



KENYATTA UNIVERSITY
UNIVERSITY EXAMINATIONS 2008/2009
SECOND SEMESTER EXAMINATION FOR THE DEGREE OF
BACHELOR OF SCIENCE

SSS 302: STATISTICAL ANALYSIS

DATE: Friday 21st August 2009 TIME: 2.00pm-4.00pm

INSTRUCTIONS

ANSWER ANY THREE QUESTIONS

- Q1. a) Differentiate between correlation and regression
- b) A physical education teacher was interested in the topic of attitude and wanted to know if there was any relationship between attitude and a persons performance in physical performance in physical activities. She tabulated the attitudes scores for 12 first year students. She ranked the 12 students for performance in physical fitness test battery. The attitude scores and the creativity ranking are shown below:

Student	A	B	C	D	E	F	G	H	I	J	K	L
Attitude Score	59	65	72	55	49	50	70	65	40	52	64	32
Performance Rank	4	2	6	5	8	3	9	7	11	1	12	10

Determine if there was any relationship between vocabulary and creativity.

- Q2. The following grouped data shows the scores on a statistics test for 100 students.

Scores	f	Scores	f
90-92	1	69-71	2
87-89	11	66-68	4
84-86	21	63-65	1
81-83	25	60-62	1
78-80	16		
75-77	9		
72-74	9		

Use the respective grouped data formula to calculate the mean, median, mode and standard deviation. Explain the skewness of the distribution. [24marks]

- Q3. a) Using examples from recreation and movement Science, explain the levels of measurement.
 b) Rationalise data organisation.
 c) Analyse any four graphical methods of data presentation.

- Q4. Fifty high school students are chosen random from the junior class at a local high school and are given an examination on their knowledge of current sports events. Their Scores are listed below. Calculate the mean, range and standard deviation.

X	9	11	11	22	6	29	21	8	35	28	10	25	1	21	28	34	19
	10	25	1	21	28	34	19	12	12	25							
	14	22	26	33	4	24	26	2	13	22							
	19	26	16	16	18	31	22	30	23	15							
	20	20	32	9	27	30	10	21	15	37							

- Q5. a) Expound on the properties of the normal distribution curve. [12marks]
 b) The chief designer in the sports Technology department has designed a new set of protective gear for rugby players. The designer has collected Physical measurement data on 100 players whose mean chest circumferences is 97.5cm with a standard deviation of 6.25cm. Assuming that this group is a random sample of all players and that the distribution is normal.
- Determine the percentage of the population that has a chest measurement of over 110cm. [3marks]
 - If the designer wants his design to fit the middle 99% of all players what range of chest measurement will be over 110cm? [3marks]
 - A husky lad claims that he is in top 1% in chest expansion. Determine what his measurements would have to be in order for him to make his claim. [3marks]
 - What is the probability that a rugby player, chosen at random would have a chest measurement of less than 92.5cm? [3marks]