

KABARAK



UNIVERSITY

UNIVERSITY EXAMINATIONS

2009/2010 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: 2.00 – 4.00 P.M.

DATE: 13/08/2010

INSTRUCTIONS:

1. Answer All questions in section A- 30 marks
2. Any Two questions in section B- 40 marks

PLEASE TURNOVER

SECTION A- 30 MARKS

QUESTION ONE – 15 MARKS

1. (a) Define the term statistics (1Mrk)
- (b) Explain **Five** main functions of statistics as used in education. (5Mrks)
- (c) Describe the following measures of dispersion
- i) Range ii) Variance iii) Standard deviation (3Mrks)
- (d) Obtain the mean for the following scores
 6,4,12,10,18,18,20. (2Mrks)
- (e) Explain the following terms as used in statistics
- i) Estimation
- ii) Linear regression
- iii) Analysis of variance
- iv) Non-parametric test (4Mrks)

QUESTION TWO 15 MARKS

- a) Differentiate between the following terms using an example
- i) Sample and population
- ii) Histogram and frequency polygon
- iii) Qualitative variable and Quantitative variable (3Mrks)
- b) Marks obtained by 45 form one students in continuous Assessment test were as follows
- | | | | | | | | | |
|----|----|----|----|----|----|---|---|----|
| 4 | 10 | 4 | 15 | 15 | 15 | 5 | 5 | 11 |
| 11 | 9 | 2 | 16 | 16 | 16 | 4 | 9 | 5 |
| 8 | 16 | 12 | 11 | 17 | 3 | 3 | 5 | 3 |
| 2 | 11 | 6 | 4 | 18 | 1 | 9 | 2 | 2 |
| 5 | 10 | 9 | 8 | 7 | 7 | 2 | 6 | 13 |
- i) Prepare a frequency distribution table starting with the class 0-2 (7Mrks)
- ii) State the modal and the median classes. (2Mrks)
- (c) Explain the following standard scores
- i) Z- scores
- ii) T- scores
- iii) Stamines (3Mrks)

SECTION B – 40 MARKS

QUESTION THREE – 20 MARKS

- (a) Distinguish between descriptive statistics and inferential statistics (2Mrks)
- (b) The table below shows the scores of students in an examination marked out of 50 marks

Marks	No of students
40-44	2
35-39	4
30-34	7
25-29	10
20-24	6
15-19	5
10-14	2
5-9	3
0-4	1
	N=40

Calculate

- i) The mean mark (5Mrks)
- ii) The mode (3Mrks)
- iii) The median (4Mrks)
- (c) Peter score 70% Geography with a mean of 50% and standard deviation of 20. He also received a score of 80% in maths with a mean of 90% and standard deviation of 10. In which exam did Peter performed better. (4Mrks)

QUESTION FOUR

- (a) Differentiate between the following terms
- i) Measurement
 - ii) A scale
- (b) State and describe **four** scales of measurement giving one example in each case. (12Mrks)
- (c) Outline the six steps in hypothesis testing. (6Mrks)

QUESTION FIVE

a) Sketch and explain the following curves

- i) Platty kurtic
- ii) Meso kurtic
- iii) Lepto kurtic

(6Mrks)

b) The table below shows scores from two tests

Tests A:	36	14	55	60	48	47	35	54
Tests B:	62	16	56	57	52	55	38	59

- i) Draw a seater diagram
- ii) Calculate spearman rank correlation co-efficient
- iii) Comment on the results

(3Mrks)

(9Mrks)

(2Mrks)