CHUKA UNIVERSITY

UNIVERSITY EXAMINATIONS

RESIT/SPECIAL EXAMINATION

EXAMINATIONS FOR THE AWARD OF BACHELOR OF EDUCATION ARTS

EPSC 123: STATISTICAL METHODS IN EDUCATION

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

DAY/DATE: MONDAY 10/9/2018 **8.30 A.M. – 10.30 A.M.**

INSTRUCTIONS:

- **Answer question ONE and any other THREE**
- **Do not write on the question paper**

QUESTION ONE

(a) Explain any five benefits of statistics to a prospective secondary school teacher. [10 marks]

(b) Represent the following information on a histogram. [10 marks]

CRE	History	Geography	Agriculture	English
30	50	20	70	80

(c) Explain the meaning of the following terms in relation to statistics. [10 marks]

(i) Data

(ii) Population

(iii) Statistic

(iv) Parameter

(v) Variable

(d) Discuss any two areas in a school set up where statistics is useful [10 marks]

QUESTION TWO

(a)

Class	16 – 25	26 – 35	36 – 45	46 – 55	56 – 65
Frequency	10	30	40	20	20

Compute:

(i) Modal class [1 mark]
(ii) Mean [3 marks]
(iii) Variance [4 marks]
(iv) Standard deviation [2 marks]

(b) Two dice are tossed together. Find the probability that the sum of the two upper faces will be?

(i) Eight [2 marks]

(ii) Less than nine [2 marks]

(iii) Greater than four [2 marks]

(iv) At least three [2 marks]

(v) At most six [2 marks]

QUESTION THREE

(a)

Class	11 – 20	21 – 30	31 – 40	41 – 50	51 – 60
Frequency	5	17	19	6	23

Calculate the interquartile range. [10 marks]

(b) Describe five factors that influence the correlation coefficient [10 marks]

QUESTION FOUR

(a) The following information relates to students scores

60	83	50	45	46
80	74	70	73	56
90	56	89	54	75
84	44	60	66	70

Determine

(a) A frequency distribution with class intervals 1 – 10, 11 – 20 etc. [5 marks]
(b) Modal class [1 mark]
(c) Median [4 marks]
(d) Range [2 marks]

(b) Work out the product moment correlation coefficient for the following data. [10 marks]

X	80	60	75	50	70
y	30	50	45	70	40

QUESTION FOUR

(a) The following data was obtained from an experiment. Compute the *t* test statistic [10 marks]

X	14	13	17	17	18	15
Y	18	12	20	19	22	19

(b) Describe the procedures for hypothesis testing [10 marks]
