



**ALUPE UNIVERSITY**  
**ACADEMICS, RESEARCH AND STUDENT AFFAIRS**

**UNIVERSITY EXAMINATIONS**

**2023/2024 ACADEMIC YEAR**

**SECOND YEAR SECOND SEMESTER REGULAR EXAMINATIONS**

**FOR THE DEGREE OF BACHELOR OF ARTS IN  
COUNSELLING PSYCHOLOGY**

**COURSE CODE: BAS204**

**COURSE CODE: SOCIAL STATISTICS**

**DATE: 23rd April 2024**

**TIME: 9:00am-12:00pm**

**INSTRUCTIONS TO CANDIDATES**

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**BAS204: SOCIAL STATISTICS**

**STREAM: BED**

**DURATION: 3 HOURS**

**INSTRUCTIONS TO CANDIDATES**

**Answer Question One and any other TWO questions**

**Do not write on the question paper**

**Question One**

- a) Define the term Social Statistics. (1 Mark)
- b) Identify any **TWO** branches of statistics. (2 Marks)
- c) Highlight **FOUR** uses of Social Statistics. (4 Marks)
- d) Explain the meaning of the following sampling techniques:-
  - i) Simple Random Sampling. (2 Marks)
  - ii) Stratified Sampling. (2 Marks)
  - iii) Systematic Sampling. (2 Marks)
  - iv) Quota Sampling. (2 Marks)
- e) The heights, in centimetres, of one hundred tree seedlings are recorded as shown in the table below:-

Height (cm)	10 - 19	20 - 29	30 - 39	40 - 49	50 - 59	60 - 69
No. of seedlings	9	16	19	26	20	10

Find the quartile deviation of the heights. (5 Marks)

- f) Giving examples, define the following types of data as used in Social Statistics:-
  - i) Quantitative data. (2 Marks)
  - ii) Qualitative data. (2 Marks)
- g) Define the following:-

- i) Primary data. (1 Mark)
  - ii) Secondary data. (1 Mark)
  - iii) Census. (1 Mark)
  - iv) Sample. (1 Mark)
- h) List **TWO** desirable properties which an average should possess. (2 Marks)

**Question Two**

- a) i. Explain the meaning of the term “measure of dispersion” (1 Mark)
  - ii. Outline the importance of measure of dispersion in social research. (3 Marks)
- b) The data below shows the masses of fifty potatoes in grammes:-

Mass (g)	25 - 34	35 - 44	45 - 54	55 - 64	65 - 74	75 - 84	85 - 94
No. of potatoes	3	6	16	12	8	4	1

Calculate:-

- i) The Mean. (3 Marks)
  - ii) The Median (2 Marks)
  - iii) The Standard deviation. (5 Marks)
- c) Using the table given below, compute the Spearman’s Rank order correlation coefficient (rho or  $\rho$ ) and comment on it.

$x$	10	6	9	12	8
$y$	8	7	5	6	9

(6 Marks)

- d) Jason flips a fair coin and hen rolls a six sided die. What’s the probability that the coin lands heads up and the die shows an even number. (4 Marks)

### Question Three

- a) Discuss any **FIVE** non-probability types of sampling. (10 Marks)
- b) Highlight **THREE** limitations of social statistics. (6 Marks)
- c) Highlight any **FOUR** types of probability. (4 Marks)

### Question Four

- a) The table below shows marks scored by students enrolled in a diploma course in criminology.

Marks	Frequency
1 – 10	10
11 – 20	23
21 – 30	34
31 – 40	43
41 – 50	19
51 – 60	12

Calculate:-

- i) 40<sup>th</sup> percentile. (3 Marks)
- ii) The upper quartile. (3 Marks)
- iii) The lower quartile. (3 Marks)
- iv) The semi-interquartile range. (1 Mark)
- b) Study the data given below:-

16, 18, 28, 13, 50, 31, 25, 22, 18, 23, 29, 31, 38

- i) Identify if there is an outlier in the data. (7 Marks)
- ii) Present the sketch of the given data on a box plot. (3 Marks)

**Question Five**

- a) Describe any **FIVE** methods of data collection. (10 Marks)
- b) Using the data below, fit a linear regression equation that best fits it:-

$x$	-1	1	2	4	6	7
$y$	-1	2	3	3	5	8

(10 Marks)

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