



# **MAASAI MARA UNIVERSITY**

**REGULAR UNIVERSITY EXAMINATIONS  
2023/ 2024 ACADEMIC YEAR  
FIRST YEAR SECOND SEMESTER**

**SCHOOL OF NATURAL RESOURCE,  
ENVIRONMENTAL STUDIES & AGRICULTURE  
DIPLOMA IN TOURISM AND WILDLIFE  
MANAGEMENT.**

**COURSE CODE: NDTW 133  
COURSE TITLE: BASIC STATISTICS AND  
RESEARCH METHODS**

**DATE: 18/12/2023**

**TIME: 1430-1630 HRS**

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**INSTRUCTIONS TO CANDIDATES**

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

*This paper consists of FOUR printed pages. Please turn over.*

### **QUESTION ONE**

- a. Explain the steps in statistical enquiry process (8 marks)
- b. In collection of data to be used in statistics, there are different sources of data that can be used. State the two main sources of data in statistics and give an example in each case (2 marks)
- c. Differentiate between census and population (2 marks)
- d. State three characteristics of Poisson distribution (3 marks)
- e. Explain two significance of correlation (4 marks)
- f. A variable  $X$  follows a Poisson distribution with mean 6. Calculate  $p(X \leq 4)$  (5 marks)
- g. The data below shows the weight of cabbage harvested by farmers in Narok county. Determine the value of  $y$  given that the mean weight of cabbage was 5. Hence use the data to determine the median weight of cabbage (6marks)

Weight of Cabbage	1 – 3	3 – 5	5 – 7	7 – 9	9 - 11	11 – 13
Frequency	8	20	$Y$	6	4	2

### **QUESTION TWO**

- a. Differentiate between correlation and regression (4 marks)
- b. Explain any three types of correlation (6 marks)
- c. The ages of husbands and wives were recorded as shown in the table below

Age of husband	23	27	28	28	28	30	30	33	35	38
Age of wife	18	20	22	27	21	29	27	29	28	29

Use the data to calculate Karl Pearson's coefficient of correlation and interpret it (10 marks)

### **• QUESTION THREE**

- a. Differentiate between probability sampling and nonprobability sampling (2marks)
- b. With relevant examples where necessary, discuss any three techniques that are used in probability sampling (6 marks)
- c. State three assumptions of Poisson distribution at a specified time or interval (3 marks)

- d. What is data as used in statistics ( 1 mark)
- e. Differentiate between a random experiment and an event (2 marks)
- f. Explain three reasons for contacting a sample survey (6marks)

**QUESTION FOUR**

a) In statistics we always collect data regarding various characteristics of interest known as (1 mark)

b) A sponsor wanted to know the gender of students in a certain class, which type of frequency distribution can be used to present the data. In addition to gender, state any other three variables that can be presented by such a frequency distribution (4 marks)

c) In a survey of 50 university students, the weight in K.G. of 50 students was recorded and the following data obtained.

42	49	44	57	51	46	48	47	56	58
54	59	49	52	54	54	40	46	37	48
58	45	39	41	43	45	34	51	63	49
42	51	64	46	41	42	40	49	50	38
47	62	61	32	57	39	41	58	37	41

Use the data to construct a continuous frequency distribution (7 marks)

d) Using the frequency distribution constructed above, compute the mean and median weight for the students (8marks)

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