CHUKA  **UNIVERSITY**

UNIVERSITY EXAMINATIONS
RESIT/SPECIAL EXAMINATIONS

EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF ECONSTAT, ECONMATH,ECONSOCIO, ECONHIST AND AGRIECON

ECON 232: ECONOMIC STATISTICS 1

STREAMS: **TIME: 2 HOURS**

DAY/DATE: WEDNESDAY 25/07/2018 **8.30 A.M – 10.30 A.M**

INSTRUCTION:

- **Answer question one and any other two questions**
- **All your working should be shown**

1. (a) State and explain three limitations of index numbers. [6marks]

   (b) Briefly explain how statistics can be applied in a business entity. [4marks]

   (c) Distinguish between the following terms giving an example in each case.

   (i) Interval scale and ratio scale.

   (ii) Describe statistics and inferential statistics

   (iii) Pareto chart and multiple bar chart. [9marks]

   (f) Explain two advantages and disadvantages of using index numbers. [6marks]

   (e) The following data give the weight loss (kg) by member of health club at the end of two months.

   5,8,10,7,25,12,5,14,11,10,21,9,8,11,18

   Construction a box and whisker plot. Area the data symmetric or skewed. [5marks]

2. (a) The following are number of deaths for various age categories during one year in a certain community.

Age –group	0-4	5 – 14	15 - 29	30-39	40-49	50-59	60-69	70-99	100
Deaths	7	2	4	6	6	15	24	31	0

(i) Calculate the median age of death [3marks]
(ii) Calculate the quartile deviation [3marks]
(iii) Find the standard deviation [3marks]

(b) The sum of 50 observations is 500. Its sum of squares is 6000 and median 12.

Calculate the

(i) Coefficient of variation [4marks]
(ii) Coefficient of skewness [4marks]

3. (a) Define the term index numbers [2marks]

(b) Given below are the data on prices of some consumer goods and the weights attached to the various items. Compute price index numbers for the year 2008. (Base: 2007)

(i) Using simple average [3marks]

(ii) Using weighted average of price relatives [4marks]

		Price (ksh)		
Item	Unit	2007	2008	Weight
Wheat	Kg	100	110	2
Milk	Liter	150	160	5
Sugar	Kg	160	170	8
Pair of shoe	Ksh	500	550	1

(c) Briefly explain the importance of using average in statistics. [4marks]

(i) Find the mean absolute deviation of the following data. [2marks]

45,54,42,48,41,33,30,40,37,40

(iii)In brilliant school there are 253 girls whose ages have a mean of 11.8 years and a standard deviation of 1.7 years. There are also 312 boys whose ages have a mean of 12.3 years and a standard deviation of 1.9 years . Calculate.

(I) Mean of the ages of all the 565 pupils [2marks]
(II) Standard deviation of the ages of all the 565 pupils. [3marks]

4. (a) Distinguish between the following terms, citing examples in each case.

(i) Do plot and stem and leaf plot. [3marks]

(ii) Questionnaire and interview methods of data collection. [2marks]

(b) Let X be a normally distributed random variable with a mean of 60 and a variance of 100. Find the following probabilities.

(i) P (X > 63)

(ii) P(58 < X 67)

(iii)P(X <61)

(iv)P(55 < X <57) [8marks]

The table below shows the age at marriage for males in Kiangochi village.

Age (yrs)	16-17	18-20	21-24	25-29	30-34	35-44	45-54	55-
No.of males	4	73	185	104	34	33	22	26

(i) Represent the data on a histogram [4marks]
(ii) Comment on the skewness of the data. [2marks]
