CHUKA UNIVERSITY

UNIVERSITY EXAMINATIONS

FIRST YEAR EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF EDUCATION IN ECDE

EPSC 123: STATISTICAL METHODS IN EDUCATION

STREAMS: BED (ARTS) Y2S1 **TIME: 2 HOURS**

DAY/DATE: WEDNESDAY 5/12/2018 **8.30 A.M - 10.30 A.M.**

INSTRUCTIONS:

- **Answer Question ONE (COMPULSORY) and any TWO Questions**
- **Do not write anything on the question paper**

QUESTION ONE - COMPULSORY [30 MARKS]

1. (a) Define:
   (i) Statistics
   (ii) Statistical methods [3 Marks]

(b) What is the major significance of the study of statistical methods in Education to secondary school teachers in Kenya. [6 Marks]

(c) Distinguish these terms;
   (i) Population and sample
   (ii) Parametric and non-parametric statistics
   (iii) Continuous variable and discrete variable [6 Marks]

(d) Determine the;
   (i) Range [2 Marks]
   (ii) Mean [8 Marks]
   (iii) Variance [3 Marks]
   (iv) Standard deviation [2 Marks]
   For the data in the table below:

Class	15-25	25-35	35-45	45-55	55-65	75-85
f	3	7	10	9	8	6

QUESTION TWO: [20 MARKS]

(a) An examination taken by a Form One Class in Jamii High School generated a mean of 65.8 and standard deviation of 10.07.

(i) Determine the Z-score of 80. [3 Marks]
(ii) Determine the final score that lies to standard deviations below the mean. [3 Marks]

(b) A population has a mean of $u=275$ and a standard deviation $\partial=22.3$. Compute the standard scores corresponding to: -

(a) $X=275$ [2 Marks]
(b) $X=280$ [2 Marks]
(c) $X=275$ [2 Marks]

(c) Describe any five types of statistics used in education. [8 Marks]

QUESTION THREE -20 MARKS

(a) Determine Q_1, Q_2 and Q_3 from the data below:

Scores	15	18	21	23	25	26	27	28	29	32
Frequency	1	1	2	3						

(b) Identify five factors that influence the correlation coefficient. [5 Marks]

(c) The data of the length of 40 rods of metal is shown on the table below:

Length	145-149	150-154	155-159	160-164	165-169	170 - 174	175 - 179
Frequency	2	5	16	9	5	2	1

Calculate:

(i) The median length
(ii) The lower quartile
(iii) The upper quartile
(iv) The inter-quartile range
(v) The semi-inter-quartile range [10 Marks]

QUESTION FOUR- 20 MARKS

(a) Two dice are tossed together. What is the probability that the sum of the two upper faces will be:
   (i) Seven
   (ii) Nine
   (iii) Less than four
   (iv) Greater than 8 [8 Marks]

(b) Define these terms;
   Estimation [1 Mark]
   Confident interval [1 Mark]

(c) Identify any five steps in hypothesis testing. [10 Marks]

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