

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

RESITS/SPECIAL EXAMINATIONS

**EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF
SCIENCE IN AGRICULTURAL EDUCATION AND EXTENSION**

**AGED 424: STATISTICAL AND RESEARCH METHODS IN AGRICULTURAL
EDUCATION**

STREAMS: Y4S1

TIME: 2 HOURS

DAY/DATE: MONDAY 28/8/2023

8.30 A.M. – 10.30 A.M.

Instructions

- **Answer questions one (Compulsory) and any other three questions**
- **Do not write on the question paper**

Question One

1a) Fill in the blank spaces. (5 marks)

-is a specific, clear, and testable proposition or predictive statement about the possible outcome of a scientific research study
-often make use of checklist and rating scales
-describes, infers, and resolves problems using numbers
-is based on words, feelings, emotions, sounds and other non-numerical and unquantifiable elements
-is a smaller collection of units from a population used to determine truths about that population

- b). State five disadvantages of focus groups a method of data collection. (5 marks)
- c). List five disadvantages of internet as a source of literature. (5 marks)
- d). Here are the body masses (in kilograms) of 22 patients; 60 45 72 55 42 65 54 68 74 50 78 70 58 48 67 64 68 52 60 58 75 83. Construct a grouped frequency distribution using five classes (10 marks)

Question Two

- a) Distinguish between quantitative and qualitative variables. (4 marks)
- b) State two components of a problem statement. (2 marks)
- c) List three sources of research problems. (3 marks)
- d) Calculate the following statistics from the data given below
85,96,76,108,85,80,100,85,70,95
- e) Calculate the following;
- 1st quartile (4 marks).
 - 3rd quartile (4 marks).
 - 10th percentile (4 marks).
 - 6th decile (4 marks).

Question Three

- a) Calculate the mean, median, and mode of the following grouped data (13 marks)

Class	Frequency
2-4	3
4-6	4
6-8	2
8-10	1

- b) Describe the six steps followed in a research process (12 marks)

Question four

- a) Describe the four scales of measurement (8 marks)
- b) Use Pearson's correlation to determine if there is a relationship between age and income (17 marks)

Person	Age (x)	Income (y)
1	20	1500
2	30	3000
3	40	5000
4	50	7500
Total	140	17000

Question five

- a) Differentiate between snowball sampling and purposive sampling. (4 marks)
- b) Give reasons why it is important to undertake literature review in research. (4 marks)
- c) Describe the steps followed when testing a statistical hypothesis. (9 marks)
- d) Calculate the standard deviation of the following data set. (8 marks)

Weight (lb)	Frequency
118 – 126	3
127 – 135	5
136 – 144	9
145 – 153	12
154 – 162	5
163 – 171	4
172 - 180	2

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