CHUKA  **UNIVERSITY**

UNIVERSITY EXAMINATIONS

EXAMINATION FOR THE AWARD DEGREE OF BACHELOR

EPSC 123: STATISTICAL METHODS IN EDUCATION

STREAMS: EDCI **TIME: 2 HOURS**

DAY/DATE: MONDAY 20/04/2020 **2.30 P.M - 4.30 P.M.**

INSTRUCTIONS:

- Answer Question One and any other Two.
- Do not write on the Question paper.

QUESTION ONE

1.(a) Define the following concepts.

(i) Parametric statistics

(ii) Non parametric statistics

(iii) Variable

(iv) Data

(v) Sample [10 Marks]

(b) Discuss two types of errors in hypothesis testing. [6 Marks]

(c) list the importance of statistical methods in Education [6 Marks]

(d) Given the following set of data 67, 58,54,73,56,48,51,62

Compute;

(i) Mean [2 Marks]

(ii) Median [1 Mark]

(iii) Variance [3 Marks]

(iv) Standard deviation [2 Marks]

QUESTION TWO

(a) Describe the steps taken in hypothesis testing. [10 Marks]

(b) The following data presents the results of ten students ranking in mock and final examination.

Student	A	B	C	D	E	F	G	H	I	J
Mock	1	2	3	4	5	6	7	8	9	10
Final Exam	2	4	6	8	1	5	3	9	7	10

(a) Compute the spearman's who rank order correlation coefficient. [8 Marks]

(b) What conclusion can be drawn from the two sets of results. [2Marks]

QUESTION THREE

Given the following scores of mathematics examination results.

82	72	57	85	46	67	71	52
75	86	65	82	62	55	93	67
41	95	52	73	78	62	92	66

(a) Draw a frequency distribution table using class intervals 41-50, 51-60 etc. [4 Marks]

(i) Commute Modal class [1 Mark]

(ii) Median [4 Marks]

(iii) Mean [4 Marks]

(iv) Variance [4 Marks]

(v) Standard deviation [2 Marks]

(vi) Range [1 Mark]

QUESTION FOUR

(a) Differentiate between the terms mutually exclusive and mutually inclusive events. [4 Marks]

(b) A bay contains 3 black balls, 4 white balls and some yellow balls. If a white ball is picked at random, the probability that it is black is ¼. Find the total number of balls in the bag. [4 Marks]

(c) Ken, John and Mary were playing a game of archery. The probability of Ken, John and Mary lifting the larger were $^{2}/_{3}$ $^{1}/_{2}$ and $^{3}/_{7}$ respectively. Find the probabilities that:

(i) Only one hits the target [3 Marks]

(ii) All the three hits the target [3 Marks]

(iii) None of them hits the target [3 Marks]

(iv) At least one hits the target. [3 Marks]

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