREE OF BACHELOR OF SCIENNCE (COUNSELLING PSYCHOLOGY)

COURSE CODE: **BAS 204**

COURSE TITLE: **SOCIAL STATISTICS**   **DATE:**

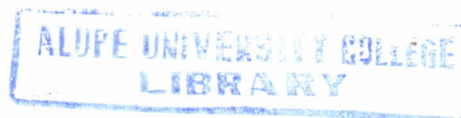**23/04/2019**   **TIME: 9.00am-12.00pm**

INSTRUCTION TO CANDIDATES

- **SEE INSIDE**

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BAS 204: SOCIAL STATISTICS

STREAM: BA   **DURATION: 3 Hours**

INSTRUCTION TO CANDIDATES

Answer **ALL** questions from section A and any **THREE** from section B.

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SECTION A:

QUESTION ONE (16MARKS)

a) Provide your understanding of the term 'social statistics' and discuss its utility in

   research.   [5Marks]

b) What are the desirable properties which an average should possess? Which of the

   average possesses most of these properties and why?   [4Marks]

c) What do you understand by the term 'measurement' in research? Identify and discuss

   four scales of measurement in research. Define measure of central tendency? Explain

   with examples.   [4Marks]

d) Discuss the significance of measures of central tendency.   [2Marks]

QUESTION TWO (15 MARKS)

a. Distinguish between the following: -

         i) Primary data and secondary data.   (2 marks)

         ii) Census and sample.   (2 marks)

b. Giving examples, define the following types of data as used in social statistics.

         i) Quantitative data   (2marks)

         ii) Qualitative data   (2marks)

 c. Explain the meaning of the following sampling techniques; discuss any 2 merits and 2
demerits of each.

         i) Simple Random sampling   (2 marks)

         ii) Stratified   (2marks)

         iii) Systematic   (2marks)

         iv) Quota   (2marks)

QUESTION THREE (13 MARKS)

a) Describe any three desirable Properties of a Point Estimator   [6 Marks]

b) In a survey, the age of 52 women at marriage by parishes was reported as given below:

24	25	27	22	23	24	25	24	25	24	23	26
28	24	25	23	24	25	25	24	25	22	27	28
27	26	25	24	25	28	26	25	27	25	24	27
25	25	24	25	24	26	27	25	26	25	28	26

Construct an exclusive frequency of distribution using a class interval of two (2) and:

i)   Represent the data by histogram superimposed with frequency polygon

[3Marks]

ii)   Calculate the modal and average age at marriage among the women. [4Marks]

QUESTION FOUR (13 MARKS)

a) Thirty concrete cubes prepared under a certain condition. The sample mean of these cubes is found to be 24 KN/m³. If the standard deviation is known to be 4 KN/m.

i)   Determine the 99% and confidence interval of the mean strength of the concrete cubes.   [3Marks]
ii)   Determine the 95% confidence interval of the mean strength of the concrete cubes.
[2Marks]

b) A limited company wants to pay bonus to the members of its staff. The bonus is to be paid

as under:

MONTHLY SALARY	BONUS
100 and not exceeding 120	5
120 and not exceeding 140	16
140 and not exceeding 160	7
160 and not exceeding 180	10
180 and not exceeding 200	4
200 and not exceeding 220	8

Compute the;

i)   Harmonic mean   [4Marks]

ii)   Geometric mean   [4Marks]
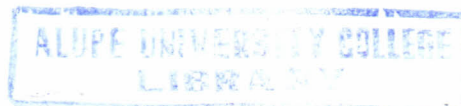
QUESTION FIVE (13 MARKS)

a) Explain the meaning of the term 'measure of dispersion' and outline its importance in social research.   [4Marks]

b) The following table shows the monthly expenditure of 80 students of a university on morning breakfast in Kenya shillings:

Expenditure (Kshs)	38-42	43-47	48-52	53-57	58-62	63-67	68-72	73-77	78-82
No. of students	2	4	6	7	20	10	10	15	5

From the above information, calculate:

i)   The mean   [3Marks]

ii)   The median   [3Marks]

iii)   The mode   [3Marks]

QUESTION SIX (13 MARKS)

The following information shows the performance of students in an examination in a certain institution of learning:

MARKS (X)	30-40	40-50	50-60	60-70	70-80	80-90	90-100
NO. OF STUDENTS	31	42	51	35	31	15	5

a) Determine the values of Q3, D8 and P60 by calculation. Interpret the performance of students based on this value.   [9Marks]

b) Find out the number and percentage of students who scored between 36 and 88 marks.

[4Marks]

QUESTION SEVEN (13 MARKS)

a) Give your understanding of the terms 'skewness' and 'kurtosis' and outline their roles

   in analysing a frequency distribution with the help of a diagram.   [4Marks]

b) The following information shows the performance of students in a certain examination:

MARKS %	NO. OF STUDENTS
ABOVE 0	150
ABOVE 10	140
ABOVE 20	100
ABOVE 30	80
ABOVE 40	80
ABOVE 50	70
ABOVE 60	30
ABOVE 70	14
ABOVE 80	0

Calculate the Karl Pearson's coefficient of skewness from the data and comment on the

students' performance.   [9Marks]