



KABARAK

UNIVERSITY

UNIVERSITY EXAMINATIONS

2010/2011 ACADEMIC YEAR

FOR THE DEGREE OF BACHELOR OF EDUCATION SCIENCE

COURSE CODE: EDUC 214

**COURSE TITLE: INTRODUCTION TO STATISTICAL METHODS
IN EDUCATION**

STREAM: Y2S1

DAY: FRIDAY

TIME: 9.00 – 11.00 A.M

DATE: 17/12/2010

INSTRUCTIONS:

1. Answer **ALL** questions in **SECTION A**-30 marks
2. Answer **ANY** two questions in **SECTION B**- 40 marks.

PLEASE TURNOVER

SECTION A: (30 Marks)

QUESTION ONE

(a) Define the following statistical terms

(i) Kurtosis

(ii) Data

(iii) Skewness

(iv) Variable

(4 marks)

(b) Distinguish between the following concepts in statistics .Descriptive statistics and Inferential Statistics (2 marks)

(c) Obtain the median of the following scores 64,65,66,66,66,69 (2 marks)

(d) (i) The mean score on a final Geography examination was 50% and standard deviation of

20%; John scored 70. He also scored 80% in Maths mean 90% and standard deviation of

10%. In Which exam did he performed better. (4 marks)

(ii) State THREE characteristics of z – scores. (3 marks)

QUESTION TWO

(a) State FOUR reasons for taking statistical methods in Education. (4 marks)

(b) Classify the following as Nominal, Ordinal, Interval or ratio scales (4 marks)

(i) Position in class

(ii) Temperature

(iii) Height

(iv) Religious affiliation

(c) Differentiate the following terms as used in Educational statistics (4 marks)

(i) Mode and Median

(ii) Continuous variable and discrete variable

(iii) Positively skewed distribution and negatively skewed distribution.

(iv) Estimation and probability

- (d) Calculate the variance and standard deviation of the following scores (3 marks)
- 9,8,6,7,13,9,5,11.

SECTION B: (40 Marks)

QUESTION THREE

- (a) Explain the following terms (2 marks)
- (i) Hypothesis testing
 - (ii) Linear regression
- (b) The head of department of languages in a secondary School in Kenya believed that there was a relationship between a certain student performance in physics and Kiswahili. He therefore gave the student five tests in the subjects and obtained the following data

Physics (p)	3	5	6	8	11
Kiswahili (k)	19	11	9	7	6

- (i) Compute the correlation coefficient between the corresponding values of scores in physics and Kiswahili (10 marks)
- (ii) From the scores plot a scatter diagram (6 marks)
- (iii) Comment on the relationship between the students performance in physics and Kiswahili. (2 marks)

QUESTION FOUR

- (a) Define the term measurement (2 marks)
- (b) Describe the following types of scales of measurement
- (i) Nominal scale (4 marks)
 - (ii) Ordinal scale
 - (iii) Interval scale
 - (iv) Ratio scale

(c) The table below shows marks scored by students in a test.

66 81 67 82 62 66 71 85 72
71 77 63 74 68 65 76 77 74
64 71 66 71 82 77 71 81 80

Use the table to

- (i) Prepare a grouped frequency distribution table with a class size of 3 (7 marks)
- (ii) Construct an Histogram (6 marks)
- (iii) State the modal class (1 mark)

QUESTION FIVE

(a) Draw and give the names of the following shapes of distribution. (3 marks)

- (i) Mean = 56, Median = 64, Mode = 73
- (ii) Mean = 42, Median = 42, Mode = 42
- (iii) Mean = 65, Median = 60, Mode = 55

(b) The table below shows marks obtained by 100 students in a Geography examination

Marks	60 -62	63 -65	66 -68	69 -71	72 - 74
No of students	8	10	45	30	7

Calculate:

- (i) The mean mark (5 marks)
- (ii) The Median (6 marks)
- (iii) The standard deviations (6 marks)